#### **REPORT ON**

# PRELIMINARY HYDROGEOLOGICAL INVESTIGATION PROPOSED DEVELOPMENT Caledon Station

&

Argo King I & II BOLTON, ONTARIO

#### FOR:

Draft Plan of Subdivision (21T-22001) and for Amendment for the Zoning By-Law (RZ 2022-0002)

Draft Plan of Subdivision (21T-22002), Zoning By-Law (RZ 2022-0003)

#### PREPARED FOR:

Caledon Community Partners c/o Glen Schnarr & Associates

**Project No: 20-169-100** 

**Date:** October 10, 2024



#### **DS CONSULTANTS LTD.**

6221 Highway 7, Unit 16 Vaughan, Ontario, L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca Project: 20-169-104 – Hydrogeological Investigation Proposed Development – Caledon Station Argo King I & II, Caledon (Bolton)

20-169-104 October 10, 2024

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Liz Hurst
Caledon Community Partners
c/o Glen Schnarr & Associates
700-10 Kingsbridge Garden Circle
Mississauga, ON, L5R 3K6

Via email: lizh@gsai.ca

RE: Hydrogeological Investigation – Caledon Station (Caledon Station (Argo Macville I, Argo Macville II, Argo Macville V, Argo Humber Station, Humberking (I) Developments & Humberking (IV) Developments) & Argo King I & II, Caledon (Bolton), ON

DS Consultants Limited (DS) was retained by Caledon Community Partners to complete a Hydrogeological Investigation on the Argo Macville I, Argo Macville II, Argo Macville III, Argo Macville V, Argo Humber Station, Humberking (I) Developments & Humberking (IV) Developments, herein referred to as Caledon Station, and 7675 King Steet, Bolton, here in referred to as Argo King I & II. These sites are portions of a greater study area completed for the Bolton Option 3 Landowner's group. The Caledon Station and ARGO Humber Station lands include the development of approximately 107.19 hectares (ha) and 5.61 ha of land situated on The Gore Road and Humber Station Road in Bolton, ON, respectively. Argo King I & II lands include the development of approximately 8.7 ha of land situated south of King Street, approximately 400 m east from the Gore Road. The area is primarily agricultural with some residential lots. The proposed development of these lands includes residential and mixed-use land uses, open spaces, parks, trails, commercial uses, the Bolton GO Station, natural heritage features and areas designated for stormwater management (SWM Ponds). The development will also include the construction of roadways including storm and sanitary sewer and water distribution infrastructure.

This Hydrogeological Investigation provides an overview of the existing geological and hydrogeological conditions at the Site and surrounding area and provides an assessment of hydrogeological constraints and potential impacts of the proposed development on local groundwater resources. A significant aim of the study is to provide mitigation measures to reduce or eliminate the impacts of development on local water resources, groundwater users, and the natural environment. It also includes an estimation of construction dewatering requirements and groundwater permanent drainage conditions.

If needed, the results of this investigation can be used in support of an application for a Category 3 Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) for construction dewatering from the Ministry of the Environment, Conservation and Parks (MECP) and discharge permitting from the Town of Caledon.

Based on the results of our investigation, the following conclusions and recommendations are presented:

1. The Site is located within the Main Humber sub watershed part of the larger Humber River watershed. The surface water and drainage setting at the Site comprises a total of eight (8) wetlands within the

Caledon Station and three (3) wetlands within the Argo King I & II development, which are incorporated into the tributaries of the Humber River and ultimately flow into Lake Ontario. Relief across the Site ranges from approximately 281 masl in the northwest corner of the Site to 262.0 masl in the southwest corner of the Site. The study area is characterized as having moderate drainage, which is directed overland into various streams on the Site.

- 2. The Site is situated within the South Slope Physiographic Region of Southern Ontario (Chapman and Putnam, 1984), and lies within a Drumlinized Till Plain Physiographic Landform. Surficial geology mapping made available by the Ontario Geological Survey (2010) indicates that the study area is covered entirely by Halton till. There are some glacial deposits of sand and gravel to the west of the site and modern alluvial deposits of silt, sand, and gravel to the east along tributaries to the Humber River. The overburden in the vicinity of the site is clayey silt to sandy silt till deposits (Halton till).
- 3. Based on the MECP water well records search, there are ninety-eight (98) water wells within 500 meters of the Site. Forty-nine (49) water wells are noted as domestic and/or livestock supply wells, five (5) water wells were noted for commercial use, two (2) wells were noted for industrial use, and two (2) wells were noted for municipal use. All other remaining wells are either abandoned, not in use or monitoring/test hole wells. Private domestic and commercial water supply wells are drilled into sandy aquifers confined under clay till. The depths of these wells range from 7.5 to 63.4 mbgs.
- 4. A residential water well survey was completed in the study area (500m) on June 12, 2024. Within 500m of the site, a total of thirty-three (33) properties were surveyed. To date, a total of three (3) water well surveys were completed by DS. A total of three (3) groundwater samples were obtained from the participating residents' private wells. Water samples were tested for bacterial components Escherichia coli (E.coli), total coliform and Nitrates. Water quality results were compared to Ontario Water Drinking Standards (ODWS). Exceedances have been reported from two (2) residents' wells. The Peel Region Health Department and the residents were advised of the exceedances.
- 5. To assess soil and groundwater conditions at the Site, DS used sixteen (16) exploratory boreholes advanced during the geotechnical investigations at the Caledon Station Site carried out in July 2020 which included thirteen (13) monitoring wells (MWs). Three (3) boreholes were advanced April 22<sup>nd</sup>, 2021, in which two (2) MWs were installed. Between August 19<sup>th</sup> and September 7<sup>th</sup>, 2022, forty-two (42) exploratory boreholes were advanced in which twenty-three (23) MWs were installed. Between June 19<sup>th</sup> and June 21<sup>st</sup>, 2019. Between June 23<sup>rd</sup> and July 4<sup>th</sup>, 2023, eight (8) exploratory boreholes were advanced within the southwestern quadrant of the Site which included seven (7) monitoring wells. Between June 19<sup>th</sup> and June 21<sup>st</sup>, 2019, seven (7) boreholes were advanced at the Argo I & Argo II Site in which four (4) MWs were installed. Between October 13<sup>th</sup> and October 17<sup>th</sup> nine (9) boreholes were advanced in which five (5) MWs installed. Monitoring wells were constructed with two (2) inch PVC casing and a 1.5 m or 3.0 m length of screen installed at varying depths ranging from 4.0 to 21.0 meters below ground surface (mbgs).
- 6. Based on the subsurface investigation, the stratigraphic setting of the Site comprises of topsoil/fill /disturbed native materials underlain by native soil deposits. The native soil deposits at the Site

includes clayey silt till to silty clay till (Halton till) to depths ranging from 1.5 m to 11.3 mbgs, which in turn is underlain by silt/sandy silt/silty sand (Newmarket till) extending to the maximum depth of investigation. Modern alluvium deposits consisting of sand and gravel were encountered in the southeast corner of the Site. Bedrock was not encountered during the subsurface investigation.

- 7. **DS** implemented a groundwater monitoring program at the Caledon Station Site in August 2020 on bi-monthly basis and at Argo King I & II in October 2022 on a monthly basis to assess long-term groundwater fluctuations. Groundwater was found in monitoring wells at depths ranging from 255.2 to 277.16 mbgs at the Caledon Station Site and from 255.8 to 261.0 masl at the Argo King I & II Site throughout their respective monitoring periods. Artesian conditions were encountered within the northeaster quadrant of the Argo King I & II Site and the southwestern quadrant of the Caledon Station Site. Groundwater outlets to surface streams at the southwest and southeast limits of the Sites. Continuous groundwater monitoring at the Site indicates groundwater levels in the monitoring wells have generally gradually declined during the late summer to the fall monitoring period, and then increasing throughout the winter peaking in mid spring.
- 8. Single Well Response Tests (SWRTs) were completed by DS in nine (9) monitoring wells on August 6<sup>th</sup> and 7<sup>th</sup>, 2020 and in eighteen (18) monitoring wells between November 1<sup>st</sup> and November 3<sup>rd</sup>, 2022 at the Caledon Station Site and SWRTs were completed in nine (9) monitoring wells between June 2019 and October 2022 at Argo King I & II, and at six (6) monitoring wells in at the Caledon Station Site at the Speirs property in July 2023 to estimate hydraulic conductivity (K) for the representative geological units in which the wells were screened. The hydraulic conductivity values between the sites ranged from 2.9 x 10<sup>-10</sup> m/sec within the low permeably clay silt till to 4.0 x 10<sup>-5</sup> m/sec within the highly permeable sand.
- 9. In-situ infiltration testing was conducted by DS field personnel on September 2<sup>nd</sup>, 2020. The testing was completed at a depth of 0.5m and 1.5 m mbgs at ten monitoring well locations (BH20-1, BH20-2 and BH20-5 through BH20-16). Based on the test results, the site primarily consists of a low permeable silty clay till with a measured infiltration rate ranging from about 16 to 38 mm/hr with an average of 26 mm/hr. One test location at (BH20-16 southeast corner of the Site) with sand and gravel deposits, produced an infiltration rate of 108 mm/hr. Soils with infiltration rates over 15 mm/hr are considered suitable for Soakaways, infiltration trenches and chambers (TRCA, 2010).
- 10. Five (5) unfiltered groundwater samples were collected from select monitoring well locations (BH22-13 BH22-17 and BH22-32), on November 3<sup>rd</sup>, 2023, and from BH23-1 on July 17<sup>th</sup>, 2023, and PW1 on August 14<sup>th</sup>, 2023, from the Caledon Station Site and two (2) unfiltered groundwater samples were collected from BH22-1 and BH22-5 on October 26<sup>th</sup>, 2022, from Argo King I & II. Groundwater quality results were compared to parameters limits outlined in the Peel Region Sanitary and Storm Sewer Discharge By-Law 53-2010 and the Provincial Water Quality Objectives (PWQO) for surface water to assess the suitability of discharge to the Region's sewer system and nearby surface water features. Based on the results of the analytical testing, Total Suspended Solids (TSS) and manganese exceeded at most locations in addition to phosphorus and zinc exceedance detected at the Argo King I & II Site

- at BH22-1. Multiple exceedances were reported against PWQO standards. Pre-treatment of the pumped water will be required prior to discharging into a natural surface water feature.
- 11. DS collected two (2) non-filtered surface water samples on October 24, 2020, from the Caledon Station Site; one (1) from the surface water stream in the southwest corner of the Site (Surface Station: SG W2-1); and one (1) sample from the surface water stream in the southeast corner of the Site (Surface Station: SG W8-1). The baseline water quality samples were compared against the PWQO standards. Based on the results of the analytical testing, the water quality exceeded the PWQO criteria for various metal parameters and phosphorus.
- 12. **DS** commenced continuous pre-construction monitoring at the Site including the onsite wetlands on the Caledon Station and Argo King I & II Sites to determine the interaction between surface and groundwater. The continuous pre-construction surface water and groundwater monitoring program of the Caledon Station and Argo King I & II Sites are currently underway. The findings from the data collected to-date are from during the August 2020 to May of 2024 and October 2022 to May 2024 monitoring periods.
- 13. Based on the monitoring during the August to October period in 2020, all wetlands at the Site appear to be ephemeral features. The monitoring program to-date generally indicated an upward shallow groundwater gradient at Wetlands 1 through 3, and Wetland 8, and a downward shallow groundwater gradient at Wetlands 4 through 7 within the Caledon Station Site. The monitoring program to date at the Argo King I & II Site generally indicated an upward gradient at wetland 1 and a downward gradient for wetlands 2 and 3.
- 14. Results of the Site water balance show a decrease in annual infiltration (146,859 m³/year), from predevelopment to post-development conditions without mitigation. The effects are the result of increased impervious areas replacing pervious areas of the Site. To improve infiltration in the post-development condition, three types of infiltration LIDs are proposed throughout the site including infiltration facilities (in public parks), infiltration LIDs (in site plan blocks) and modular soil cells (in public ROWs). As a result, the post-development water balance with mitigation is expected to produce an overall increase in annual infiltration of 53,910 m³/year from pre-development conditions.
- 15. Changes to wetland catchment size directly affect the volume and timing of stormwater contributions to downgradient features. A Wetland Water Balance Risk Evaluation following TRCA guidelines (TRCA, Nov 2017) showed there is high risk to wetlands W1 to W6 and W10 as a result of reduced catchment size. In order to understand the effects of the reduced catchment area and evaluate the magnitude of actual hydrological changes, a wetland water balance has been completed by Urbantech using a continuous version of Visual OTTHYMO (VO). The results of the wetland water balance shows that hydroperiods and percent time inundated (PTI) of the wetlands were much lower than the set targets. To mitigate the shortened hydroperiods and PTI, a proposed drainage plan was designed to promote drainage of clean sources of water (vegetated areas and roof drainage) towards the wetlands to

mitigate the impacts post-development. The post-development with mitigation results show that the target hydroperiods and inundation are generally maintained.

- 16. It is understood that the provided site grading plan and the design of the four (4) storm water management ponds are currently preliminary and the proposed site servicing plan and the architectural drawings with the final basement floor slab elevations of all structures to be constructed below grade have not been finalized at this stage. DS made numerous assumptions, as outlined in Section 6.0 of this report, in support of the groundwater seepage assessment during the construction period. The requirements for dewatering/control during the construction period is as follows:
  - 16.0 Medium Density Residential Blocks 346,830 L/day (incl. 50% safety factor on anticipated seepage rates and contribution from a 2-year storm) per block;
  - 16.1 Townhouse and Single Detached Units 186,705 L/day (incl. 50% safety factor on anticipated seepage rates and contribution from a 2-year storm) per unit;
  - 16.2 Site Servicing (Developmental Site area / Newmarket Till) 15,500 L/day (incl. 50% safety factor on anticipated seepage rate and contribution from a 2-year storm) per unit trench segment;
  - 16.3 Interim Storm Water Management Pond 240,500 L/day (incl. 50% safety factor on anticipated rate; and contribution from a 10 mm storm event)
- 17. All low-rise residential blocks, institutional and commercial zones are not anticipated to require any permanent groundwater drainage control as they are expected to be constructed with a water-proofing membrane. The proposed SWM pond designs will require permanent groundwater control. Based on preliminary designs provided to DS. The requirements for dewatering/control during the construction period is as follows:
- 18. In August 2023, aquifer pumping tests were conducted on the pumping wells PW1 at the proposed SWM Pond 1 location and at the proposed SWM Pond 2B location, and in June 2024 at pumping well PW2A (deep) within the SWM Pond 2A to provide indications of the quantity of water available from each single well and to calculate the aquifer hydraulic coefficients (Transmissivity and Storativity).
  - 18.0 From the data gathered and analyzed at PW1, PW2A and PW2B, calculated Transmissivity values were 40.3  $m^2$ /day (2,700 igpd/ft.), 0.08  $m^2$ /day (5 igpd/ft.), and 2.5  $m^2$ /day (165 igpd/ft.), respectively.
  - The total volumetric pumping rate to control groundwater from the aquifer during construction is estimated to be approximately 365 L/min or 525,600 L/day (525.6 m³/day), 12 L/min or 17,280 L/day (17.3 m³/day) and 29 L/min or 41,760 L/day (41.8 m³/day) for SWM Pond 1, SWM Pond 2A and SWMP Pond 2B, respectively.

- 18.2 The zone of influence (Ro) of pumping during construction will extend until boundary flow conditions are reached and sufficient water inputs are equal to the discharge rate due to pumping. The estimated Ro ranges from 2m for a 30m x 2m site servicing trench to up to 103m at SWM Pond 1.
- 18.3 The proposed SWM Pond 1 will require permanent groundwater control. This is required to prevent hydrostatic pressure from up-lift to the base of the pond. Based on pump test results for SWM Pond 1, the estimated permanent drainage with a 50% safety factor is 565,920 L/day. Based on the subsurface investigation at SWM Pond 2A and 2B and as per the Geotechnical Comments and Recommendations letter (DS 2024), the cohesive soils consisting of clayey silt to silty clay extended to the maximum extent of the investigation. Therefore, based on the proposed SWM Pond bottom elevation, the material encountered can serve as an appropriate clay liner, and a liner is not considered necessary for SWM Pond 2A and 2B. Additional boreholes with monitoring wells are recommended to be carried out once design is final to confirm subsurface conditions and that a clay liner is not required.
- 19. During the construction period, the requirements to obtain any water taking permits (EASR/PTTW) will depend on the ownership structure of the Site and the staging for development. It is anticipated that an EASR Posting will likely be required, however if the construction dewatering rates exceed 400,000 L/day on any given day, a PTTW Registration with the MECP will be required. Based on the construction dewatering values for SWM Ponds 1, a PTTW will be required.
- 20. During the post-construction period, the anticipated permanent drainage flows for SWM Ponds 1 are expected to be greater than 50,000 L/day. Given that the estimated permanent drainage flows are expected to be greater than the MECP threshold of 50,000 L/day, a long-term PTTW will be required in support of permanent groundwater control for the SWM Ponds should design details corroborate the assumptions made in this assessment.
- 21. A discharge permit may be required from the Toronto and Region Conservation Authority (TRCA), Region of Peel and/or Town of Caledon if the water is to be discharged to a nearby/on-site surface water body as a result of construction dewatering. A discharge and monitoring plan will need to be prepared prior to obtaining a discharge approval from the TRCA, Peel Region and/or Town of Caledon. Based on the results of the groundwater analytical testing pre-treatment of the pumped water will be required to ensure compliance with the Peel Region sewer use by-law/PWQO criteria prior to discharging into the sewer system or natural surface water features.
- 22. During the post-construction period, a sewer discharge agreement with the local upper and/or lower tier municipality may be required prior to any discharging operations into the municipal sewer system.
- 23. Dewatering activities adjacent to the on-site wetland features has the potential to lower the groundwater and/or surface water levels in the wetlands. Once a groundwater dewatering system is set up at the Site, daily and weekly monitoring should be implemented to assess the groundwater

conditions such as water levels, measurement of discharge flow, discharge water quality and any adverse impacts as a result of dewatering, if any.

24. In conformance with Regulation 903 of the Ontario Water Resources Act, the decommissioning of any dewatering system and monitoring wells should be carried out by a licensed contractor under the supervision of a licensed water well technician.

Should you have any questions regarding these findings, please do not hesitate to contact the undersigned.

#### **DS Consultants Ltd.**

Prepared By:

Dorothy Santos, M.Sc. Project Manager

Scott Watson, B.A.T. GeoBase Solution (GBS) Ltd. Reviewed By:

Martin Gedeon, M.Sc., P.Geo. Senior Hydrogeologist

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#### 1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by Caledon Community Partners to complete a Hydrogeological Investigation on the Argo Macville I, Argo Macville II, Argo Macville III, Argo Macville V, Argo Humber Station, Humberking (I) Developments & Humberking (IV) Developments, herein referred to as Caledon Station, and 7675 King Steet, Bolton, here in referred to as Argo King I & II. These sites are portions of a greater study area completed for the Bolton Option 3 Landowner's group.

The Caledon Station and ARGO Humber Station lands include the development of approximately 107.19 ha and 5.61 ha of land, respectively, situated on The Gore Road and Humber Station Road in Bolton, ON. Argo King I & II lands include the development of approximately 8.7 ha of land situated south of King Street, approximately 400 m east from the Gore Road. The Site locations are shown in **Figure 1**. The area is primarily agricultural with some residential lots. The proposed development of these lands includes residential and mixed-use land uses, open spaces, parks, trails, commercial uses, the Bolton GO Station, natural heritage features and areas designated for stormwater management (SWM Ponds). The development will also include the construction of roadways including storm and sanitary sewer and water distribution infrastructure.

This hydrogeological investigation includes characterization of existing geological, hydrogeological and hydrologic conditions of the Site and local features including eight (8) wetland units within the Caledon Station property boundary, and three (3) wetland units within the Argo King I & II property boundary. The investigation provides an assessment of opportunities and constraints including potential impacts on local groundwater resources. A significant aim of the study is to provide mitigation measures to reduce or eliminate the impacts of development on local water resources, groundwater users, and the natural environment. The study also provides an estimation of construction dewatering requirements and groundwater permanent drainage conditions.

#### 1.1 Purpose

The purpose of this investigation is to characterize groundwater conditions over the study area and provide construction dewatering estimates and recommendations for design and mitigation measures to reduce or eliminate impacts of development on local water resources. The investigation will inform a water balance study to help define potential risks to the wetlands features within the Site. This investigation also includes an assassessment of dewatering requirements and provides recommendations for the obtaining the necessary permits prior to construction such as a Permit to Take Water (PTTW) or registry on the Environmental Activity Sector Registry (EASR) from the Ministry of Environment and Conservation and Parks (MECP).

#### 1.2 Scope of Work

The scope of work for this investigation includes:

(i) Drilling and installation of monitoring wells, piezometers, and stream flow monitoring instrumentation;

- (ii) Collecting and interpreting available reports and data including the MECP Water Well Records (WWR), geotechnical, hydrogeological and environmental studies completed at the Site;
- (iii) In-situ hydraulic conductivity testing
- (iv) Field work including a test well drilling program consisting of two (2) pumping wells (PW1 & PW2);
- (v) Pumping tests conducted at the two (2) pumping wells to estimate aquifer hydraulic coefficients (Transmissivity and Storativity);
- (vi) Estimation of temporary groundwater flow rate during the construction phases;
- (vii) Estimation of permanent drainage volumes to the underfloor of the building following construction;
- (viii) Assessing groundwater quantity and quality to evaluate discharge options;
- (ix) Stream water level and flow monitoring including seasonal fluctuation;
- (x) Water quality assessment for surface water and groundwater;
- (xi) Site water balance assessment;
- (xii) Feature based water balance assessment;
- (xiii) Wetland water balance assessment;
- (xiv) Data analyses and report preparation, and;
- (xv) Review and response to agency comments.

#### 2.0 PREVIOUS STUDIES

DS reviewed the following previous studies during our background review:

- "Headwater Drainage Feature Assessment: In Support of the Bolton Residential Expansion Study",
   by Aquafor Beech Ltd., dated June 16. 2013, File No.: 65473
- "Preliminary Geotechnical Investigation, Proposed Residential Subdivision, Bolton Option 3 Lands, Bolton, Ontario", by DS Consultants Ltd., dated September 4, 2020, File No.: 20-169-100
- "A Report to Humberking (I) Developments Limited and Humberking (IV) Developments Limited, A
  Geotechnical Investigation for Proposed Mixed-Use Development, King Street and Humber Station
  Road, Town of Caledon", prepared by Soil Engineers Ltd., dated December 2021, File No. 2108-S069
- "Draft- A Report to Humberking (I) Developments Limited and Humberking (IV) Developments
   Limited, Hydrogeological Assessment, Proposed Mixed Use Development King Street and Humber
   Station Road, Town of Caledon", prepared by Soil Engineers Ltd., dated December 2022, File No.
   2108-W069
- "Updated Preliminary Geotechnical Comments and Recommendations Proposed SWM Ponds, Caledon Station Subdivision, Caledon Ontario," by DS Consultants Ltd., dated May 31<sup>st</sup>, 2024. File No. 20-169-104.

A brief summary of the findings from each investigation/report is provided in the following sections.

## 2.1 Headwater Drainage Feature Assessment: In Support of the Bolton Residential Expansion Study (Aquafor Beech Ltd., 2014)

Aquafor Beech Limited (Aquafor) completed a *Headwater Drainage Feature Assessment* (2014) in support of the BRES Study being carried out by the Town of Caledon. The objectives of the investigation included delineation of Headwater Drainage Features (HDF) within the Caledon Station Site. The study identified and classified a total of four (4) HDFs as summarized below:

- Headwater Drainage Feature-1 (HDF-1) is located in the eastern portion of the Site and consists of fifteen (14) stream reaches (1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m and 1n);
- Headwater Drainage Feature-2 (HDF-2) is located along the eastern boundary of the Site and consists of two (2) stream reaches (2a and 2b);
- Headwater Drainage Feature-3 (HDF-3) is located within the western portion of the Site and consists of seven (7) stream reaches (3a, 3b, 3c, 3d, 3e, 3f and 3g); and,
- Headwater Drainage Feature-4 (HDF-4) is located along the western property boundary of the Site and consists of three (3) stream reaches (4a, 4b and 4c). Stream reach 4b is noted to be an existing pond.

The Headwater Drainage Map by Aquafor (2014) is provided in **Appendix A**.

## 2.2 Preliminary Geotechnical Investigation, Proposed Residential Subdivision, Bolton Option 3 Lands, Bolton, Ontario (DS Consultants Limited, 2020)

A Preliminary Geotechnical Investigation was completed by DS Consultants Ltd., for the greater site, Bolton Option 3 Lands. The investigation involved advancing a total of sixteen (16) boreholes to depths ranging from 6.7 m to 11.3 mbgs. Groundwater monitoring wells were installed in thirteen (13) borehole locations (BH20-1, BH20-2, BH20-3, BH20-4, BH20-5, BH20-6, BH20-7, BH20-9, BH20-11, BH20-12, BH20-14, BH20-15 and BH20-16) to permit monitoring of groundwater levels at the Site.

Based on the subsurface investigation completed at the Site, the Site was underlain by a surficial layer of topsoil, fill and/or disturbed native materials to depths of 0.8 mbgs, which in turn was underlain by native soils extending to the full depth of investigation. The native soils at the Site comprised of clayey silt/silty clay till material underlain by a lower cohesionless silt to sandy silt and silty sand deposits. Bedrock was not encountered to the full depth of investigation.

The clayey silt till was encountered under the fill layer in all borehole locations except BH20-4 and extended to depths ranging from 1.5 m to 7.7 mbgs and to the termination depth in Boreholes BH20-6, BH20-7, BH20-10, BH20-14 and BH20-15. The clayey silt to silty clay layer contained sand seams and trace to some amounts of sand, gravel and cobbles. The unit was noted to be moist to very moist and wet at the bottom of some borehole locations. The soil was generally found to be brown to grey in colour.

The lower cohesionless silt to sandy silt and silty sand deposits was found underlying the clayey silt to silty clay deposits in Boreholes BH20-1 to BH20-3, BH20-5, BH20-8, BH20-9, BH20-11 to BH20-13 and BH20-16 and extended to the full depth of investigation. This unit contained layers of sand and gravel/gravelly sand materials in the location of Borehole BH20-16 at various depths ranging from 1.5 m to 6.2 mbgs. The unit was noted to be moist to wet and brown to grey in colour.

The investigation involved equipping thirteen (13) borehole locations with 50 mm diameter monitoring wells to permit the monitoring of groundwater levels at the Site. On-completion groundwater levels were collected and noted to range from 2.3 m to 9.1 mbgs. Groundwater levels in the monitoring wells were measured in August 2020 and ranged from 0.2 m to 6.8 mbgs (Elev. 260.4 masl to 275.7 masl). Monitoring Well BH20-7 was found to be dry.

## 2.3 A Report to Humberking (I) Developments Limited and Humberking (IV) Developments Limited, A Geotechnical Investigation for Proposed Mixed-Use Development, King Street and Humber Station Road, Town of Caledon (Soil Engineers Ltd., 2021).

A Geotechnical Investigation was completed by Soil Engineers Ltd., for the northeast and northwest quadrant of King Street and Humber Station Road in the Town of Caledon. The investigation involved advancing a total of eighteen (18) boreholes to a depth of 6.6 mbgs. Groundwater monitoring wells were installed in eight (8) borehole locations (BH1, BH4, BH5, BH6, BH8, BH14, BH16 and BH18) to permit monitoring of groundwater levels at the Site.

Based on the subsurface investigation completed at the Site, the Site was underlain by a surficial layer of topsoil, fill and/or disturbed native materials, which in turn was underlain by native soils extending to the full depth of investigation. The native soils at the Site comprised of silty clay/sandy till material underlain by a lower cohesionless sand and sandy silt deposits. Bedrock was not encountered to the full depth of investigation.

The clayey silt till was encountered under the fill layer in all borehole locations and extended to the maximum explored depths except for BH18. In BH18 a dense cohesionless sandy silt layer was encountered in 2.9 mbgs and extending to 5.6 mbgs underlain by sand extending to the maximum explored depth of the borehole.

The investigation involved equipping eight (8) borehole locations with 50 mm diameter monitoring wells to permit the monitoring of groundwater levels at the Site. On-completion groundwater levels were collected, and all boreholes were noted as dry, except for BH17 where groundwater was found at 6.1 mbgs (260.1 masl).

## 2.4 Draft- A Report to Humberking (I) Developments Limited and Humberking (IV) Developments Limited, Hydrogeological Assessment, Proposed Mixed Use Development King Street and Humber Station Road, Town of Caledon (Soil Engineers Ltd. 2022).

A Hydrogeological Investigation was completed by Soil Engineers Ltd., at the development site located at King Street and Humber Station Road in the Town of Caledon. The investigation involved the use of the eight (8) monitoring wells advanced as part of the Geotechnical Investigation by Soil Engineers Ltd. In 2021 to permit monitoring of groundwater levels at the Site. The following findings are summarized below:

- The site is within the till plains within the south slope physiographic region of Southern Ontario and is underlain by the Halton Till. The Site lies within Humber River Watershed and Main Humber Subwatershed.
- Groundwater levels were measured on October 21, November 4 and on November 16, 2021, with
  a maximum groundwater fluctuation of 1.67 m. Groundwater levels ranged from 1.308 to 4.93
  mbgs (241.60to 243.67 masl). Monitoring wells in BH1 and BH4 were dry throughout the monitoring
  period. The groundwater flow direction was inferred to flow in an easterly and southeasterly
  direction.
- Six (6) Single Well Response Tests were completed to determine the yield capacity and flow of groundwater for the ground water-bearing subsurface. Estimated hydraulic conductivity (k) values ranged from  $4.2 \times 10^{-8}$  to  $2.5 \times 10^{-6}$  m/s.
- Construction dewatering for the underground basement structures and for the installation of the associated underground services and storm water management infrastructure were estimated.
  - The maximum estimated dewatering rate for a housing structure (west of Humber Station Road) ranged from 26,663.4 to 84,317.2 L/day with a 3x safety factor for 25 x 13 m for proposed housing structures with a permitter of 88m;
  - The maximum estimated dewatering rate for an excavation of 175 x 150m (west of Humber Station Road) ranged from 196,945.8 to 622,797.2 L/day with a 3x safety factor for the proposed housing structures with a permitter of 88m;
  - For a 50m site servicing trench the estimated maximum dewatering rate ranged from 8,298.0 to 26,240.7 L/day.

## 2.5 Revised Report on Preliminary Geotechnical Investigation Proposed Residential Development 7675 King Street Argo King I & II, Bolton, ON (DS Consultants Limited, 2024).

A Revised Preliminary Geotechnical Investigation was completed by DS Consultants Ltd., for the development located at 7675 King Street, Bolton, ON (Argo King I & II). The investigation involved advancing a total of seventeen (17) boreholes to depths ranging from 6.5 m to 11.3 mbgs. Groundwater monitoring wells were installed in twelve (12) borehole locations (BH19-1, BH19-3 to BH19-7, BH22-1, BH22-5, and

BH22-7 to BH22-9)) to permit monitoring of groundwater levels at the Site. Detailed subsurface conditions are provided in section 4.2.3 of this report.

## 2.6 Revised Report on Preliminary Geotechnical Investigation Proposed Development Caledon Station, Bolton, ON (DS Consultants Limited, 2024).

A Revised Preliminary Geotechnical Investigation was completed by DS Consultants Ltd., for the development Caledon Station (Argo Macville I, Argo Macville II, Argo Macville III, Argo Macville V, Argo Humber Station, Humberking (I) Developments & Humberking (IV) Developments), in connection with a preliminary framework plan to establish the Macville Community Secondary Plan area, located at The Gore Road and King Street in Bolton, ON. The investigation involved advancing a total of sixty-nine (69) boreholes across the Site to depths ranging from 4.0 m to 21.9 mbgs. Groundwater monitoring wells were installed in forty-five (45) borehole locations to permit monitoring of groundwater levels at the Site. Detailed subsurface conditions are provided in section 4.2.3 of this report.

## 2.7 Updated Preliminary Geotechnical Comments and Recommendations Proposed SWM Ponds, Caledon Station Subdivision, Caledon, Ontario (DS Consultants Limited, 2024)

An updated Preliminary Geotechnical letter was completed by DS Consultants Ltd. to provide comments and recommendations for the proposed SWM Ponds at the Site. The following findings are summarized below:

- SWMP 1: Based on seasonal high groundwater levels (March 2023), and the proposed bottom elevation of SWMP 1 (261 masl), the hydrostatic pressure at the base of the clay liner will be high and would cause uplift stability issues. Under-line drainage is required to reduce the uplift hydrostatic pressure at the base of the liner. The clay liner used is assumed to be 1 m. However, without an under-drainage system, the clay liner would need to be significantly thicker (7.6 m) to reduce the hydrostatic pressure at the base of the liner.
- SWMP 2A: The proposed bottom elevation of SWM 2A is 259 masl. Based on the subsurface investigation silty clay to clayey silt till extended to approximately 15.3 to 19.5 mbgs and is underlain by a cohesionless deposit of watering bearing sandy silt to silty sand which extended to 24.0 mbgs within the SWM Pond footprint. Artesian conditions were encountered within the monitoring well (BH23-1) and within the pumping well PW2A screened within the cohesionless deposit. The base of the bond is anticipated to extend within the silty clay to clayey silt (till) soil unit, that will serve as an appropriate clay liner, and a liner is not considered necessary for Pond 2A.
- SWMP 2B: The water levels are near the ground surface, and the proposed bottom elevation of SWMP 2B is 256 masl. The prevailing subsurface deposits in the boreholes within the vicinity of the SWMP 2B consisted of clayey silt to silty clay till which will serve as an appropriate clay liner, and a liner is not considered necessary for SWMP 2B. Additional boreholes are recommended to confirm that a liner and under-line drainage to protect against uplift would not be required.

#### 3.0 FIELD INVESTIGATION

To assess soil and groundwater conditions at the Site, DS used sixteen (16) exploratory boreholes advanced during the geotechnical investigations at the Caledon Station Site carried out in July 2020 which included thirteen (13) monitoring wells (MWs) installed at borehole locations BH20-1 through BH20-7, BH20-9, BH20-11 through BH20-12, and BH20-14 through BH20-16. Three (3) boreholes were advanced April 22<sup>nd</sup>, 2021. Two (2) MWs installed in boreholes BH21-1 and BH21-2. Between August 19<sup>th</sup> and September 7<sup>th</sup>, 2022, forty-two (42) exploratory boreholes were advanced. Twenty-three (23) MWs were installed at borehole locations BH22-1, BH22-3, BH22-5, BH22-10, BH22-11, BH22-13 through BH22-15, BH22-17, BH22-20, BH22-22, BH22-25, BH22-27 through BH22-29, BH22-33, BH22-35, BH22-36A, BH22-39A, BH22-40A, and BH22-42. Between June 23<sup>rd</sup> and July 4<sup>th</sup>, 2023, eight (8) exploratory boreholes were advanced within the southwestern quadrant of the Site. Seven (7) MWs were installed at borehole locations BH23-1, BH23-1A, BH23-2, BH23-4, BH23-5, BH23-7 and BH23-8.

Between June 19<sup>th</sup> and June 21<sup>st</sup>, 2019, seven (7) boreholes were advanced at the Argo I & Argo II Site in which four (4) MWs were installed at borehole locations BH19-1, and BH19-3 through BH19-7. Between October 13<sup>th</sup> and October 17<sup>th</sup>, 2019, nine (9) boreholes were advanced in which five (5) MWs installed in boreholes BH22-1, BH22-5, and BH22-7 through BH22-9.

The borehole and monitoring well locations are as shown in **Figure 4A**. The detailed subsurface conditions are provided in the boreholes logs in **Appendix B**. MWs were constructed in accordance with O.Reg. 903, with 2-inch PVC casing and a 1.5 m or 3.0 m length of screen. Screens were installed at varying depths ranging from 4.0 to 21.0 mbgs.

Monitoring wells were developed before use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality. Monitoring wells were developed before use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality. Thirty-six (36) single well response tests (SWRTs) were completed by performing a rising head test to estimate hydraulic conductivity values of the overburden at the Site.

Test holes PW1 and PW2B were advanced between July 6<sup>th</sup> and July 10<sup>th</sup>, 2023, to a depth ranging from 15.2 to 21.3 mbgs, and test holes PW2A was advanced on June 7<sup>th</sup>, 2024. **Appendix A** shows the Driller's description of the test holes and the well construction features of the pumping wells. The overburden material in PW1 consisted of silty clay to sandy silt overlying a fine sand unit extending to the maximum borehole depth. The overburden in PW2B generally consisted of silty clay to clayey silt till extending to the maximum explored depth. The overburden in PW2A consisted of silty cay to clayey silt till overlying sandy silt to silt sand and clayey silt. The Drillers' logs and field observations were used in the design for a 150 mm (6 inch) diameter wells.

The well screen assembly consisted of 150 mm diameter, 20 slot PVC screens installed from 9.1 to 21.3 mbgs (30 to 70 ft) in PW1 and from 7.6 to 13.7 mbgs in PW2B. A nested well was placed at PW2A. a 150 mm diameter, 20 slot PVC screen was installed to 9.0 mbgs and 27 mbgs in the shallow and deep wells respectively. The static water level measured on August 11<sup>th</sup>, 2023, in PW1 was 3.4 mbgs. The water was above ground surface on August 24<sup>th</sup>, 2023, in PW2. The static water level at PW2A shallow and deep were

5.8 mbgs and 0.6m above ground surface, respectively. **Appendix A** features the test hole log and well design of the Pumping Wells.

Five (5) unfiltered groundwater samples were collected from the Caledon Station Site and two (2) unfiltered groundwater samples were collected from the Argo King I & II Site. Groundwater quality results were compared to parameters limits outlined in the Peel Region Sanitary and Storm Sewer Discharge By-Law 53-2010 and the Provincial Water Quality Objectives (PWQO) for surface water to assess the suitability of discharge to the Region's sewer system and nearby surface water features as part of the hydrogeological investigation.

Two (2) unfiltered surface water samples were collected from the Caledon Station Site for comparison of water quality against the PWQO to assess baseline water quality conditions at the Site prior to commencing construction activities.

#### 4.0 PHYSICAL SETTING

Available topographic maps, environmental, geotechnical, and hydrogeological reports, and the Ontario Geological Survey were used to develop an understanding of the physical setting of the study area. The borehole logs from all investigations at the site as well as the Ministry of the Environment, Conservation and Parks Water Wells Records (MECP WWRs) used to interpret the geological and hydrogeological conditions at the Site.

#### 4.1 Physiography and Drainage

The Site is located within a physiographic region of Southern Ontario known as the South Slope and within a physiographic landform feature known as the Drumlinized Till Plain (Chapman and Putnam, 1984). The South Slope physiographic region lies between the Oak Ridges Moraine in the north and the Peel Plain in the south. Much of the land surface topography and geology in southern Ontario was formed during the most recent glaciation period, known as the Wisconsin Glaciation, which was accompanied by various meltwater lakes and channels. The Pleistocene deposits present in the Caledon and Brampton area are associated with the advancing and retreating of this ice sheet. The South Slope consists of low-lying till plains, with undulating to gently rolling terrain and incised valleys around larger creeks and rivers. The South Slope has a gently, but steady slope to the southeast towards Lake Ontario, which results in overall good drainage.

The study area generally comprises of two main aquifers. The deeper aquifer is the Scarborough Aquifer Complex usually at depths greater than 40 or shallower sections of sand and silty sand associated with the Thorncliffe Aquifer complex. A second localized shallower aquifer consists of discontinuous sand lenses within the Halton till or the upper sandy silt of the ORM Aquifer Complex at depths up to 20 mbgs. The Scarborough Aquifer complex is overlain by the Newmarket and Halton till aquitards that also sandwich the ORM Aquifer Complex, therefore displaying he piezometric surface of a confined aquifer system, varying between 5 and 20 mbgs (Bolton Residential Expansion Study Background Environmental Study, 2014).

The Site is located within the Main Humber subwatershed, part of the larger Humber River Watershed. There are numerous headwater drainage features located within the Site (Section 4.3.5). The closest surface

watercourse to the Site is the Humber River, located approximately 1 km east of the Site. The topography within the Site is gently rolling with a general slope towards the south/southeast. The study area is characterized as having a moderate drainage and is directed overland into various streams on the Site.

#### 4.2 Geology

The following presents a brief description of regional and site geology based on the review of available information and site-specific soil investigations.

#### 4.2.1 Quaternary Geology

The surficial geology at the Site and in the surrounding area is predominantly comprised of clay to silt-textured silt (Ontario Geological Survey, 2010). A pocket of surficial ice-contact stratified deposits consisting of sand and gravel with minor amounts of clay, silt and till are present west of the Site. There are modern alluvial deposits consisting of clay, silt, sand and gravel deposits present along the Humber River and its tributaries in the east. An illustration of surficial geology for the Site and surrounding area is provided in **Figure 2B.** 

#### 4.2.2 Bedrock Geology

Available published mapping indicates that bedrock in the area predominantly comprises of shale and minor limestone part of the Queenston Formation (MNDM Map 2544 Bedrock Geology of Ontario). Bedrock was not encountered as part of the borehole drilling program within the Caledon Station Site area. Based on the MECP water well records, there are ten (10) water well records which were reportedly completed into bedrock. The thickness of the overburden generally ranged from 24.7 mbgs to 75.0 mbgs, based on nine (9) well records (MECP WWR No. 4903854, 7275497, 4906470, 4908193, 4908194, 4904437, 4905615, 7267796, and 4907399). There is one (1) well record (MECP WWR No. 4905839) located approximately 490 northeast of the Site with a reported depth to bedrock of 11.0 mbgs. This well record is located within the valley lands of the Humber River, and for this reason the ground surface elevation of the well is likely significantly lower than surface elevations across the Site.

#### 4.2.3 Site Geology

The stratigraphic setting of the Sites was interpreted from the soil encountered during the current subsurface investigation. In summary, the Sites are underlain by a surficial layer of topsoil / fill / disturbed native material, which in turn was underlain by native soil deposits extending to the full depth of investigation. The native soil deposits at the Site comprised of clayey silt till to silty clay till (Halton Till), which in turn was underlain by silt to sandy silt/sandy silt deposits. Bedrock was not encountered during the subsurface investigation.

The stratigraphic conditions encountered at the Sites during the current subsurface investigations were generally consistent with the findings from the previously completed Preliminary Geotechnical Investigation (Sections 2.4 and 2.5).

The stratigraphic conditions encountered in the boreholes are in detail summarized below.

**Table 5: Summary of Stratigraphic Conditions** 

Table 5: Summary of Stratigraphic Conditions							
Caledon Station	Argo King I & II						
Topsoil/F	ill/Disturbed Native						
Topsoil: 200-550 mm encountered in all BHs	Topsoil: 200-350 mm encountered in BHs except for BH19-5						
Earth fill/disturbed native material was encountered at all BH locations and extended to a maximum depth of 2.3 mbgs.	Earth fill/disturbed native material was encountered at all BH locations and extended to a maximum depth of 1.5 mbgs.						
Fill/disturbed native material consist of sandy silt to clayey silt with trace grave and trace amounts of topsoil/organics	Fill/disturbed native material consist of clayey silt to silty clay with trace topsoil and organics						
Halton Till Deposits (	Clayey Silt Till to Silty Clay Till)						
Glacial Till- clayey silt to silty clay with trace amounts of sand and gravel was encountered in all BHs except for BH20-4, BH22-6, BH22-7, BH22-9, BH22-1 and BH22-13.	Glacial Till- clayey silt to silty clay was encountered in all BHs						
Occasional wet silt/sand seams	Range from 2.1 to 11.3 mbgs and to borehole termination depth in CH19-1, BH19-2, BH19-5, BH19-8, BH22-4 to BH22-6 and BH22-8						
Range from 1.5 to 15.3 mbgs and to borehole termination depth in BH20-6, BH20-10, BH20-15, BH22-14, BH22-16, BH22-17, BH22-19, BH22-20, BH22-21, BH22-24, BH22-34, BH22-37, BH22-38 through BH22-41 and BH23-4							
Newmarket Till (	   Silt/Sandy Silt/ Silty Sand						
Silt/sandy silt/silty sand was encountered in all BHs except for BH20-6, BH20-10, BH20-15, BH21-1, BH21-3, BH22-34 and BH23-4 underlying the Halton Till or Fill	Silt/sandy silt/silty sand was encountered in all BHs except for BH19-2, BH19-8, BH22-4 to BH22-6 and BH22-8						

Range from 1.0 to 12.2 mbgs between BHs BH21-2, BH22-24, BH22-30, BH22-31 and BH22-36, BH23-7 and BH23-8 to the maximum explored depth in all other encountered BHs.	Ranged from 4.8 to 11.3 mbgs. The deposits were water bearing and present in a loose to dense state.		
Sand	, Sand & Gravel		
A sand/sand and gravel unit were encountered in BHs BH22-2, BH22-4, BH22-29, BH22-30 extending to depths of 4.6 to 12.2 and to the maximum explored depth in BH22-30, BH23-7 and BH23-8	Not encountered		

The location of the boreholes and monitoring wells is provided in **Figure 4**. The borehole logs are provided in **Appendix B**. Geological Cross-Sections A-A' to F-F', which depict the stratigraphic setting at the Site are provided in **Figures 5A to 5H**.

#### 4.3 Hydrogeology

The hydrogeology at the Site was evaluated using the on-site monitoring wells, piezometers, and staff gauges installed by DS, local domestic wells and existing hydrogeological and environmental reports for the area.

#### 4.3.1 Local Groundwater Use

As part of the hydrogeological study, DS completed a search of the Ministry of the Environment, Conservation and Parks (MECP) Water Well Record (WWR) database for both sites. Based on the MECP water well records search, there are ninety-eight (98) water wells within 500 meters of the two Sites. Forty-nine (49) water wells are noted as domestic and/or livestock supply wells, five (5) water wells were noted for commercial use, two (2) wells were noted for industrial use, and two (2) wells were noted for municipal use. All other remaining wells are either abandoned, not in use or monitoring/test hole wells. Private domestic and commercial water supply wells are drilled into sandy aquifers confined under clay till. The depths of these wells range from 7.5 to 63.4 mbgs. Domestic water supply records exist for wells drilled between the dates of January 1957 to June 2016. The water well record summary is included **in Appendix C. Figure 3** shows the MECP water well location plan.

There are zero (0) records of permit to take water (PTTW) within 1 km of the site.

#### 4.3.1 Residential Water Well Survey

A residential water well survey was completed in the study area (500m) on June 12, 2024. Within 500m of the site, a total of thirty-three (33) properties were surveyed. To begin the survey, a letter of introduction regarding the water well survey was prepared and delivered to residences in the study area. The letter explained the purpose of the study and requested the participation of the residents. A copy of the

introductory letter has been attached in **Appendix C**. During the survey, DS staff visited properties within 500 m of the site and, if a property owner/tenant was home, DS interviewed the individual and completed the well survey to document the current condition and use of their well(s) with the owner's consent. The survey included questions about the wells (e.g., type of well, location, age, depth, etc.) the quantity of water (water levels, usage) and quality of water (clarity, odour, treatment types, etc.). If no one was available, a copy of the letter and a blank survey form were left at each location and the resident was requested to complete and return the form and to arrange a site visit by DS at the resident's convenience at a later date. To date, a total of three (3) water well surveys were completed by DS and can be found in **Appendix C**.

Based on the results from the door-to-door survey, it has been confirmed that a number of residences within the study area are still utilizing private well water. Once an anticipated construction date is set, Preconstruction groundwater monitoring from participating residents' wells is recommended for a period of one (1) year. Should any homeowners request to join the well study in the future, they may be added to the monitoring program.

A total of three (3) groundwater samples were obtained from the participating residents' private wells. Water samples were tested for bacterial components Escherichia coli (E.coli), total coliform and Nitrates. E.coli and total coliform are indicator bacteria used to measure the sanitary quality of well water. Nitrates are indicators of water contamination from organic materials. Water quality results were compared to Ontario Water Drinking Standards (ODWS).

Water quality samples were obtained from ana accessible tap; therefore, water quality results are reflective of post-treatment conditions. Upon receipt of water quality results, they had been provided to the private water well owners. Water quality results from 14091 Humber Station Road exceeded ODWS for total coliform and exceeded for total coliform and E.Coli from 14839 The Gore Road. The resident from 14839 The Gore Road indicated that their treatment system was down at the time of sampling. The Peel Region Health Department was advised of the exceedances.

Additional water quality sampling is recommended from a source post-treatment during construction to ensure no adverse impacts are occurring to residents' water quality from construction activities. Certificates of Analyses are presented in **Appendix I.** 

Should one of the homeowners within the 500 m zone of the construction Sites file a complaint about their well water quantity or quality, DS will immediately investigate and ensure the homeowner has a safe supply of drinking water within 24 hours. This response may include the provision of bottled water, adding water directly to the well if possible, or providing a temporary tank and potable water supply. This service shall be maintained until water levels in the affected well are restored, or it is determined a long-term solution is required. If an affected well is determined to have been permanently degraded, deepening the existing well, drilling a new well, or connection to municipal supply will be considered.

#### 4.3.2 Groundwater Conditions

DS implemented a groundwater monitoring program at the Caledon Station Site in August 2020 on bimonthly basis and at Argo King I & II in October 2022 on a monthly basis. Monitoring programs began with a Site visit to collect groundwater levels to assess long-term groundwater fluctuations. Currently, the monitoring has been conducted from August 2020 to May 2024 at the Caledon Station Site and from October 2022 to May 2024 at Argo King I & II and will be ongoing until August 2024. **Figure 4** shows the monitoring well locations. **Table 1** and **Table 2** presents a summary of the measured groundwater level elevations in all monitoring wells and piezometers.

#### Caledon Station

Throughout the study area, groundwater levels were found to range between 255.2 masl (BH20-7) and 277.16 masl (BH22-1) in the proposed developmental area, which represent the groundwater levels within the overburden at the Site. Based on the groundwater elevation contours, the direction of groundwater flow is generally expected to be in a southeasterly direction. Flow diverges across the site to the south and east into their respective tributaries of the Humber River. The average hydraulic gradient flowing west to east is estimated to be 0.007 m/m. The average hydraulic gradient from the north to the south is estimated to be approximately 0.010 m/m. Groundwater outlets to surface streams at the southwest and southeast limits of the site. The Inferred groundwater maps are provided in **Figure 6**.

Continuous water level monitoring was conducted on four (4) monitoring well at BH20-5, BH20-7, BH20-12 and BH20-16 since August 2020 and from an additional eight (8) MWs at BH20-1, BH20-9, BH20-11, BH22-13, BH22-22, BH22-29, BH22-26, BH22-42, since September-November 2022. Continuous monitoring was completed using a fixed interval pressure and temperature data recording device (Levelogger<sup>TM</sup>) which was corrected for atmospheric pressure from a central location on the site.

Based on continuous and manual monitoring, the water levels in the monitoring wells have not varied significantly during the current monitoring period. The groundwater levels in the monitoring wells have generally gradually declined during the late summer to the fall monitoring period, and then increasing throughout the winter peaking in mid spring. Groundwater levels in MWs increased following precipitation events. Season variation ranged from 0.9 m (BH20-12) to 3.8 m (BH20-11) during the monitoring period.

The hydrographs for the continuous groundwater monitoring are provided in Appendix J.

#### Argo King I & II

Throughout the study area, groundwater levels were found to range between 255.8 masl (BH22-7) and 261.0 masl (BH22-5) in the proposed developmental area, which represent the groundwater levels within the overburden at the Site. Groundwater levels in MWs BH19-1, BH19-3, BH19-4, BH19-5, BH22-1, BH22-5 and BH22-9 were generally above the ground surface. Water levels in BH22-7, occasionally rose above the ground surface. The water levels in monitoring wells BH19-1, BH19-3, and BH22-5 gradually increased above the ground surface in the winter (January 2023) and remained elevated for the remainder of the monitoring period. Based on the groundwater elevation contours, the direction of groundwater flow is generally

expected to be in a southwesterly direction. Flow diverges across the site to the south and west into their respective tributaries of the Humber River. The average estimated hydraulic gradient flowing west to east is estimated to be 0.002 m/m. The average estimated hydraulic gradient from the north to the south is estimated to be approximately 0.002 m/m. Groundwater outlets to surface streams at the southwest and southeast limits of the site. A groundwater elevation contour and flow map are provided in **Figure 6**.

Continuous water level monitoring was conducted at three (3) MWs at BH19-7, BH22-5 and BH22-7. Continuous monitoring was completed using a fixed interval pressure and temperature data recording device (Levelogger<sup>TM</sup>) which was corrected for atmospheric pressure from a central location on the site.

Based on continuous and manual monitoring, the water levels in the monitoring wells have not varied significantly during the current monitoring period, with the exception of an increase of water levels above the ground surface for the above noted monitoring wells. The groundwater levels generally increased following major precipitation events.

The hydrographs for the continuous groundwater monitoring are provided in Appendix J.

#### 4.3.3 Hydraulic Conductivity

Single Well Response Tests (SWRTs) were completed by DS in nine (9) monitoring wells on August  $6^{th}$  and  $7^{th}$ , 2020, in eighteen (18) monitoring wells between November  $1^{st}$  and November  $3^{rd}$ , 2022 at the Caledon Station Site, in nine (9) monitoring wells between June 2019 and October 2022 at Argo King I & II, and at six (6) monitoring wells in at the Caledon Station Site at the Speirs property in July 2023 to estimate hydraulic conductivity (K) for the representative geological units in which the wells were screened. SWRTs were completed by performing a rising head test (slug test) using a bailer to remove water from the well. A data logger was placed at the bottom of the wells to monitor recovery. Hydraulic conductivity (k) values were calculated using the Bouwer and Rice method. **Table 6** presents a summary of the hydraulic conductivity (K) results for the representative geological units. The hydraulic conductivity values between the sites ranged from  $2.9 \times 10^{-10}$  m/sec within the low permeably clay silt till to  $4.0 \times 10^{-5}$  m/sec within the highly permeable sand. The hydraulic testing results are provided in **Appendix D**.

Table 6: Summary of Hydraulic Conductivity (K) Test Results

Well ID	Screen Interval (masl)	Screened Formation	K- Value(m/s)					
	Caledon Station							
BH20-1	272.2 m to 273.7 m	Silt	7.3 x 10 <sup>-7</sup>					
<b>BH20-5</b> 264.0 m to 275.5 m		Silty sand	5.3 x 10 <sup>-7</sup>					
<b>BH20-6</b> 262.5 m to 264.0 m		Clayey silt till, sand seams	1.4 x 10 <sup>-7</sup>					
<b>BH20-9</b> 266.5 m to 268.0 m		Silty clay till, some sand	3.2 x 10 <sup>-6</sup>					
<b>BH20-11</b> 261.0 m to 262.5 m		Silt, some sand	5.2 x 10 <sup>-8</sup>					
<b>BH20-12</b> 258.9 m to 260.4 m		Silt	6.0 x 10 <sup>-7</sup>					
BH20-14	257.4 m to 258.9 m	Silty Clay Till	7.3 x 10 <sup>-7</sup>					
BH20-15	255.1 m to 256.6 m	Clayey Silt Till	7.4 x 10 <sup>-9</sup>					

BH22-1       271.4 m to 274.5       Silty Clay to Clayey Silt Till & Sandy Silt       3.0         BH22-3       268.6 m to 271.6       Sandy Silt Till       2.8         BH22-5       272.2 m to 275.2       Sandy Silt & Silt       4.3         BH22-10       260.8 m to 263.8       Sandy Silt to Silty Sand       3.0         BH22-13       264.1 m to 267.1 m       Sandy Silt       1.6         BH22-14       259.4 m to 262.4 m       Silty Clay to Clayey Silt Till       2.9         BH22-17       261.5 m to 264.5 m       Silty Clay to Clayey Silt Till       1.2         BH22-20       258.8 m to 261.8 m       Silty Clay to Clayey Silt Till       1.0	x 10 <sup>-8</sup> x 10 <sup>-6</sup> x 10 <sup>-7</sup> x 10 <sup>-8</sup> x 10 <sup>-7</sup> x 10 <sup>-6</sup> x 10 <sup>-10</sup> x 10 <sup>-8</sup>
BH22-3       268.6 m to 271.6       Sandy Silt Till       2.8         BH22-5       272.2 m to 275.2       Sandy Silt & Silt       4.3         BH22-10       260.8 m to 263.8       Sandy Silt to Silty Sand       3.0         BH22-13       264.1 m to 267.1 m       Sandy Silt       1.6         BH22-14       259.4 m to 262.4 m       Silty Clay to Clayey Silt Till       2.9         BH22-17       261.5 m to 264.5 m       Silty Clay to Clayey Silt Till       1.2         BH22-20       258.8 m to 261.8 m       Silty Clay to Clayey Silt Till       1.0	x 10 <sup>-7</sup> x 10 <sup>-8</sup> x 10 <sup>-7</sup> x 10 <sup>-6</sup> c 10 <sup>-10</sup> x 10 <sup>-8</sup>
BH22-5       272.2 m to 275.2       Sandy Silt & Silt       4.3         BH22-10       260.8 m to 263.8       Sandy Silt to Silty Sand       3.0         BH22-13       264.1 m to 267.1 m       Sandy Silt       1.6         BH22-14       259.4 m to 262.4 m       Silty Clay to Clayey Silt Till       2.9         BH22-17       261.5 m to 264.5 m       Silty Clay to Clayey Silt Till       1.2         BH22-20       258.8 m to 261.8 m       Silty Clay to Clayey Silt Till       1.0	x 10 <sup>-8</sup> x 10 <sup>-7</sup> x 10 <sup>-6</sup> x 10 <sup>-10</sup> x 10 <sup>-8</sup>
BH22-10       260.8 m to 263.8       Sandy Silt to Silty Sand       3.0         BH22-13       264.1 m to 267.1 m       Sandy Silt       1.6         BH22-14       259.4 m to 262.4 m       Silty Clay to Clayey Silt Till       2.9         BH22-17       261.5 m to 264.5 m       Silty Clay to Clayey Silt Till       1.2         BH22-20       258.8 m to 261.8 m       Silty Clay to Clayey Silt Till       1.0	x 10 <sup>-7</sup> x 10 <sup>-6</sup> x 10 <sup>-10</sup> x 10 <sup>-8</sup>
BH22-13       264.1 m to 267.1 m       Sandy Silt       1.6         BH22-14       259.4 m to 262.4 m       Silty Clay to Clayey Silt Till       2.9         BH22-17       261.5 m to 264.5 m       Silty Clay to Clayey Silt Till       1.2         BH22-20       258.8 m to 261.8 m       Silty Clay to Clayey Silt Till       1.0	x 10 <sup>-6</sup> x 10 <sup>-10</sup> x 10 <sup>-8</sup>
BH22-14         259.4 m to 262.4 m         Silty Clay to Clayey Silt Till         2.9 x           BH22-17         261.5 m to 264.5 m         Silty Clay to Clayey Silt Till         1.2 x           BH22-20         258.8 m to 261.8 m         Silty Clay to Clayey Silt Till         1.0 x	x 10 <sup>-10</sup>
BH22-17         261.5 m to 264.5 m         Silty Clay to Clayey Silt Till         1.2           BH22-20         258.8 m to 261.8 m         Silty Clay to Clayey Silt Till         1.0	x 10 <sup>-8</sup>
<b>BH22-20</b> 258.8 m to 261.8 m Silty Clay to Clayey Silt Till 1.0 :	
	4.0-8
	x 10°
<b>BH22-22</b> 260.2 m to 263.2 m Silty Clay to Clayey Silt Till 1.8 s	x 10 <sup>-8</sup>
<b>BH22-25</b> 260.3 m to 263.3 m Silty Sand 3.6	x 10 <sup>-7</sup>
<b>BH22-27</b> 259.0 m to 262.0 m Sandy Silt 1.9	x 10 <sup>-6</sup>
<b>BH22-28</b> 260.3 m to 263.3 m Sandy Silt 3.4	x 10 <sup>-6</sup>
<b>BH22-29</b> 259.8 m to 262.8 m Sand 6.7	x 10 <sup>-6</sup>
<b>BH22-32</b> 253.1 m to 256.1 m Sandy Silt 5.4	x 10 <sup>-6</sup>
BH22-33 257.5 m to 260.5 m Sandy Gravel & Silty Sand to Sandy Silt 4.6	x 10 <sup>-6</sup>
BH22-36 257.8 m to 260.8 m Native, Sandy Silt and Silty Clay Till 5.3	x 10 <sup>-9</sup>
<b>BH22-40</b> 256.4 m to 259.4 m Silty Clay Till 1.11	x 10 <sup>-9</sup>
<b>BH22-42</b> 259.1 m to 262.1 m Silty Clay Till & Sand 2.5	x 10 <sup>-9</sup>
BH23-1 239.6 m to 246.2 m Sandy Silt to Silty Sand 4.0	x 10 <sup>-6</sup>
(deep)	
BH23-1 (shallow) 252.4 m to 255.4 m Silty Clay to Clayey Silt Till 5.4	x 10 <sup>-9</sup>
	x 10 <sup>-7</sup>
	x 10 <sup>-9</sup>
	x 10 <sup>-5</sup>
	x 10 <sup>-7</sup>
Argo King I & II	
	x 10 <sup>-7</sup>
	x 10 <sup>-7</sup>
<b>BH19-4</b> 256.6 m to 258.1 m Silty Sand 4.1	x 10 <sup>-5</sup>
<b>BH19-5</b> 254.6 m to 256.1 m Sandy Silt Till 1.9	x 10 <sup>-8</sup>
	x 10 <sup>-7</sup>
	x 10 <sup>-7</sup>
	x 10 <sup>-8</sup>
<b>BH22-7</b> 246.7 m to 249.7 m Clayey Silt Till 3.8 s	x 10 <sup>-9</sup>
BH22-8         250.3 m to 253.3 m         Silty Clay to Clayey Silt Till         8.0 m	x 10 <sup>-9</sup>

#### 4.3.4 In-Situ Infiltration Testing

In-situ infiltration testing was conducted by DS field personnel on September 2nd, 2020. The testing was completed in the location of monitoring wells (BH20-1, BH20-2, BH20-5, BH20-6, BH20-9, BH20-11 and BH20-15) as shown below in **Table 7**, to provide a preliminary field assessment of infiltration rates of surficial soils across the Site. Testing was completed following the guidelines outlined in the Low Impact

Development (LID) Stormwater Management Planning and Design Guide for Stormwater Infiltration, 2010 (Appendix C Site Evaluation and Soil Testing Protocol).

To estimate the infiltration rate of soils in the test locations, DS completed in-situ infiltration testing at a depth of 0.5m and 1.5 mbgs. The testing included the use of a constant head infiltrometer which operates using the Marriott Bottle principal, whereby a shallow ponded head of water is maintained at a constant depth within an augured borehole. The steady-state flow of water into the subsurface soil following saturated conditions is regarded as the field saturated hydraulic conductivity ( $K_{fs}$ ) rate respective of the depth of the head utilized. The results of the infiltration testing are summarized below in **Table 7**.

Table 7: Summary of Test Pits and Estimated Soil Infiltration Rates

Test Location	Test Depth (mbgs)	Soil Type	Water Head	Steady State Rate of Water Level Change (cm/min)	K <sub>fs</sub> (cm/sec)	Infiltration Rate (mm/hr)
BH20-1	0.5	Sandy Silt	0.05 m	0.34	3.20E-05	34.1
DH2U-1	1.5	Silty Clay	0.05 m	0.03	2.82E-06	17.8
BH20-2	0.5	Sandy Silt	0.05 m	0.28	2.63E-05	32.4
ВП20-2	1.5	Silty Clay	0.05 m	0.02	1.88E-06	16.0
BH20-5	0.5	Sandy Silt	0.05 m	0.20	1.88E-05	29.6
ВП20-Э	1.5	Silty Clay	0.05 m	0.04	3.76E-06	19.2
BH20-6	0.5	Silty Clay	0.05 m	0.11	1.03E-05	25.2
ВП20-0	1.5	Silty Clay	0.05 m	0.02	1.88E-06	16.0
BH20-9	0.5	Silty Clay	0.05 m	0.08	7.52E-06	23.1
ВП20-9	1.5	Silty Clay	0.05 m	0.03	2.82E-06	17.8
DU20 11	0.5	Silty Clay	0.05 m	0.48	4.51E-05	37.4
BH20-11	1.5	Silty Clay	0.05 m	0.04	3.76E-06	19.2
DU20 15	0.5	Silty Clay	0.05 m	0.40	3.76E-05	35.6
BH20-15	1.5	Silty Clay	0.05 m	0.06	5.64E-06	21.4

Notes:

Based on the results of the infiltration testing, the site primarily consists of a low permeable silty clay till with a measured infiltration rate ranging from about 16 to 38 mm/hr with an average of 25 mm/hr. Soils with infiltration rates over 15 mm/hr are considered suitable for Soakaways, infiltration trenches and chambers (TRCA, 2010).

For the purpose of calculating design infiltration rates for on-site LID measures, Table C2 in the "Low Impact Development Stormwater Management Planning and Design Guide" (Appendix C), was used to determined safety correction factors for each of the test pit locations. The safety factors are applied to the measured infiltration rates of soils for each location to address heterogeneity of the soils. The calculated safety correction factors and the design infiltration rates for each location was determined to be 2.5. As a result of applying the safety correction factors, an infiltration rate ranging from about 6 to 15 mm/hr (average 10 mm/hr), can be considered for design purposes at the tested locations within the silty clay soils. A design infiltration rate of 43 mm/hr was calculated for the tested location within the sand and gravel deposits.

<sup>-</sup>mbgs- meters below ground surface

<sup>-</sup>Infiltration Rate approximated from Kfs using calculations provided in Figure C1 of Appendix C - Site Evaluation and Soil Testing Protocol (Low Impact Development (LID) Stormwater Management Planning and Design Guide for Stormwater Infiltration, 2010)

Continued water level monitoring at all locations is recommended to ensure a minimum of 1 m clearance between the top of the seasonally high-water table and the bottom of any infiltration measure.

#### 4.3.5 Groundwater Quality

Five (5) unfiltered groundwater samples were collected from select monitoring well locations (BH22-13 BH22-17 and BH22-32), on November 3<sup>rd</sup>, 2023, and from BH23-1 on July 17<sup>th</sup>, 2023, and PW1 on August 14<sup>th</sup>, 2023, from the Caledon Station Site and two (2) unfiltered groundwater samples were collected from BH22-1 and BH22-5 on October 26<sup>th</sup>, 2022, and from PW2 on August 14<sup>th</sup>, 2024, from Argo King I & II. Samples were collected to assess groundwater quality. The samples were placed in pre-cleaned laboratory supplied vials and/or bottles provided with analytical test group-specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The groundwater samples were submitted to SGS Laboratories in Lakefield, Ontario. SGS is certified by the Canadian Association of Laboratory Accreditation Inc. (CALA) and the Canadian Standard Association (CSA). Groundwater quality results were compared to parameters limits outlined in the Peel Region Sanitary and Storm Sewer Discharge By-Law 53-2010 and the Provincial Water Quality Objectives (PWQO) for surface water to assess the suitability of discharge to the Region's sewer system and nearby surface water features as part of the hydrogeological investigation. **Table 8** and **Table 9** presents a summary of exceeded parameters.

Table 8: Parameters in Groundwater Exceeding the Peel Region Bylaw Discharge Criteria

				Caledon Station				Argo King I & II		
Parameter	Unit	Storm Guideline limit	Sanitary Guideline limit	BH22-13	BH22-17	BH22- 32	BH23- 1	PW1	BH22- 1	BH22- 5
Total Suspended Solids (TSS)	mg/L	15	350	<u>492</u>	169	32	139	3	<u>38,300</u>	94
Manganese	mg/L	0.05	5	0.132	0.101	0.0462	0.0849	0.0449	2.17	0.148
Phosphorus	mg/L	0.4	10	0.011	0.098	0.073	0.129	0.006	3.12	0.171
Zinc	mg/L	0.04	3	<0.002	0.0006	0.004	0.012	0.023	0.057	0.019

Note: 0.00- Exceeded Storm Bylaw 0.00- Exceeded Sanitary Bylaw

**Table 9: Parameters in Groundwater Exceeding MECP PWQO Guidelines** 

			Caledon Station					Argo King I & II	
Parameter	Unit	Guideline limit	BH22-13	BH22-17	BH22-32	BH23-1	PW1	BH22-1	BH22-5
Arsenic	mg/L	0.005	0.001	0.0009	<0.0002	0.0012	0.0004	0.072	0.0061
Cadmium	mg/L	0.0001	<0.00003	0.000013	0.000005	0.000014	0.000004	0.000178	0.000024
Cobalt	mg/L	0.0009	0.000676	0.00106	0.000342	0.00108	0.000365	0.0125	0.00314
Copper	mg/L	0.001	0.0005	0.0025	0.0011	0.0042	0.0024	0.0266	0.0056
Lead	mg/L	0.005	<0.00009	0.00108	0.00043	0.00157	<0.00009	0.018	0.00155
Phosphorous	mg/L	0.01	0.011	0.098	0.073	0.129	0.006	3.12	0.171

Zinc	mg/L	0.02	<0.002	0.006	0.004	0.012	0.023	0.057	0.0019	
4AAP-Phenolics	mg/L	0.001	0.003	0.002	<0.002*	<0.002*	<0.002*	<0.002*	<0.002*	
0.00 – Exceeds PWQO parameter										
* – Result exceeds detection limit										

#### 4.3.6 Surface Water Conditions

#### Caledon Station

The surface water and drainage setting at the Site comprises a total of eight (8) wetlands (Wetland 1, 2, 3, 4, 5, 6, 7 and 8), which are incorporated into the tributaries of the Humber River and ultimately flow into Lake Ontario. All accessible wetlands at the Site were instrumented with surface stations consisting of staff gauges and associated nested piezometer set.

A continuous pre-construction surface water and groundwater monitoring program of the Site is currently underway, and this report includes the findings from the data collected to-date during the August 2020 to May 2024 monitoring period. All staff gauges installed within the wetlands at the Site have been instrumented with a Levelogger<sup>TM</sup> to allow for continuous monitoring at every 15-minute interval. The monitoring program includes a Site visit on an every bi-monthly basis to retrieve the water level data from the Levelogger<sup>TM</sup> and to collect manual readings within all surface stations and monitoring wells at the Site.

As discussed in Section 2.1, Aquafor (2014) completed a *Headwater Drainage Feature Assessment* of the Site and delineated the four (4) Headwater Drainage Features (HDFs) and their associated reaches at the Site. The surface stations are installed within the delineated drainage reaches at the Site.

The location of the wetlands is provided in **Figure 4B**. A discussion on the surface water conditions at all surface stations is provided below.

#### Wetland 1 and 2

Wetlands 1 and 2 are located within the southwestern corner of the Site along The Gore Road and within the Headwater Drainage Feature HDF-4. Due to accessibility constraints, Wetland 1 could not be instrumented with a surface station to permit monitoring within the wetland. Wetland 2 was equipped with a staff gauge, SG W2-1, and a nested piezometer set, W2-PZS and W2-PZD within Reach 4a. The shallow and deep nested piezometers were installed to depths of 1.1 m (Elev. 260.5 masl) and 2.0 m (259.5 masl) below existing ground surface, respectively. Staff gauge SG W2-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland where it exits/outlets from the Site. The ground surface elevation at the location of staff gauge SG W2-1 is approximately 261.3 masl. Piezometer W2-PZD was instrumented with a datalogger in September 2022 to allow for continuous monitoring of shallow groundwater levels. The ground surface elevation at the location of W2-PZD is approximately 261.4 masl.

During the continuous monitoring of staff gauge SG W2-1 in Wetland 2, the Reach 4a channel has generally remained dry during late spring & summer monitoring periods (May to September from 2020 to 2024 monitoring period, with some flow observed following precipitation events. This flow was noted to diminish

into dry conditions within 1-2 days after the cessation of the storm event. Ponding of surface water is also observed at the staff gauge intermittently during the year due to its location surrounded by thick vegetation which impeded flow resulting in higher water levels. Increased flows were recorded between 2020 to 2024 in the winter and early spring generally between the months of November and March indicative of flows primarily sourced from strong precipitation events and snow melt, with maximum flow rate of 660,096 L/day measured in May 2022.

The groundwater monitoring in the nested piezometer indicate that the shallow and deep piezometer water levels are generally slightly above the base of the Reach 4a channel during the current monitoring period. The water level in the shallow piezometer was found to be approximately 0.1 m to 0.2 m above the base of the Reach 4a channel, with the exception of December 2020, May 2022 and March 2023 where the shallow piezometer water levels were below the base of the Reach 4a. The water level in the deep piezometer was found to be above the base of Reach 4a to maximum of 0.37 m above the base of the Reach 4a channel observed in April 2021. The shallow groundwater gradient at the location of Reach 4a was found to be upward during the current monitoring period with the exception of monitoring events in September to October 2020, and September 2022 showcasing a downward gradient; with an upward gradient generally ranging from 0.42 in the spring (April 2021) to 0.04 m/m in the Fall (November 2022), and a downward gradient ranging from -0.03 m/m in the Fall (December 2020) to -0.01 in the Summer (July 2022).

The flow observed in the monitoring data for the Reach 4a channel after precipitation events and in the Winter may potentially be as a result of the low permeability surficial silty clay till soils precluding the free infiltration of storm water into the ground. This allows for the saturation of the near surficial soils creating perched groundwater conditions, which in turn further reduces the soil infiltration rates and allows for increased surface runoff along the Reach 4a channel. Nearby Monitoring Well BH20-7 indicates the deep groundwater level to be measured at 1.1 m below existing grade (Elev. 261.7 masl) during highest point in the current monitoring period. For this reason, groundwater is not considered to be recharging the Reach 4a channel. There is also a potential for recharging of the surface water in the Reach 4a channel from the up-gradient Reach 4b (pond) and 4c of HDF-4. Given that the primary source of flow in the Reach 4a channel during the current monitoring period is determined to be from precipitation events, this channel is considered an ephemeral feature.

The hydrographs for Wetlands 1 and 2 are provided in **Appendix J**.

#### Wetland 3

Wetland 3 is located within the southwestern portion of the Site and within the Headwater Drainage Feature HDF-3. The wetland was equipped with a staff gauge, SG W3-1 and a nested piezometer set, W3-PZS and W3-PZD within Reach 3c of HDF-3. The shallow and deep nested piezometers were installed to depths of 1.0 m (Elev. 269.9 masl) and 1.9 m (269.1 masl) below existing ground surface, respectively. Staff gauge SG W3-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland at approximate ground surface elevation of 270.7 masl. Wetland 4 is located downstream of this wetland location with respect to surface water flow.

During the continuous monitoring of staff gauge SG W3-1 in Wetland 3, Reach 3c has generally remained

dry during the 2020 through 2024 monitoring period, with very minimal response to precipitation events. Based on the reach's headwater characteristics in the early stage of forming its source from the catchment area, intermittent flow was recorded in Reach 3c, and diminished into dry conditions within the same day. Peak flow was recorded on May 2022 as 21,168 L/day. The manual groundwater monitoring in the nested piezometer indicate that the shallow and deep piezometer water levels are generally below the base of Reach 3c but have risen above the base of the Reach 3c from April to November 2021, peaking in June 2021 and gradually decreasing to below the base of Reach 3c in January 2022. Water levels have generally remained below or near the base the reach of Reach 3c for the remainder of the monitoring period, except for monitoring events which occurred in March 2022 fallowing a major precipitation event, where the deep piezometer water level rose above the base of Reach 3c and sporadically increases above the Reach of 3c from January to July 2023 and from December 2023 to May 2024. The water level in the shallow piezometer was found to range between approximately 0.05 m to 0.82 m below the base of Reach 3c throughout the monitoring period rising above the base of Reach 3c in the spring ranging approximately between 0.07 to 1.0 m above the base of Reach 3c. The water level in the deep piezometer was found to be approximately 0.02 m to 1.2 m below the base of Reach 3c throughout the monitoring period rising in the winter to above the bed of Reach 3c to approximately 0.04 m to 0.19 m above the base of Reach 3c. The shallow groundwater gradient at the location of Reach 3c was found to be generally upward during the current monitoring period with the exception for the monitoring period of June to September 2021, November 2022, and February 2024 where the gradient shifts downward; with an upward gradient generally ranging from 0.51 in the spring (March 2022) to 0.00 m/m in the Summer (July 2023), and a downward gradient ranging from -0.69 m/m in the Summer (June 2021) to -0.01 in the Winter (February 2024).

Reach 3c is located within tiled agricultural cropland without a discernable channel (Aquafor, 2014). The short-lived flow observed in the monitoring data for Reach 3c following precipitation is not considered to be a prevalent flow due to the absence of a defined channelized morphology at this location. Further, shallow groundwater levels recorded in the nested piezometers for the monitoring period April through September 2021, from January to July 2023, and from December 2023 to May 2024 are above the base of Reach 3c, suggesting contributions to the feature from groundwater during the spring through the fall period, and later through the winter to the spring/summer period (2023 & 2024). Flow observed in May 2022 and January 2022 are likely the result of precipitation/melt events as the shallow groundwater levels are considerably below the base of Reach 3c. Given that Reach 3c had some minor response to precipitation events, the feature is considered ephemeral.

The hydrograph for Wetland 3 is provided in **Appendix J**.

#### Wetland 4

Wetland 4 is located within the southwestern corner of the Site, east of Wetland 2 within the Headwater Drainage Feature HDF-3. Wetland 4 was equipped with a staff gauge, SG W4-1, and a nested piezometer set, W4-PZS and W4-PZD within the Reach 3a channel. The shallow and deep nested piezometers were installed to depths of 0.6 m (Elev. 260.7 masl) and 1.6 m (259.5 masl) below existing ground surface, respectively. Staff gauge SG W4-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland where it exits/outlets from the

Site. The ground surface elevation at the location of staff gauge SG W4-1 is approximately 261.0 masl. The stations were removed in May 2021 due to road construction and reinstalled in August 2022. The ground surface elevation at the re-installed location of the staff gauge SG W4-1 is approximately 260.8 masl. The shallow and deep re-installed nested piezometers were installed to depths of 0.7 m (Elev. 260.5 masl) and 1.7 m (259.5 masl) below existing ground surface, respectively.

During the continuous monitoring of staff gauge SG W4-1 in Wetland 4, the Reach 3a channel has generally remained dry during the August to October 2022 monitoring period, with very minimal response to precipitation events. Intermittent flow was recorded in Reach 3a, diminishing into dry conditions within the same day. Water levels gradually increased in December 2022 and remained above the Reach of 3a throughout the monitoring period.

A peak of 0.7 m (261.6 masl) above the base of the reach with corresponding flow of 307,584 L/day was measured in February 2024. Peak flow was measured on July 2023 (1,674,864 L/day) when the water level was approximately 0.2m above the base of the reach. The manual groundwater monitoring in the nested piezometer indicate that the shallow and deep piezometer water levels were below the base of Reach 3a at the onset of monitoring (September 2020) increasing above the base of Reach 3a until April 2021 when the station was removed. The station was reinstalled in August of 2022. Water levels in the nested piezometers were below the base of Reach 3c throughout the fall of 2022, increasing in the winter to above the reach in January 2023 where water levels were sustained for the remainder of the monitoring period, apart from the September 2023 monitoring event. There is generally a downward gradient at the location, with a maximum magnitude of 0.25 m/m (April 2021). An upward gradient is recorded between January 2023 until the remainder of the monitoring period apart from September 2023 monitoring event. There is no data available for the summer periods of 2022, however, a general relationship based on the available early spring and summer 2023 data would indicate a shift from downward gradient to upgradient, indicative of recharge conditions shifting to discharge conditions.

All up-gradient reaches (3b, 3c, 3d, 3e, 3f and 3g) in HDF-3 are located within tile agricultural cropland without discernible channels (Aquafor, 2014). For this reason, based on the current data, recharge of surface flows for Reach 3a from up-gradient reaches in HDF-3 is not considered to be likely. Given that the shallow groundwater levels recorded in the nested piezometers during the current monitoring period are generally below the base of Reach 3a, there is no contribution to the feature from groundwater during the late summer and fall period. Given that Reach 3a had some minor response to precipitation events, it is considered an ephemeral feature. Further monitoring will be required to confirm the seasonal fluctuations and to confirm the surface/groundwater interaction dynamics.

The hydrograph for Wetland 4 is provided in **Appendix J**.

#### Wetland 5 and 6

Wetlands 5 and 6 are located near the southern boundary of the Site along King Street, east of Wetland 4 within the Headwater Drainage Feature HDF-3. Both wetlands are equipped with a single staff gauge, SG W5-1, and a nested piezometer set, W5-PZS and W5-PZD within Reach 3g. The shallow and deep nested piezometers were installed to depths of 0.8 m (Elev. 260.5 masl) and 1.8 m (259.4 masl) below existing

ground surface, respectively. Staff gauge SG W5-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland where it exits/outlets from the Site. The ground surface elevation at the location of staff gauge SG W5-1 is approximately 261.1 masl. The stations were removed in May 2021 due to road construction and reinstalled in August 2022. The ground surface elevation at the re-installed location of the staff gauge SG W5-1 is approximately 260.9 masl. The shallow and deep re-installed nested piezometers were installed to depths of 0.8 m (Elev. 260.5 masl) and 1.6 m (259.6 masl) below existing ground surface, respectively.

During the continuous monitoring of staff gauge SG W5-1, the Reach 3g channel has generally remained dry during the monitoring period, with minimal flow observed following precipitation events. This flow was noted to diminish into dry conditions within 1-2 days after the cessation of the storm event. The surface water levels and flow in SG W5-1 was intermittent throughout the monitoring period and observed to be strong during the late winter period and early spring period, with flows dissipating with time until dry conditions persist starting in late spring 2021 and 2023. A steep increase in water levels is observed during late winter months (February), likely the result of snow melt, where a peak of 0.4 m (261.5 masl) above the reach base was observed in March 2023 with a corresponding peak flow as a result of snow melt was 385,776 L/day. The groundwater monitoring in the nested piezometers indicate the following:

- The water level in the shallow piezometer was consistently above the base of the Reach 3g throughout the entire monitoring period apart from October 2020. A gradual increase in water level is observed in late fall during October (2020, 2022 & 2023) and remained at elevated levels until late spring (2021 and 2023) based on the current available data. A peak water level of 0.35 m (261.4 masl) above the reach base was observed during April 2021 and was 0.013 m (261.08 masl) below the reach base at one occurrence during October 2020. Responses to precipitation in W5-PZS were low to moderate.
- The water level in the deep piezometer followed the same general trend as the shallow piezometer and was consistently above the base of the Reach 3g throughout most of the monitoring period from September 2020 to June 2023. The water level is observed to be close the reach base during late fall (2020 and 2022) and gradually increases and remains elevated till late spring (2021 and 2023). The water level was observed to fall below the base of Reach 3g in June 2023 reaching a maximum of 0.51 m below the reach to an approximate elevation of 260.3 masl in September 2023. Water levels gradual increase to the base of the reach throughout the remainder of the monitoring period. A peak in the water level was noted to be 0.33 m (261.2 masl) in March 2023. Responses to precipitation in W5-PZD were low to moderate.

The shallow groundwater gradient at the location of Reach 3g was found to be downward during most of the monitoring period; with a rise in the gradient from 0.019 m/m to 1.1 m/m between September and October 2020. The downward gradient remains persistent during 2020 to 2021 monitoring period, however, the gradient reverses to and upward gradient during 2022 to 2023 monitoring period, indicating a change towards greater ground water inputs into the reach. Furthermore, the deep piezometer water levels were consistently above the streambed and shallow piezometer water levels during the 2022 and 2023 monitoring events, indicating groundwater contribution.

The flow observed in the monitoring data for the Reach 3g channel after precipitation events may potentially be as a result of the low permeability surficial silty clay till soils precluding the free infiltration of storm water into the ground. This allows for the saturation of the near surficial soils creating perched groundwater conditions, which in turn further reduces the soil infiltration rates and allows for increased surface runoff along the Reach 3g channel. Based on the monitoring of Wetland 5 and 6 during the late summer and fall monitoring period, groundwater was not considered a source for contributions to surface water flow in Reach 3g. Groundwater levels observed in the shallow piezometer at the elevation of the Reach 3g streambed is considered to be perched groundwater conditions. All up-gradient reaches (3f and 3g) in HDF-3 are located within tile agricultural cropland without discernible channels (Aquafor, 2014). For this reason, based on the current data, recharge of surface water flows for Reach 3g from up-gradient reaches in HDF-3 is not considered to be likely. Given that the primary source of flow in the Reach 3g channel during the current monitoring period is determined to be from precipitation events, this channel is considered an ephemeral feature. Further monitoring will be required to confirm the seasonal fluctuations and to confirm the surface/groundwater interaction dynamics.

The hydrographs for Wetlands 5 and 6 are provided in **Appendix J**.

#### Wetland 7

Wetland 7 is located within the southeastern portion of the Site, north of Wetland 8 and within the Headwater Drainage Feature HDF-1. The wetland was equipped with a staff gauge, SG W7-1 and a nested piezometer set, W7-PZS and W7-PZD within Reach 1d of HDF-1. The shallow and deep nested piezometers were installed to depths of 1.1 m (Elev. 269.9 masl) and 1.8 m (269.1 masl) below existing ground surface, respectively. An additional staff gauge SG W7-2 was installed on the upstream end of the wetland within Reach 1e. Staff gauge SG W7-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the local low point of the wetland at its upstream location. Piezometer W7-PZD was instrumented with a datalogger in September 2022 to allow for continuous monitoring of shallow groundwater levels. The ground surface elevation at the location of staff gauge SG W7-1 is approximately 265.3 masl.

During the continuous monitoring of staff gauge SG W7-1 in Wetland 7, both Reach 1d and Reach 1e have consistently remained dry in the summer periods during the 2020 to 2023 period. Generally, the surface water levels in the staff gauge remained dry during summer periods and gradually increases during late fall and early winter in which the water levels remain elevated throughout the winter until late spring, where a gradual recession is noted until dry conditions are once again reached in the summer. The surface water levels observed in the staff gauge during late spring and early summer is accompanied by ponding, where elevated surface water levels were sustained long after seasonal spring melt and precipitation events, which in turn subsequently feeds into southern limits of Reach 1e. Peak surface water levels were observed 0.52 m (265.827 masl) above the base of the reach with peak flow of 250,128 L/day recorded in March 2023. Staff gauge SG W7-1 did not display any response to precipitation events apart from a major precipitation event in September 2021.

The water levels in the shallow and deep piezometers had similar seasonal trends and were observed to be

consistently above the base of the reach throughout the monitoring period, apart from the summer to late fall in June to November 2022 and intermittent monitoring events during 2020 and 2021. Both piezometers remained dry during early fall season (2020 to 2023) and remain dry till the end of fall, following a steep increase in water levels remaining elevated until late spring. The water levels peak in March with peak water levels were recorded in March 2023 of 0.5 m (265.8 masl) above reach base for W7-PZD, and 0.47 m (265.77 masl) above reach base for W7-PZS. Responses to precipitation in the piezometers were low to moderate.

All up-gradient reaches (1e, 1f, 1k, 1l, 1m and 1n) are located in tiled agricultural croplands without discernable channels. For this reason, there is likely no surface water recharge from any upstream reaches in HDF-1. Further, the dry conditions indicate that there is no surface water and groundwater interaction during the August to October period. There is a slight upward gradient observed during the winter of 2021 and 2023 and spring period of 2023 indicating slight contributions of ground water inputs into the reach. At this stage, Reach 1d is considered a non-perennial surface water feature.

The hydrograph for Wetland 7 is provided in **Appendix J**.

#### Wetland 8

Wetland 8 is located in the southeastern portion of the Site along Humber Station Road and within the Headwater Drainage Feature HDF-1. Wetland 8 was equipped with a staff gauge, SG W8-1, and a nested piezometer set, W8-PZS and W8-PZD within the Reach 1a channel. The shallow and deep nested piezometers were installed to depths of 0.8 m (Elev. 262.8 masl) and 1.7 m (261.9 masl) below existing ground surface, respectively. Staff gauge SG W8-1 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland where it exits/outlets from the Site. The ground surface elevation at the location of staff gauge SG W8-1 is approximately 263.4 masl. Piezometer W8-PZD was instrumented with a datalogger in September 2022 to allow for continuous monitoring of shallow groundwater levels.

During the continuous monitoring of staff gauge SG W8-1 in Wetland 8, the Reach 1a channel has sustained flow for the majority of the monitoring period with increased response to precipitation events. The flow in the Reach 1a channel was noted to become dry at the end of September and transitioning into the October 2020 period and throughout the summer periods of 2021, 2022 and 2023 periods when there were no large precipitation events. Reach 1a channel did not display much response to any storm events for most of the monitoring period, however, there was a noticeable relationship to larger precipitation events during the dry periods in the summer and fall season of 2021 and 2022 and winter of 2023, corresponding to steep rises and gradual recessions in the water levels following precipitation events. Surface water levels tended to rise during late fall (2020 to 2023) and in the early winter during 2022, where they stay elevated until late spring where dry conditions persist there after. Peak surface water levels were recorded during March of 2022 and 2023 at 0.31 m (263.6 masl) above the reach base and peak flow of 6,885,648 L/day during March 2023. The groundwater monitoring in the nested piezometers indicate the following:

• The water level in the shallow piezometer was consistently above the reach base throughout the monitoring period apart from a few occurrences in the summer and fall when it fell below the base with dry conditions observed in October 2020 and June 2021. The water level tends to rise in the

early fall period (2020 to 2022) and peaked at 0.3 m (263.6 masl) above the reach base in March 2023. Responses to precipitation in W8-PZS was low to moderate.

• The groundwater in the deep piezometer is generally consistent with the trend of the shallow piezometer and remains above the reach base throughout from September 2020 to May 2022 from where water levels fall slightly below the reach and gradually increase above the base of the reach in January 2023 remaining above the base of the reach. The water levels dip below the base of the reach in the summer of 2023 and gradually increase above the base of the reach until the current monitoring period. Dry conditions observed in June 2021. The water levels rise during early fall and gradually increase and peak during late winter and spring, where they gradually decrease during late spring (2020 to 2023). The water levels reach a peak water level of 0.26 m (263.8 masl) above reach base in March 2023. Responses to precipitation in W8-PZD was low to moderate.

The shallow groundwater gradient at the location of Reach 1a was found to be upward throughout the monitoring period, however, with the exception of monitoring events in June 2021, January 2023 to May 2024, where a downward gradient is observed, indicating a mixed relationship of ground water recharge conditions and contributions into the reach.

Up-gradient Reaches 1d, 1e, 1f, 1g, 1i, 1j, 1k, 1l, 1m and 1n are located within tile agricultural cropland without discernable channels (Aquafor, 2014). Further, upstream Reaches 1b and 1c comprise of a well-defined channel, which may allow for flow of surface water downgradient into Reach 1a. Reach 1h also has a reported well-defined channel, however connectivity with Reach 1a is lost as a result of the absence of a channel along the intermediary Reach 1g (Aquafor, 2014). It is likely that surface water flows carried from Reach 1b and 1c allows for recharge to Reach 1a following precipitation events and/or at times of high groundwater tables. Based on the groundwater elevation contours (Figure 6), the deeper groundwater level in the area of Reach 1a during the current monitoring period is expected to be approximately 262.0 masl to 263.0 masl. Given that monitoring from the nested piezometer indicated an upward shallow groundwater gradient for majority of the monitoring period, it is likely that surface water flows in Reach 1a may receive contribution from groundwater. For this reason, Reach 1a is likely an intermittent surface water feature.

The hydrograph for Wetland 8 is provided in **Appendix J**.

## Argo King I & II

The surface water and drainage setting at the Site comprises a total of three (3) wetlands (Wetland 1, 2 and 3), which are incorporated into the tributaries of the Humber River and ultimately flow into Lake Ontario. All accessible wetlands at the Site were instrumented with surface stations consisting of staff gauges and associated nested piezometer set.

A continuous pre-construction surface water and groundwater monitoring program of the Site is currently underway, and this report includes the findings from the data collected to-date from the October 2022 to May 2024 monitoring period. All staff gauges installed within the wetlands at the Site have been instrumented with a Levelogger<sup>™</sup> to allow for continuous monitoring at every 15-minute interval. The monitoring program includes a Site visit on monthly basis to retrieve the water level data from the

Levelogger<sup>™</sup> and to collect manual readings within all surface stations and monitoring wells at the Site.

The location of the wetlands is provided in **Figure 4**.

A discussion on the surface water conditions at all surface stations is provided below.

#### Wetland 1

Wetland 1 is located within the eastern portion of the Site along a tributary of Lindsay Creek. Wetland 1 was equipped with a staff gauges, SG1-1, SG1-2, and SG1-3 with a nested piezometer set, PZ1-1S and PZ1-1D; PZ1-2S and PZ1-2D; and PZ1-3S and PZ1-3D. The shallow piezometers for PZ1-1S, PZ1-2S, and PZ1-3S were installed to depths of 0.9 m (Elev. 258.0 masl), 1.1 m (Elev. 255.7 masl) and 1.2 m (256.9 masl) below existing ground surface, respectively. The deep piezometers for PZ1D, PZ2D, and PZ3D were installed to depths of 1.9 m (Elev. 257.0 masl), 2.0 m (Elev. 254.9 masl) and 1.9 m (256.2 masl) below existing ground surface, respectively. All staff gauge and deep piezometer locations were instrumented with a datalogger to allow for continuous monitoring of surface water levels and shallow groundwater levels. The ground surface elevation at the location of staff gauges (SG1 to SG3) ranges from 259.4 to 260.5 masl.

During the continuous monitoring of staff gauge SG1 through SG3 in Wetland 1, the channel was dry during the beginning of the monitoring period in the fall (October to November 2022). Water levels gradually increased above the base of the channel in December and remained above the base of the channel until Fall of 2023 at SG1-1 & SG1-2, gradually increasing above the base of the channel throughout the winter months and remained elevated for the remainder of the monitoring period. SG1-3 water levels gradually decreased to the base of the channel and rapidly increased in the winter (December 2023) and remained elevated until May 2024. This is likely the response to some major precipitation events. Moderate increases during this time frame (December 2023 to May 2024) were also observed at SG1-1. Peak water level and flow recorded in March 2023 at SG1-2 of 0.1 m above the base of the channel (Elev. 257.0 masl) and 2,790,720 L/day, respectively. No flow was observed from the October 2022 through February 2023, September 2023, December 2023 and May 2024 monitoring periods. The channel had minimal to moderate response to precipitation events, diminishing to baseline conditions within 1-2 days after the cessation of the storm event.

The manual groundwater monitoring in the nested piezometer indicates that the shallow and deep piezometer water levels were generally below the base of the channel during the current monitoring period. The water level in the shallow piezometers were found to range from 4.1 mbgs (256.44 masl) at SG1-2 to 1.2 mbgs (258.82 masl) at SG1-1. The water level in the deep piezometer was found to range from 3.9 mbgs (256.64 masl) at SG1-2 to 0.87 mbgs (259.18) at SG1-1. The shallow groundwater gradient at the location of Wetland 1 was generally found to be upward for the current monitoring period, apart from November to December 2022 and August to September 2023 at SG1-1, August 2023 at SG1-2, and May 2024 at SG1-3.

The hydrographs for Wetland 1 are provided in **Appendix J**.

#### Wetland 2

Wetland 2 is located within the central portion of the Site. The wetland was equipped with a staff gauge, SG2 and a nested piezometer set, PZ2S and PZ2D. The shallow and deep nested piezometers were installed to depths of 1.2 m (Elev. 258.7 masl) and 2.0 m (258.0 masl) below existing ground surface, respectively. Staff gauge SG2 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and at approximate ground surface elevation of 259.9 masl.

During the continuous monitoring of staff gauge SG2 in Wetland 2, the channel was dry during the beginning of the monitoring period in the fall (October to December 2022). Water levels gradually increased above the base the channel in January but decrease to dry conditions until December 2023 from where water levels slightly decrease above the base of the channel and remain elevated for the remainder of the monitoring period. Peak water level was recorded in May 2024 of 0.47 m above the base of the channel (Elev. 261.7 masl). No flow was recorded for the current monitoring period. The channel had minimal to moderate response to precipitation events, diminishing into baseline conditions within 1-2 days after the cessation of the storm event.

The manual groundwater monitoring in the nested piezometer indicates that the shallow and deep piezometer water levels were generally below the base of the channel with water levels gradually increasing throughout the Winter to late Spring and decreasing in the Fall. The water level in the shallow piezometers were found to range from 2.5 mbgs (258.8 masl) to 1.2 mbgs (260.0 masl). The water level in the deep piezometer was found to range between 2.6 mbgs (258.7 masl) to 1.2 mbgs (260.0 masl). The shallow groundwater gradient at the location of Wetland 2 was generally found to be downward for the current monitoring period.

The hydrograph for Wetland 2 is provided in **Appendix J**.

#### Wetland 3

Wetland 3 is located along the eastern boundary of the property. Wetland 3 was equipped with a staff gauge, SG3, and a nested piezometer set, PZ3S and PZ3D. The shallow and deep nested piezometers were installed to depths of 1.4 m (Elev. 257.9 masl) and 2.1 m (2572 masl) below existing ground surface, respectively. Staff gauge SG3 was instrumented with a datalogger to allow for continuous monitoring of surface water levels and was installed within the low point of the wetland where it exits/outlets from the Site. The ground surface elevation at the location of staff gauge SG3 is approximately 259.2 masl.

During the continuous monitoring of staff gauge SG3 in Wetland 3, the channel has generally remained dry during the current monitoring period, apart from monitoring events in December 2022, February-March 2023 and from December 2023 for the remainder of the monitoring period where water levels remain slightly above or at the base of the channel. Peak water levels were recorded in February 2023 at 0.1 m above the base of the channel. Peak flow was recorded in March 2023 of 761,400 L/day. No flow was observed for the October 2022 to February 2023 and from May 2023 to May 2024 monitoring periods.

The manual groundwater monitoring in the nested piezometer indicate that the shallow and deep

piezometer water levels were generally below the base of the channel. The water level in the shallow piezometer was found to range from 2.6 mbgs (257.9 masl) to 1.2 mbgs (259.3 masl). The water level in the deep piezometer was found to range 2.9 mbgs (257.6 masl) to 1.2 mbgs.(259.29 masl). The shallow groundwater gradient at the wetland location was found to be downward during the current monitoring period, apart from the December 2023 monitoring period.

The hydrograph for Wetland 3 is provided in Appendix J.

# 4.3.7 Surface Water Quality

DS collected two (2) non-filtered surface water samples on October 24, 2020, from the Caledon Station Site; one (1) from the surface water stream in the southwest corner of the Site (Surface Station: SG W2-1); and one (1) sample from the surface water stream in the southeast corner of the Site (Surface Station: SG W8-1). The samples were placed in pre-cleaned laboratory supplied vials and/or bottles provided with analytical test group-specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The surface water samples were submitted to SGS Laboratories in Lakefield, Ontario. SGS is certified by the Canadian Association of Laboratory Accreditation Inc. (CALA) and the Canadian Standard Association (CSA). The samples were analyzed for general chemistry parameters, total suspended solids and dissolved oxygen against PWQO standards to establish baseline conditions as part of the Hydrogeological Investigation. **Table 10** presents a summary of exceeded parameters.

Table 10: Parameters in Surface Water Exceeding the PWQO

				Caledon	Station
Parameter Exceeded	Unit	Sample Location	Guideline limit	Concentration (SG W2-1)	Concentration (SG W8-1)
Aluminum	ug/L	Surface stream	75	2,610	2,400
Aluminum	ıminum ug/L Surface stream		0.015	0.034	0.096
(dissolved)					
Arsenic	ug/L	Surface stream	5	12.0	1.0
Cobalt	ug/L	Surface stream	0.9	1.86	1.87
Copper	ug/L	Surface stream	5	6.9	3.2
Iron	ug/L	Surface stream	300	36,800	4,300
Phosphorus	ug/L	Surface stream	0.01	1.93	0.358
Zinc	ug/L	Surface stream	20	24	19

**Bold** – parameter exceeds the PWQO standards.

Based on the analytical testing results, both surface water samples exceeded the PWQO for various parameters.

The certificate of analysis report is provided in **Appendix E.** 

#### 5.0 SITE WATER BALANCE

To understand and compare existing hydrologic conditions, a Thornthwaite site water balance was completed. The Thornthwaite water balance (Thornthwaite, 1948; Mather, 1978; 1979) is an accounting

type method used to analyze the allocation of water among various components of the hydrologic cycle. Inputs to the model are monthly temperature, Site latitude, precipitation, and stormwater run-on. Outputs include monthly potential and actual evapotranspiration, evaporation, water surplus, total infiltration, and total runoff. For ease of calculation, a spreadsheet model was used for the computation.

When precipitation (P) occurs, it can either runoff (R) through the surface water system, infiltrate (I) to the water table, or evaporate/evapotranspiration (ET) from the earth's surface and vegetation. The sum of R and I is termed as the water surplus (S). When long-term averages of P, R, I and ET are used, there is no net change in groundwater storage (ST). Annually, however, there is a potential for small changes in ST. The annual water budget can be stated as P = ET + R + I + ST and the components are discussed below.

## Precipitation (P)

Based on the 30-year average for the Toronto Pearson Airport Climate Station in Ontario, the average precipitation for the area is about 786 mm/year for the period between 1981 and 2010. Also, the average monthly temperature from this station has been used. The monthly distribution of precipitation is presented in **Table K-1**, **Appendix K**.

# Storage (St)

Groundwater storage (ST) of native soils for the existing Site was estimated using values of Water Holding Capacity (mm) of respective land use and soil types identified in Table 3.1 of the Storm Water Management (SWM) Planning & Design Manual (MOE, March 2003). The land uses, soil types and respective water holding capacities chosen to represent existing conditions at the Site include the following with their respective water holding capacity applied to March for monthly calculations:

- Pasture/Shrubs, Silty Clay Soils 200 mm
- Moderately Rooted Crop, Silty Clay Soils 150 mm
- Urban Lawns, Pervious Development 75 mm

Using the procedures outlined in the SWM Planning & Design Manual for the above land use and soil type, the annual change in storage is zero (0).

#### **Evapotranspiration (Et)**

Monthly Potential Evapotranspiration (PET) is estimated using monthly temperature data and is defined as a water loss from a homogeneous vegetation-covered area that never lacks water (Thornthwaite,1948; Mather, 1978). In the Thornthwaite water balance model, PET is calculated using the Hamon equation (Hamon, 1061);

PET Hamon = 13.97 \* d \* D2 \* Wt

Where:

d = the number of days in the month

D = the mean monthly hours of daylight in units of 12 hours

Wt = a saturated water vapour density term = 4.95 \* e0.627/100

T = the monthly mean temperature in degrees Celsius

The calculated Actual Evapotranspiration (AET) is based on PET and changes in ST ( $\Delta$  ST). Where there is not enough P to satisfy PET, a reduction in ST occurs. As a result, volumes of AET are less than PET. Also, it is

assumed that evaporation will occur and will amount to approximately 15% of the total precipitation for an impervious cover.

# **Precipitation Surplus (S)**

Precipitation surplus is calculated as P–ET. For pervious areas, ET is considered AET and for impervious areas, ET is evaporation.

### Infiltration (I) and Runoff (R)

For pervious areas, precipitation surplus has two components in the Thornthwaite model: a runoff component (overland flow that occurs when soil moisture capacity is exceeded) and an infiltration component. The accumulation of infiltration factors for topography, soil types and cover as prescribed in Table 3.1 of the SWM Planning & Design Manual give infiltration factors for existing conditions on the Site as shown below in **Table 11**. The runoff component calculated in the pre-development model is the remaining volume of precipitation surplus following AET, ET, and infiltration. For existing agricultural areas with tile drainage, there is expected to be a significant reduction in infiltration.

**Total Infiltration** Land uses / soil types **Topography** Soil Cover **Factor** 0.2 0.15 0.15 0.50 Pasture & Shrubs / Clay Loam Moderately Rooted Crop / Clay Loam 0.2 0.15 0.1 0.45 **Tile Drained Moderately Rooted** 0.45 0.2 0.15 0.1 Crop / Clay Loam **Urban Lawns / Clay Loam** 0.2 0.15 0.05 0.40

**Table 11 - Existing Conditions – Infiltration Factor** 

# 5.1 Pre-development Water Balance

The Site boundary used for the water balance has a total area of 188.7 ha and is predominantly comprised of landscaped/vegetated areas with only 2.0% of the total Site area comprising of existing buildings and asphalt/paved hard surfaces. **Figure 7** shows the pre-development conceptual model considered for establishing current hydrologic conditions. To predict outputs of the pre-development water balance, various inputs were entered into the Thornthwaite model including monthly precipitation and temperature, site latitude, water holding capacity values for native soils and factors of infiltration. Various inputs and outputs of the model are summarised below.

The average annual precipitation rate for the area is approximately 786 mm/year. In the pervious area of the Site, the PET is estimated to be 605 mm/year, which is approximately 77% of the total annual precipitation rate. Based on the monthly distribution of soil storage for all pervious areas of the Site characteristic of silty clay soils, the resulting annual AET rate for each pervious area will be as follows:

- Pasture/Shrubs 551.6 mm/year
- Moderately Rooted Crop 533.9 mm/year
- Urban Lawn 501.8 mm/year

There will not be any evapotranspiration from the existing impervious area of the Site however a loss of 15% from all incoming precipitation and surface runoff due to evaporation is accounted for in the water balance model. All water surplus in the existing impervious area of the Site will convert into surface runoff.

Based on the above, the resulting annual evapotranspiration, infiltration and runoff volumes for each area of the Site during the pre-development period is summarized in **Table 12** below.

**ET Volume AET Volume** Infiltration **Runoff Volume** Land Uses / Soil Types (m³/year) (m³/year) Volume (m³/year) (m³/year) 105,407 22,396 22,396 Pasture & Shrubs / Clay Loam NIL Moderately Rooted Crop / NIL 623,596 132,534 161,986 Clay Loam **Tile Drained Moderately** NIL 207,421 44,084 53,880 Rooted Crop / Clay Loam **Urban Lawns / Clay Loam** NIL 51,215 11,603 17,405 **Impervious Areas** 4,383 NIL NIL 24,838 **Total** 4,383 987,639 210,617 280,505

Table 12 - Summary of Pre-Development Water Balance

The detailed calculations are provided in Table K-2, Appendix K.

# **5.2** Post-development Water Balance

A post-development water balance was completed to predict hydrologic changes to the Site as a result of proposed conditions. The conceptual model considered for establishing proposed hydrologic conditions is provided in **Figure 8.** Ten (10) separate drainage areas are shown with boundaries and imperviousness provided by Urbantech as reported in the Functional Servicing Report (FSR) for the Caledon Station Secondary Plan (Urbantech, September 2024).

To predict outputs of the post-development water balance, the same elements of the 30-year average weather data and site latitude inputs were used. Various inputs and outputs of the post-development model are described in detail below. The detailed calculations are presented in **Table K-3**, **Appendix K**.

# PRECIPITATION (P)

Based on the 30-year average for the Toronto Pearson Airport Climate Station, the average precipitation for the area is about 786 mm/year for the period between 1981 and 2010. Also, the average monthly temperature from this station has been used. The monthly distribution of precipitation is presented in **Table 1, Appendix K.** 

# STORAGE (ST)

Groundwater storage (ST) of native soils for the post-development scenario was estimated using the values of soil moisture holding capacity or respective land use and soil types identified in Table 3.1 of the Storm Water Management (SWM) Planning and Design Manual (MOE, March 2003). The land uses, soil types and

respective water holding capacities chosen to represent existing conditions at the Site including the following with their respective water holding capacity applied to March for monthly calculations:

- Pasture/Shrubs, Silty Clay Soils (NHS) 200 mm
- Urban Lawns/Landscaped, Previous Development 75 mm

Similar to the pre-development conditions, using the procedures outlined in the SWM Planning & Design Manual for each land use, the annual change in storage is 0. The monthly distribution of ST for each of the land use/soil types is presented in **Table K-3**, **Appendix K**.

### **EVAPORATION / EVAPOTRANSPIRATION (ET)**

The proposed plans for development during the post-construction period will result in an increase in the total impervious hard surfaces across the Site. The total impervious area following the proposed plans for development is approximately 1,328,999 m², or about 70% of the total area. In the impervious areas, it is assumed that only evaporation will occur and will amount to approximately 15% of the total precipitation. Considering a total annual precipitation of 786 mm/year, evaporation is estimated at 118 mm. On this basis, the total annual volume of evaporation is estimated at 156,689 m³/year. The detailed calculations for evaporation are included in **Table K-3, Appendix K**.

For post-development pervious areas, monthly PET is estimated using the same inputs and calculations described in the pre-development model respective of land use and soil moisture holding capacity. In the post-development scenario, annual AET is 51,383 m³/year for the pasture/shrubs area and 233,232 m³/year for the pervious landscape/development area of the Site. The monthly distribution of Post-development AET and detailed calculations are presented in **Table K-3**, **Appendix K**.

# PRECIPITATION SURPLUS (S)

For post-development pervious surfaces at the site, precipitation surplus is calculated as the difference between precipitation and actual evapotranspiration (P–AET), which is summarized below for each of the post-development pervious catchment areas:

- Pasture/Shrubs 234.4 mm/year
- Pervious Landscaped 284.2 mm/year

For Impervious surfaces at the site, surplus is P-ET where ET is estimated at 15% of P. The resulting precipitation surplus is about 668 mm/year. The more detailed calculations are included in **Table K-3**, **Appendix K**.

#### INFILTRATION (I)

The same accumulation of infiltration factors for topography, soil types and cover as prescribed in Table 3.1 of the SWM Planning & Design Manual were used give infiltration factors for post-development conditions.

Considering the infiltration factors used, the total volume of Infiltration (I) estimated for post-development conditions of each pervious areas of the Site is summarized below:

- Pasture/Shrubs 10,917 m³/year
- Previous Landscaped 52,841 m³/year

On this basis, the resulting infiltration during the post-construction period is estimated to be 63,758 m³/year. The more detailed calculations are presented in **Table K-3**, **Appendix K**.

#### **RUNOFF (R)**

The runoff component calculated in the post-development model is a combination of the remaining volume of precipitation surplus for both pervious and impervious areas. The total volume of runoff (R) estimated for the post-development conditions of the pervious areas is summarized below:

- Pasture/Shrubs 10,917 m³/year
- Pervious Landscaped 981,922 m³/year

All precipitation water over impervious hard surfaces will convert into surface runoff after accounting for evaporative losses. On this basis, the resulting surface runoff during the post-construction period is estimated to be 967,165 m<sup>3</sup>/year.

The more detailed calculations are presented in **Table K-3**, **Appendix K**.

#### 5.3 Site Water Balance Results

Based on the results of the pre-development and post-development water balance completed, the proposed development is expected to produce a decrease in annual infiltration of 146,859 m<sup>3</sup>/year and an increase in annual runoff of 697,577m<sup>3</sup>/year. These effects are the result of increased impervious areas replacing pervious areas of the Site. The analysis is summarised in **Table K-5**, **Appendix K**.

A summary of the results from the pre- and post-development water balance without mitigation is provided in **Table 13** below:

Table 13 – Summary of Pre- and Post-Development Site Water Balance (without Mitigation)

	Pre-Development	Post-Development	Change
ET (m³/year)	4,383	156,689	-152,306
AET (m³/year)	987,639	284,615	703,024
Infiltration (m³/year)	210,617	63,758	146,859
Runoff (m³/year)	280,505	978,083	-697,577

Note: (-ve value implies a net gain)

# 5.4 Post-development Water Balance (With Mitigation)

As per the Town's CLI-ECA, the pre-development site water balance must be met to the maximum extent possible through site retention (infiltration, reuse, or evapotranspiration), and then LID filtration, and finally conventional stormwater management techniques. Groundwater elevations across the Site are high and

present a challenge for mitigating infiltration deficits. With this in mind, a comparison of average groundwater and seasonal high groundwater levels were compared to proposed grades as shown in Figure 704A and 704B of the FSR (Urbantech, October 2024). Using the figures, a LID Plan was developed. The location and design of the LIDs applied to the mitigated water balance, are provided in Figure 703 of the FSR (Urbantech, October 2024). The mitigation was entered into the post-development water balance to assess the effectiveness at addressing infiltration deficits.

Three types of infiltration LIDs are proposed throughout the site including infiltration facilities (in public parks), infiltration LIDs (in site plan blocks) and modular soil cells (in public ROWs).

#### **Infiltration Facilities**

Three (3) centralized infiltration facilities are proposed along park frontages (public domain) in Catchments 104 and 105. The proposed facilities are underground plastic tanks (e.g. Stormtech MC3500) that would be fed by a flow splitter from the storm sewer trunks. Each tank is designed to have a minimum of 0.5 m to 1.0 m separation from the observed seasonal high groundwater level, and more than 1.0 m separation from the normal groundwater level at each location. The facilities will provide pretreatment (isolator row and/or upstream OGS) prior to infiltration.

The proposed facility drainage areas and capture targets are as follows:

- Catchment 105 Tank 1: 13.13 hectares, 15 mm runoff
- Catchment 104 Tank 2: 6.66 hectares, 25 mm runoff
- Catchment 104 Tank 3: 3.79, 25 mm runoff

Infiltration tank design details are provided in the FSR (Urbantech, October 2024). The total infiltration benefit provided by the three infiltration facilities is estimated to be 109,176 m<sup>3</sup> / year. Detailed calculations are presented in **Table K-4**, **Appendix K**.

#### Infiltration LIDs - Site Plan Blocks

Infiltration requirements are proposed for the site plan blocks (medium density and mixed use). Site plan blocks were analyzed to determine feasibility of infiltration, and the required targets were adjusted to compensate for blocks where the groundwater table precludes infiltration. The total site plan blocks area for infiltration is approximately 14.1 hectares. On-site infiltration of the 15 mm rainfall event on these site plan blocks can be achieved via underground tanks or infiltration trenches. The total infiltration benefit provided by these LIDs is estimated to be 65,314 m³ / year. Detailed calculations are presented in **Table K-4, Appendix K**.

## **Modular Soil Cells (Silva Cells)**

Potential locations for infiltration LIDs within the public road right-of-way were identified through the LID constraint mapping process. The recommended LIDs are modular soil cells that can be implemented within the wider road ROW sections and along the proposed Linear Park.

The LID plan includes about 5.7 ha of impervious and pervious areas to be captured by the modular soil cells, as shown in Figure 703 of the FSR (Urbantech, October 2024). The soil cell system was sized to capture and infiltrate the 25 mm rainfall volume. It is estimated that the soil cells can provide an infiltration benefit of 26,279 m<sup>3</sup> / year. Detailed calculations are presented in **Table K-4, Appendix K**.

Based on the accumulation of LIDs provided above, the total infiltration benefit is estimated to be 200,769 m³/year. As a result, the post-development water balance with mitigation is expected to produce an overall increase in annual infiltration of 53,910 m³/year and an increase in annual runoff of 496,808 m³/year. These effects are the result of increased impervious areas replacing pervious areas of the Site. The analysis is summarised in **Table K-5, Appendix K**.

A summary of the results from the pre- and post-development water balance with mitigation is provided in **Table 14** below.

Table 14 – Summary of Pre- and Post-Development Site Water Balance (with Mitigation)

	Pre-Development	Post-Development with Mitigation	Change
ET (m³/year)	4,383	156,689	-152,306
AET (m³/year)	987,639	284,615	703,024
Infiltration (m³/year)	210,617	264,527	-53,910
Runoff (m³/year)	280,505	777,314	-496,808

Note: (-ve value implies a net gain)

## 6.0 FEATURE BASED WATER BALANCE

## 6.1 Pre-development Sub catchments

Pre-development catchment mapping showing topographical drainage divides and wetland catchments were provided in Figure 701 of the FSR (Urbantech, October 2024). The mapping was used to document existing drainage patterns across the site and determine which areas are within the catchments of wetlands W1 through W10. The mapping was completed to inform the proposed functional servicing for the development. Wetland and constraints mapping was provided by Beacon. Wetland W11 was mapped separate to Urbantech's study and is provided in a memo completed by DS Consultants (DS, September 2024).

Wetlands W7 and W8 are proposed to be relocated and so were not included in the post-development water balance assessment. It should be noted that the external run-on from HDF WHT6-E which is currently conveyed to wetlands W7/W8 via a drainage pipe is proposed it be redirected toward the relocated features to provide runoff contributions as required. Wetland W9 and W11 was also not included in the water balance assessment as it is located off Site and was not accounted for in the post-development catchment mapping.

The pre-development mapping in Figure 701 of the FSR (Urbantech, October 2024), shows catchments for 7 wetland units including W1 through W6 and W10. Catchments for wetlands W1 to W6 includes west areas

of the Site which drain south across King Rd. Each of these catchments are limited to within the Site boundaries with exception to some ditch and road runoff from the east side of The Gore Rd. The catchment for wetland W10 includes Drainage from W5 and W6 as well as a catchment east of W6 which all converge and flow south across King Rd into wetland W10. The W10 catchment south of King Rd. includes areas of the Site (south of King rd.), which drain west into W10.

# **6.2** Post-Development Subcatchments

Post-development wetland catchments were provided by Urbantech in Figure 702 of the FSR (Urbantech, October 2024), to document proposed changes to existing drainage patterns for wetland catchments W1 to W6 and W10. The post-development wetland catchment for wetland W11 was mapped separate to Urbantech's study and is provided in a memo completed by DS Consultants (DS, September 2024).

## 6.3 Wetland Water Balance Risk Evaluation

To aid in determining the level of risk and evaluation requirements for the study, an assessment was completed using the Wetland Water Balance Risk Evaluation guidelines provided by the Toronto and Region Conservation Authority (TRCA, Nov 2017). The guideline provides criteria used to evaluate the magnitude of potential hydrological impact on a wetland. The criteria include:

- The proportion of impervious cover in the catchment of the wetland that would result from the proposal;
- ii) The degree of change in the size of the wetland catchment;
- iii) Water taking from, or discharge to, surface water bodies or aquifers directly connected to the wetland, and;
- iv) The impact on locally significant recharge areas.

Considering the above criteria, increases to impervious cover and changes to wetland catchment size were evaluated for an interim condition with temporary ponds and final layout.

## 6.3.1 Impervious Cover Score

An increase in the percent of impervious cover within a wetland catchment has the effect of reducing infiltration and potentially decreasing baseflow and/or interflow contributions to the wetland. It further increases runoff contributions and risks of flooding and potentially increases stormwater sediment and contaminant loading. To assess the risk of the proposed impervious surfaces on sensitive features including Wetlands W1 through W6, W10 and W11, the Impervious Cover Score (S) was calculated for each of the wetlands catchments. The equation defining S is as follows:

$$S = \underline{IC \cdot Cdev}$$

$$C$$

where,

IC is the proportion of impervious cover proposed within the specific catchment (as a percentage between 0 and 100) C dev is the total proposed development area within the catchment (in ha) C is the size of the wetland's catchment (in ha).

Results of the calculation are provided in **Table 15** below. Wetland catchments in the interim condition are presented with no risk with exception to W10 which is presented with a low risk based on the calculated S. Wetland catchments in the final condition are mostly shown to have low risk with exception to W2 and W11 which has no increased impervious area and so no risk.

Table 15 - Impervious Cover Score - Probability and Magnitude of Hydrological Change

Subcatchment Area Name	Pre-development Catchment Size (m²)	Proposed Impervious Cover (m²)	Impervious Cover Score (S) (%)	Sensitive Feature	magnitude of hydrological change
Wetland 1 (W1) - Interim	37,400	0	0	Wetland	None
Wetland 1 (W1) - Final	37,400	72.2	0. 2	Wetland	Low
Wetland 2 (W2) - Interim	50,784	0	0	Wetland	None
Wetland 2 (W2) - Final	50,784	0	0	Wetland	None
Wetland 3 (W3) - Interim	213,600	0	0	Wetland	None
Wetland 3 (W3) - Final	213,600	352	0.2	Wetland	Low
Wetland 4 (W4) - Interim	62,040	0	0	Wetland	None
Wetland 4 (W4) - Final	62,040	918	1.5	Wetland	Low
Wetland 5 (W5) - Interim	74,225	0	0	Wetland	None
Wetland 5 (W5) - Final	74,225	502	0.7	Wetland	Low
Wetland 6 (W6) - Interim	51,700	0	0	Wetland	None
Wetland 6 (W6) - Final	51,700	62	0.1	Wetland	Low
Wetland 10 (W10) - Interim	268,125	564	0. 2	Wetland	Low
Wetland 10 (W10) - Final	268,125	564	0. 2	Wetland	Low
Wetland 11 (W11) - Interim	15,530	0	0	Wetland	None
Wetland 11 (W11) - Final	15,530	0	0	Wetland	None

Note: \* Impervious Cover Score (S) calculated using equation 1 (TRCA - Wetland Water Balance Risk Evaluation, Nov 2017)

## **6.3.2** Change in Catchment Size

Changes to catchment size directly effects the volume and timing of stormwater contributions to downgradient features. To evaluate the magnitude of hydrological change these effects can have, predevelopment and post-development catchments were compared. **Table 16** provides the area breakdown for pre- and post-development conditions for both interim conditions and final design. The same magnitude thresholds used for impervious cover (10% and 25 %) are used as thresholds to define catchment size alteration. As a result, changes to catchment size in the interim condition are presented with no risk for wetlands W2, W4, W5, W6 and W11, medium risk for W10 and high risk for W1 and W3. Wetland catchments in the final condition are mostly shown to have high risk with exception to W11 which has no change in catchment area and so no risk.

Table 16 - Changes to Catchment Size - Probability and Magnitude of Hydrological Change

Subcatchment Area Name	Pre- development catchment area (m²)	Post- Development Catchment Area (m²)	% Change in Catchment Area	Sensitive Feature	Magnitude of Hydrological Change *
W1 - Interim	37,400	21,600	42% decrease	Wetland	High
W1 - Final	37,400	4,200	89% decrease	Wetland	High
W2 - Interim	50,784	50,784	No change	Wetland	None
W2 - Final	50,784	34,300	32% decrease	Wetland	High
W3 - Interim	213,600	291,300	36% Increase	Wetland	High
W3 - Final	213,600	28,000	87% decrease	Wetland	High
W4 - Interim	62,040	62,040	No change	Wetland	None
W4 - Final	62,040	21,600	65% decrease	Wetland	High
W5 - Interim	74,225	74,225	No change	Wetland	None
W5 - Final	74,225	16,700	78% decrease	Wetland	High
W6 - Interim	51,700	51,700	No change	Wetland	None
W6 - Final	51,700	9,500	82% decrease	Wetland	High
W10 - Interim	268,125	224,525	16% decrease	Wetland	Medium
W10 - Final	268,125	64,000	76% decrease	Wetland	High
W11 - Interim	15,530	15,530	0% decrease	Wetland	None
W11 - Final	15,530	15,530	0% decrease	Wetland	None

Note: \* Based on Table 2: Criteria used to evaluate the probability and magnitude of hydrological change (TRCA - Wetland Water Balance Risk Evaluation, Nov 2017)

#### 6.4 Wetland Water Balance

As a result of the above wetland risk evaluation, it is expected that a Feature Base Water balance will be required for wetlands W1, W3 and W10 in the interim condition and wetland W1, W2, W3, W4, W5, W6 and W10 in the final condition. It is understood that a wetland water balance has been completed by Urbantech, which includes the use of the continuous version of Visual OTTHYMO (VO), a hydrological modelling software used to simulate the infiltration, evapotranspiration, and groundwater infiltration and generate surface runoff and flows to the wetlands.

The results of the wetland water balance are provided in Section 8.2 of the FSR (Urbantech, October 2024). In general, the post-development scenario (without mitigation) shows that hydroperiods and percent time inundated (PTI) of the wetlands were much lower than the set targets.

To mitigate the shortened hydroperiods and PTI, a proposed drainage plan was designed to promote drainage of clean sources of water (vegetated areas and roof drainage) towards the wetlands to mitigate the impacts post-development. The post-development with mitigation results shows that the target hydroperiods and inundation are generally maintained within an approximate 20% range throughout the

typical year for all the wetlands. Areas that are continuously inundated more than 50% of the year are closely maintained to pre-development conditions. The results are considered within the acceptable range for the identified riparian wetland vegetation communities, which are not sensitive to minor hydrology changes. Further refinement of the clean water mitigation measures can be completed at the detailed design stage to better match the targets for the less frequently inundated areas.

### 7.0 CONSTRUCTION DEWATERING & PERMANENT GROUNDWATER CONTROL

Based on the preliminary designs, the proposed plans for development will consist of low-rise residential blocks, commercial and institutional zones, Stormwater Management (SWM) Ponds and greenspace. The development will also include the construction of roadways and associated storm, sanitary sewer and water distribution infrastructure. Detailed design of the proposed plans for the developments are not currently finalized, it is assumed that the proposed residential blocks will comprise of one (1) level of underground basement and/or parking. Further, the institutional and mixed commercial use blocks and the GO station block will be constructed slab-on-grade.

Based on the findings of the subsurface drilling investigation, there are significant variations noted in the subsurface stratigraphic and groundwater conditions across the Sites. The construction of the low-rise residential blocks and the site servicing will be dispersed across the Site areas and therefore will encounter varying subsurface conditions at different locations of the Sites. Grading plans and site plans for the Site located at Argo King I & II were not provided to **DS**, and therefore flow rates will be provided once grading plans and site plan designs are received. The following preliminary grading plans for the Caledon Station Site were provided to **DS** for review in estimating the requirements for groundwater control and dewatering during the construction period:

- "Drawing No. 301 Preliminary Grading Plan (1 of 4), Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan (BRES Option 3 Lands)", by Urbantech Consulting, dated Jan 2021, File No.: 15-458
- "Drawing No. 302 Preliminary Grading Plan (2 of 4), Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan (BRES Option 3 Lands)", by Urbantech Consulting, dated Jan 2021, File No.: 15-458
- "Drawing No. 601 SWM Pond 1, Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan," by Urbantech Consulting, dated Sep 2021, File No.: 15-458
- "Drawing No. 602 Interim SWM Pond, Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan," by Urbantech Consulting, dated Sep 2021, File No.: 15-458
- "Drawing No. 603 SWM Pond 2A, Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan," by Urbantech Consulting, dated Sep 2021, File No.: 15-458
- "Drawing No. 604 SWM Pond 2B, Town of Caledon, Regional Municipality of Peel, Macville Secondary Plan," by Urbantech Consulting, dated Sep 2021, File No.: 15-458

Based on the review of the proposed preliminary grading plans, it is understood that the site grades will generally range from approximately 280.0 masl in the northwestern corner to an approximate elevation of 275.0 masl in the southwest and 267.6 masl in the southeastern corner of the Site. For the purpose of

assessing the requirements for groundwater control and dewatering during the construction period, a conceptual model of the Site has been prepared based on the proposed site grading and the worst-case subsurface conditions, which can be encountered during the trenching/excavation for the low-rise residential blocks and site servicing. Conceptual models for the mid-rise residential developments are prepared based on inference from nearby boreholes and monitoring wells in the locality of these proposed structures.

It is expected that the trenching and excavation earthwork during the construction period will extend below the groundwater table in certain areas of the Site and groundwater control and dewatering will be required to ensure the excavation area remains dry and safe. Generally, the excavations will be completed into the cohesive clayey silt till, however will extend into the underlying silty sand till / silt unit in certain locations.

The dewatering estimates also include provisions for controlling storm water in the excavation area from an incidental 2-year storm event. As per the Ministry of Transportation (MTO) Intensity-Distribution-Frequency (IDF) curves for the Town of Caledon, a 2-Year storm that is 2-hours in duration would result in a 13.5 mm/hr of rainfall intensity.

This section calculates the estimated dewatering required during the construction of the proposed residential buildings and private services.

# 7.1 Estimation of Flow Rate – Medium Density Residential Blocks, Low-Rise Development

It is understood that the architectural designs for the proposed structures at the Site are not finalized at this time. For the purpose of assessing groundwater seepage rates during the construction period, the following assumptions were made:

- An excavation for one (1) residential block within the larger Site development will comprise of fifteen (15) medium density residential blocks. The development is to include a series of townhouses and single detached homes. This will result in an excavation that will be approximately 80 m x 130 m in area for one block.
- The low-rise residential development will comprise of one (1) level of underground basement extending to approximately 2 m below ground surface. The excavation will extend an additional 0.5 m below the finished floor basement slab for the foundation. On this basis, the base of excavation for each low-rise residential block will be advanced to 2.5 m below ground surface.

As previously indicated, the excavations for the proposed residential blocks will be dispersed across the Site area and therefore will encounter varying subsurface conditions at different locations of the Site. Generally, it is expected that the excavations for the low-rise residential blocks will be completed above the groundwater table and construction dewatering/control will be minimal for the majority of the Site, and particularly during the summer period. To assess the requirements for groundwater control and dewatering during the construction period, a conceptual site model was prepared assuming the worst-case scenario with respect to the depth of excavation below the ground water table at the Site. Based on the proposed preliminary grading plan, it is anticipated that these conditions will likely be present in the south-central

portion of the Site. For the purpose of estimating the requirements for groundwater control and dewatering during the construction period, the groundwater table in the conceptual site model was set to Elev. 268.0 masl (BH22-27, March 2023). The elevation at the base of excavation will be Elev. 265.2 masl. On this basis, the excavation will be advanced to a depth of 2.5 m below the ground surface. There will be a requirement to lower the groundwater table to an elevation of 0.5 m below the base of excavation.

The groundwater seepage volume in the excavation is estimated using the Dupuit-Forcheimer analytical model for flow into a linear trench from a system of wells of equivalent radius under unconfined groundwater conditions. The anticipated groundwater seepage rates are estimated to be on the order of 44,020 L/day. An incidental 2-year storm event will result in a total of 280,800 L of water to be removed from the excavation. The total **unit** dewatering rate during the construction period for **one (1) residential low-rise block** development at the Site is estimated to be **346,830 L per day**, which includes a 50% safety factor on the anticipated rates and the contribution from an incidental precipitation event.

It is understood that the provided site grading plans are currently preliminary and are subject to changes in the future. Should there be any changes to the proposed site grading and/or deviation from any assumptions made above, **DS** should be consulted to confirm if revisions to the construction dewatering/control assessment is deemed to be required.

# 7.2 Estimation of Flow Rate – Townhouse & Single Detached Units

Based on Block Plan Concept dated May 1<sup>st</sup>, 2023, provided to DS, blocks consist of townhouses and detached homes are proposed within the Caledon Station Community. For the purpose of assessing groundwater seepage rates during the construction period, the following assumptions were made:

- A maximum excavation for one (1) single residential detached unit within the larger Site development will be approximately 12.8 m x 27 m in area; and,
- The single detached units and townhouse developments will comprise of one (1) level of
  underground basements extending to approximately 2 m below ground surface. The excavation
  will extend an additional 0.5 m below the lowest finished floor basement slab for the foundation.
  On this basis, the base of excavation for each mid-rise residential block will be advanced to 2.5 m
  below ground surface.

The excavations for the proposed residential blocks will be dispersed across the Site area and therefore will encounter varying subsurface conditions at different locations of the Site. The highest groundwater level measured in the east portion of the Site is 0.3 mbgs at Elev. 265.8 masl (BH22-32). On this basis, the excavation for the mid-rise residential development will extend approximately 2.5 m below the groundwater table. For this reason, groundwater control and dewatering during the construction period will be required to maintain a dry and safe excavation. There will be a requirement to lower the groundwater table to an elevation of 0.5 m below the base of excavation.

The groundwater seepage volume in the excavation is estimated using the Dupuit-Forcheimer analytical model for flow into a linear trench from a system of wells of an equivalent radius under unconfined

groundwater conditions. The anticipated groundwater seepage rate is estimated to be a maximum rate of 118,300 L/day. An incidental 2-year storm event will result in a total of 9,330 L of water to be removed from the excavation. The total **unit** dewatering rate during the construction period for **one** (1) unit (assuming largest unit dimensions) is estimated to be on the order of 186,705 L per day, which includes a 50% safety factor on the anticipated rates and contribution from an incidental 2-year precipitation event.

It is understood that the provided site grading plans are currently preliminary and are subject to changes in the future. Should there be any changes to the proposed site grading and/or deviation from any assumptions made above, **DS** should be consulted to confirm if revisions to the construction dewatering/control assessment is deemed to be required.

## 7.3 Estimation of Flow Rate – Site Servicing

It is understood that the site servicing plans for the proposed development at the Site are not finalized at this stage. For the purpose of assessing groundwater seepage rates during the construction period, the following assumptions were made:

- The trenching for the site servicing will be completed in segments of 30 m x 2 m per day; and
- The lowest invert level of the proposed trunk sewer and local servicing infrastructure will be limited to a depth of 4 mbgs.

As previously indicated, the trenching for the proposed site servicing will be dispersed across the Site area and therefore will encounter varying subsurface conditions at different locations of the Site. Generally, it is expected that the excavations for the site servicing will be completed above the groundwater table and construction dewatering/control will typically be minimal for the majority of the Site, and particularly during the summer period. To assess the requirements for groundwater control and dewatering during the construction period, a conceptual site model was prepared assuming the worst-case scenario with respect to the depth of excavation below the ground water table at the Site. Based on the proposed preliminary grading plan, it is anticipated that these conditions will likely be present in the south-central portion of the Site. For the purpose of estimating the requirements for groundwater control and dewatering during the construction period, the groundwater table in the conceptual site model was set to Elev. 269.7 masl (BH20-9, August 6, 2020). The elevation at the base of excavation will be Elev. 266.3 masl. On this basis, the excavation will be advanced to a depth of 3.4 m below the ground surface. There will be a requirement to lower the groundwater table to an elevation of 0.5 m below the base of the trench.

The groundwater seepage volume in the excavation is estimated using the Dupuit-Forcheimer analytical model for flow into a linear trench from a system of wells of an equivalent radius under unconfined groundwater conditions. The anticipated groundwater seepage rates are estimated to be on the order of 9,006 L/day. An incidental 2-year storm event will result in a total of 1,620 L of water to be removed from the trench. The total **unit** dewatering rate during the construction period for **one** (1) trench segment at the Site is estimated to be 15,500 L per day, which includes a 50% safety factor on the anticipated rates and contributions from an incidental precipitation event.

It is understood that the provided site grading plans are currently preliminary and are subject to changes in the future. Furthermore, the detailed design of the proposed site servicing has not been finalized at this stage. During the detailed design stage, **DS** should be consulted to confirm if revisions to the construction dewatering/control assessment is deemed to be required.

## 7.4 Estimation of Flow Rate – Storm Water Management Ponds

The proposed plans for development will include three (3) storm water management (SWM) ponds, in addition to an interim SWM Pond. SWM Pond locations are presented in **Figure 4A.** Preliminary SWM Pond designs were provided to DS by Urbantech Consulting dated September 2021. The proposed depths of SWM Ponds 1, 2A, 2B and interim SWM ponds are 261 masl, 259 masl, 256 masl, and 268.5 masl, respectively. Target dewatering rates should be lowered 1 m below the proposed depths to maintain dry conditions within the excavations. Pump tests were completed at SWM Pond 1, SWM Pond 2A, and SWM Pond 2B locations. Details and estimated dewatering rates are presented in sections 7.7 through 7.9 & 7.11 below. The below dewatering estimates pertain to the Interim SWM Pond.

**Table 17** below indicates the boreholes considered for the estimated flow rate. Based on the highest groundwater level at the Interim SWM Pond, the excavations for the SWM Ponds will extend below the groundwater table. For this reason, groundwater control and dewatering during the construction period will be required to maintain a dry and safe excavation. The groundwater seepage volume in the excavations is estimated using the Dupuit-Forcheimer analytical model for flow into a linear trench from a system of wells of an equivalent radius under unconfined groundwater conditions.

Table 17 – Estimated Construction Dewatering SWM Pond Flow Rates

Parameter	Interim SWM Pond
Monitoring Well	BH22-13
Seasonal High Groundwater Level (masl)	280
H- Initial Elevation of Water Table (m)	4.4
h- Final Elevation of Water Table (m)	1
In-Situ K- Hydraulic Conductivity (m/s)	1.6 X 10 <sup>-6</sup>
Ro- Radius of Influence (m)	86
Re- Equivalent Radius (m)	72.9
A- Unit Area (m²)	16,700
C- Dimensionless constant	3
Q- Flow rate (L/d)	49,000
Q- Total Flow Rate - 50% safety factor (L/d)	73,500
Q- Flow 10 mm storm water (L/day)	167,000
Q- Total Flow Rate (L/d)	240,500

It is understood that the provided site grading plans are currently preliminary and are subject to changes in the future. Should there be any changes to the proposed site grading and/or deviation from any assumptions made above, **DS** should be consulted to confirm if revisions to the construction dewatering/control assessment is deemed to be required.

# 7.5 Permanent Drainage (Long-term Discharge) - Medium Density Residential Blocks, Townhouse & Single Detached Units

It is understood that the residential blocks will include one (1) level of underground basement, which will likely be constructed above the water table and with a water-proofing membrane. A perimeter drainage system will be installed, however all collected percolating stormwater will be discharged to landscaped/vegetated areas of individual residential lots. Further, the institutional and commercial zones will be constructed slab-on-grade. For this reason, all low-rise residential blocks, institutional and commercial zones are not anticipated to require any permanent groundwater drainage control.

Given that the detailed design for the proposed plans for development were not finalized at this stage, various assumptions were made to assess the requirements for groundwater control and dewatering during the post-construction period. During the detailed design stage, if the assumptions made therein Section 6.0 of this report deviate from the finalized developmental designs, then **DS** should be consulted to revise the estimated groundwater seepage rates and permitting requirements.

# 7.6 Permanent Drainage (Long-term Discharge) – Storm Water Management Pond (Interim SWMP)

The proposed Interim SWM pond design will require permanent groundwater control. This is required to prevent hydrostatic pressure from up lifting the base of the pond during both normal operation and maintenance events. Permanent drainage at the Interim SWM Pond is summarised in **Table 18** below inclusive of a 50% safety factor. Permanent drainage for SWM Pond 1, SWM Pond 2A, and SWM Pond 2B is discussed as part of the pumping test program in Section 11 below.

Table 18 – Estimated Permanent Drainage SWM Pond Flow Rates

Parameter	Interim SWM Pond
Monitoring Well	BH22-13
Screened Unit	Sandy Silt
Seasonal High Groundwater Level (masl)	280
In-Situ K- Hydraulic Conductivity (m/s)	1.6 X 10-6
Q- Flow Rate (L/day)	30,000
Q- Flow Rate 50% safety factor (L/day)	45,000

## 7.7 Pumping Test Program

In August 2023, aquifer pumping tests were conducted on the pumping wells PW1 at the proposed SWM Pond 1 location and at the proposed SWM Pond 2B location, and in June 2024 at pumping well PW2A (deep)

within the SWM Pond 2A location to provide indications of the quantity of water available from each single well and to calculate the aquifer hydraulic coefficients (Transmissivity and Storativity). During each of the drawdown pumping tests, a data logger was installed in the pumped well and in select monitoring wells utilized as observation wells. Water level measurements were also taken by manual means and recorded in a field book. A flow meter was used to confirm that the constant pumping rate was maintained throughout the drawdown period

## 7.7.1 PW1 Pumping Test Results

## 7.7.1.1 PW1 Step Test (Mogg Type)

On August 1<sup>st</sup>, 2023, a 3 step, Mogg Type step-drawdown test was conducted on PW1, at controlled flow rates of 22.4, 38 and 76 l/min (4.9, 8.4 and 16 imperial gpm). The semi-logarithmic plot of drawdown vs. time for the test are shown on **Figures E-1**, in **Appendix E**. The attached **Figures E-2** is an arithmetic plot of drawdown versus pumping rate for the same data set. The specific capacity at each step was also calculated and shown in **Figures E-3**. This figure shows the separation from the "theoretical line of zero well and formation loss" at the pumping rates tested.

#### 7.7.1.2 PW1 Drawdown and Recovery Test

An aquifer test was performed on PW1 located within the proposed SWM Pond 1 area within the Humberking and Argo Humberking lands at a pumping rate of 60.5 L/min (13.3 igpm). A data logger was programmed and installed in the pumping well during the test to record the water level inside the pumped well on a 60 second interval. The flow rate was controlled using a standard ball valve and measured using a digital flow meter. At the conclusion of the 22-hour drawdown time, the pump was shut-down, and a 10-hour recovery period was recorded in the pumping well and observation wells during each test.

The attached **Figures E-3 (in Appendix E)** is a semi-logarithmic plot of the drawdown vs. time response to pumping inside the pumping well, PW1. The attached **Figures E-4 (in Appendix E)** is a semi-logarithmic plot of the drawdown vs. time response to pumping inside the observation well, BH22-33. At BH22-33, minimal drawdown, approximately 0.24m, due to the interference/pumping of PW1 after 22 hours of pumping was observed. Based on the geology and hydrogeology at the Site, the interference due to pumping at PW1 will differ from PW2 (as discussed in Section 7.7.2).

# 7.7.2 PW2B Pumping Test Results

# 7.7.2.1 PW2B Drawdown and Recovery Test

An aquifer test was performed on PW2B within the SWM Pond 2B footprint within the Argo King I and Argo King II lands at a pumping rate of 16 L/min (3.5 igpm). The pumping test at PW2B generally followed the same flow recording and flow control setup procedure as testing during PW1, with the exception that PW2B was initially shut-in with a well seal to establish the above ground static water level. At the conclusion of the 1-hour constant rate pumping period, the available drawdown from the well was exhausted. The pump was then shut-down, and a 30-hour recovery period was recorded in the pumping well and observation well.

The attached **Figures E-6 (in Appendix E)** is a semi-logarithmic plot of the drawdown vs. time response to pumping inside the well, PW2B. **Figure E-7** shows the response in the observation well (BH22-5) during the pumping at PW2B. There was no drawdown at BH22-5 due to the interference/pumping of PW2B after 1 hour. The drawdown response observed at the observation well after 1 hour of drawdown is also displayed graphically in **Figure E-8** as a function of radial distance from the center of the pumped well.

# 7.7.3 PW2A Pumping Test Results

#### 7.7.3.1 PW2A Drawdown and Recovery Test

An aquifer test was performed on PW2A (dee) within the SWM Pond 2A footprint within the Humberking and Argo Humberking lands at a pumping rate of 4 L/min (0.9 igpm). The pumping test at PW2A generally followed the same flow recording and flow control setup procedure as testing at the other pumping wells. At the conclusion of the 2-hour constant rate pumping period, the available drawdown from the well was exhausted. The pump was then shut-down, and a 45-hour recovery period was recorded in the pumping well and observation wells.

The attached **Figures E-9 (in Appendix E)** is a semi-logarithmic plot of the drawdown vs. time response to pumping inside the well, PW2A. **Figure E-10** and **Figure E-11** shows the response in observation wells PW2A-shallow and BH23-1, respectively, during the pumping at PW2A. There was no drawdown at the shallow PW2A and BH23-1 due to the interference/pumping of PW2A after 2 hours. The drawdown response observed at the observation well after 2 hours of drawdown is also displayed graphically in **Figure E-12** as a function of radial distance from the center of the pumped well.

## 7.7.3 Pumping Test Interpretation

The aquifer pumping tests were designed to determine the performance characteristics of the pumping wells, PW1, PW2A and PW2B. The specific aquifer parameters of interest are Transmissivity (T) and Storativity (S). Using the Jacob-Cooper straight line method, the test data was analyzed in order to produce the target parameters.

From the data gathered and analyzed at PW1, PW2A and PW2B, calculated Transmissivity values were **40.3** m²/day (2,700 igpd/ft.), 0.08 m²/day (5 igpd/ft.) and 2.5 m²/day (165 igpd/ft.), respectively. The Storativity estimated for all pumping wells was 1.0 X 10<sup>-4</sup> (dimensionless) based on hydrogeologic conditions encountered at the Site.

# 7.8 Conceptual Construction Groundwater Control (SWMP 1, 2A & 2B)

# 7.8.1 Conceptual Groundwater Control Requirements

SWM Pond details prepared by Urbantech Consulting dated September 2021 were provided to DS for review. If the design details change, the groundwater control model will need to be recalculated to ensure they represent the final design. Based on the provided information, bottom elevations for SWM Pond 1, SWM Pond 2A and SWM Pond 2B are proposed to extend to 261.0 masl, 259 masl, and 256.0 masl, respectively.

For the purposes of evaluating a dewatering plan, a groundwater model was developed using first principles. The purpose of the model is to produce an optimal layout and to help predict the dewatering rates that will be necessary in order to achieve the target water levels (1 m below the base of the SWM Pond).

The following sections describe the conceptual dewatering requirements for construction. Section 7.11 of the report will describe the conceptual permanent groundwater control requirements. If the design proposed SWM Ponds change, the groundwater control model will need to be recalculated to ensure they represent final design.

## 7.8.2 Conceptual Groundwater Control Model

The aquifer performance data from the testing program, was analyzed to produce a conceptual geological and hydrogeological model. The groundwater control model was constructed using the below noted aquifer coefficients (Transmissivity and Storativity) in **Table 18** calculated through our field data. The dewatering target elevations for this model was selected based on the geology that was encountered during our drilling program. During construction, dewatering will be required to control groundwater from the overburden.

Based on the step test and aquifer pumping test data obtained, the permeability was identified in the overburden. The calculated Transmissivities, 40.3 m² day⁻¹ (2,700 igpd/ft) from PW1, 0.08 m² day⁻¹ (5 igpd/ft) from PW2A (deep) and 2.5 m² day⁻¹ (165 igpd/ft) from PW2B and the estimated Storativity, 1.0 x 10⁻⁴ (dimensionless), were used in an iterative process which allowed the number of theoretical wells, the spacing of the wells and the quantities of water pumped to be altered and modified. The results of each outcome were analyzed after each trial until the optimum configuration was determined. Figure F-1 (Appendix F), Figure G-1 (Appendix G), and Figure H-1 (Appendix H) shows the proposed layout of the theoretical pumping wells and two (2) theoretical observation wells for SWM Pond 1, SWM Pond 2A and SWM Pond 2B, respectively.

After numerous trial runs, the final run was created using the above noted Transmisivity values. Based on the water levels measured in August 2023 from PW1 and PW2B and July 2024 from PW2A it was determined through the iterative process that the groundwater control system featuring twelve (12), nineteen (19) and eight (8) theoretical wells for SWM Pond 1, SWM Pond 2A and SWM Pond 2B, respectively are set to pump at combined pumping rate of 525,600 L/day (80.4 igpm), 17,280 l/day (0.4 igpm), and 41,760 L/day (6.4 igpm) for SWM Ponds 1, SWM Pond 2A and SWM Pond 2B, respectively which would lower the groundwater to below the target elevations. Figure F-2 (Appendix F), Figure G-2 (Appendix G) and Figure H-2 (Appendix H) shows the predicted response to the groundwater levels in the theoretical well systems.

## 7.8.3 Total Conceptual Construction Dewatering Requirements

The total volumetric pumping rate to control groundwater from the aquifer during construction is estimated to be approximately 365 L/min or 525,600 L/day (525.6 m³/day), 12 L/min or 17,280 L/day (17.3 m³/day) and 29 L/min or 41,760 L/day (41.8 m³/day) for SWM Pond 1, SWM Pond 2A and SWMP Pond 2B, respectively. Total volumetric pumping rates for each SWM Pond is presented in Table 19 below.

The Site will also have to manage storm water collected within the open excavation. Based on the estimated areas of the open excavations, and a 10 mm storm event the estimated daily discharge volume for storm

water was estimated to 590,000 L/day, 397,600 and 95,690 L/day (pumped over a 48-hour period) for SWM Pond 1, SWM Pond 2A and SWM Pond 2B, respectively. Storm water volumes, and the total discharge volumes for each pond are presented in **Table 19** below.

Table 19: Construction Dewatering Parameters & Volumes (SWM Pond 1, 2A & 2B)

Groundwater Model Summary	SWM Pond 1	SWM Pond 2A	SWM Pond 2B
Bottom SWM Pond Elevation (masl)	261	259	256
Target Pumping Water Level (masl)	260	258	255
Number of Theoretical Pumping Wells	12	19	8
Transmissivity (m²/day)	40.3	0.08	2.5
Combined Pumping Rate (I/day)	525,600	17,280	41,760
Total discharge Volume (25% safety factor)			
(l/day)	657,000	21,600	52,200
Storm event (10 mm) (I/day)	590,000	376,000	95,690
Total discharge Volume (I/day)	1,247,000	397,600	147,890

# 7.9 Temporary Conceptual Groundwater Control Model

During construction and excavation, groundwater in the sand aquifer will have to be controlled. The conceptual groundwater modelling results applied twelve (12) and eight (8) theoretical pumping wells for SWM Pond 1 and SWM Pond 2B, respectively to control groundwater within the water bearing zones. The number of theoretical wells assumed for each pond is presented in **Table 19** above. It should be noted that the number of theoretical wells used to simulate the required pumping volume is based the data obtained from the pumping wells PW1 and PW2, therefore the actual number of wells, well points, or eductors will vary based on the subsurface site conditions at the SWM Pond areas. The dewatering contractor should confer on the most suitable method for groundwater control (for example staged well points, eductor system or deep wells).

### 7.10 Zone of Influence

The radius of influence (Ro) for the construction dewatering was calculated based on the Sichardt equation for the low-rise residential development, townhouse/detached units, site servicing trench and each of the SWM Ponds. Ro is the distance at which the drawdown resulting from pumping is negligible. The equation is empirical and was developed to provide representative flow rates using the steady-state flow dewatering equations as indicated above. Under steady-state conditions, Ro of pumping will extend until boundary flow conditions are reached and sufficient water inputs are equal to the discharge rate due to pumping. Therefore, the Sichardt equation is used to provide a representative flow rate but is not precise in determining the actual radius of influence by pumping. Based on Sichardt equation the ZOIs are summarized in **Table 20** below:

Table 20: Summary of Estimated Zones of Influence

	Medium Density Residential Blocks (Low-Rise Development)	Townhouse & Single Detached Units	Site Servicing (30 m x 2 m)	SWMP 1	SWMP 2A	SWMP 2B	Interim SWMP
Ro (m)	4	11	2	103	6	21	86
Note: * range reported due to 2 hydrostratigraphic units detected. Further investigative work is required							

# 7.11 Permanent Groundwater Control (SWM Ponds)

# 7.11.1 Permanent Drainage Conceptual Groundwater Control Model

The proposed SWM Pond 1 will require permanent groundwater control. This is required to prevent hydrostatic pressure from up-lift to the base of the pond. The same theoretical control wells for SWM Pond 1 were used during construction dewatering and will be preserved and adapted to a permanent configuration. The target groundwater elevation to be maintained during permanent operation is 0.5 m below the base of the ponds. A groundwater model was used to calculate the permanent discharge volume from each theoretical control well for each SWM Pond 1. Figure F-3 shows the spreadsheet model for estimated permanent groundwater discharge for SWM Pond 1. The estimated permanent drainage for SWM Pond 1 is 565,920 L/day with a 50% safety factor. The estimated zone of influence is approximately 98 m. As per the Geotechnical Comments and Recommendations letter (DS 2024), SWM Pond 1 will require an under-line drainage system to reduce the uplift hydrostatic pressure at the base of the liner. The dewatering wells may also be preserved for future SWM Pond maintenance for SWM Pond 1.

Based on the subsurface investigation at SWM Pond 2A and 2B and as per the Geotechnical Comments and Recommendations letter (DS 2024), the cohesive soils consisting of clayey silt to silty clay extended to the maximum extent of the investigation. Therefore, based on the proposed SWM Pond bottom elevation, the material encountered can serve as an appropriate clay liner, and a liner is not considered necessary for SWM Pond 2A and 2B. Additional boreholes with monitoring wells are recommended to be carried out once design is final to confirm subsurface conditions and that a clay liner is not required.

Table 21: Permanent Drainage Parameters & Volumes (SWM Pond 1)

Theoretical Permanent Discharge	SWM Pond 1
Bottom Pond Elevation (masl)	261
Target Pumping Water Level (masl)	260.5
Theoretical Combined Discharge Rate (I/day)	377,280
Total discharge Volume (50% safety factor) (I/day)	565,920

## 7.12 Permit Requirements

# 7.12.1 Environmental Activity and Sector Registry (EASR) / Permit to Take Water (PTTW) Application

An Environmental Activity Sector Registration (EASR) Posting is required to be submitted to the Ministry of the Environment, Conservation and Parks (MECP) if the taking of groundwater and stormwater for a temporary construction project is between 50,000 L/day and 400,000 L/ day. The EASR application is an online registry and should be submitted to the MECP before commencing any construction dewatering operations. A PTTW is required to be submitted to the MECP if the taking of groundwater and stormwater for a temporary construction project is greater than 400,000 L/ day. A PTTW is required for permanent drainage if the permanent drainage volume exceeds 50,000 L/day.

During the construction period, the requirements to obtain any water taking permitting (EASR/PTTW) will depend on the ownership structure of the Site and the staging for development. The estimates for groundwater control and dewatering provided in Section 7.1 through 7.12 of this report should be made use of each individual land parcel that comprise of the larger subject Site. It is anticipated that an EASR Posting will likely be required, however if the construction dewatering rates exceed 400,000 L/day on any given day, a PTTW Registration with the MECP will be required. Based on the construction dewatering values for SWM Ponds 1 & 2A, a PTTW will be required.

During the post-construction period, the anticipated permanent drainage flows for SWM Ponds 1 is expected to be greater than 50,000 L/day. Given that the estimated permanent drainage flows are expected to be greater than the MECP threshold of 50,000 L/day, a long-term PTTW will be required in support of permanent groundwater control for the SWM Pond 1 should design details corroborate the assumptions made in this assessment.

## 7.12.2 Discharge Permits (Construction Dewatering and Permanent Drainage)

The Site is located within the Humber River watershed, which is located within the regulatory jurisdiction of the Toronto and Region Conservation Authority (TRCA). A discharge permit may be required from the TRCA, Peel Region and/or Town of Caledon if the water is to be discharged to a nearby/on-site surface water feature during the construction period. A discharge and monitoring plan will need to be prepared prior to obtaining a discharge approval from the TRCA, Peel Region and/or Town of Caledon.

If the private water during the post-construction period is anticipated to be discharged into the proposed municipal sewer system, a sewer discharge agreement with the Town of Caledon and/or Regional Municipality of Peel will be required prior to any discharging operations.

# 8.0 POTENTIAL IMPACTS

The following are the predicted potential impacts as a result of construction dewatering:

## 8.1 Local Groundwater Use

Based on the MECP WWRs, there are numerous well records listed within the boundary of the Site and the immediately adjacent area. The wells located within the Site boundary are expected to be decommissioned prior to commencing construction works for the proposed development. The majority of water supply wells in the area are noted to be installed at deeper depths. Given that the proposed construction is anticipated to extend less then 10m below existing ground surface, and the resulting radius of influence from the dewatering activities will be kept minimal, short and long-term impacts to private wells in the area during the construction period is not considered to be likely.

It is understood that the detailed design of the proposed plans for development have not been finalized at this stage. These specific details include, among other items, the maximum depth of excavation/trenching required in support of the proposed development, servicing and storm water management ponds. At this stage, the above-defined assumptions were considered in this assessment with regards to the deepest anticipated depth of excavation. It should be noted that if at the detailed design stage, the above assumptions do not hold true, then this assessment will need to be revisited based on the finalized design details.

#### 8.2 Surface Water Features

Based on the proposed plans for development at the Site, the following may have the potential for impacts to natural surface water features:

- (i) Groundwater control and dewatering operations during the construction period;
- (ii) Reduction of groundwater recharge and possibly groundwater contributions to surface water features as a result of impervious surfaces following construction; and,
- (iii) Reduction of runoff available to natural features as a result of changes to Site drainage.

A discussion on the potential for impacts (i to iii above) are provided below.

#### **Groundwater Control and Dewatering:**

All dewatering activities for the proposed development adjacent to the existing wetlands have the potential to interfere and lower the groundwater table within the wetland features. During the construction period, monitoring of the wetlands must be continued to ensure the groundwater levels and surface water flows in the headwater drainage features are not being lowered. On the onset of completing the pre-construction monitoring, **DS** will prepare a contingency plan, which will outline pre-defined "review" and "response" levels for all surface water stations in the wetlands, where impacts to the surface water features will have become apparent and mitigative measures as well as more frequent monitoring will need to be initiated promptly. Further preliminary details on the contingency plan are discussed in Section 8.0.

Pumped water from temporary construction dewatering activities should be managed to avoid direct discharge of potentially impacted water into sensitive features such as the wetland. To manage the

potential risks to surface water quality, a discharge plan should be developed for proper discharge of private water during the construction period.

## **Reduction in Groundwater Recharge:**

As discussed in Section 4.3.6, there are eight (8) wetlands within the Caledon Station and three (3) wetlands within the Argo King 1 & II development. A water balance assessment has not been proposed for the Argo Kin I & II lands and the baseline monitoring program is currently underway. Therefore, the below discussion refers to the conclusions made from the monitoring program and water balance assessment within the Caledon Station Community.

Wetlands W7 and W8 are being relocated with existing upgradient (offsite) contributions proposed to be redirected toward the new features. An adaptive management program for the newly constructed features will be required to ensure there is adequate contribution. For wetlands W1 to W6 and W10, a long-term pre-construction surface water and groundwater monitoring program is currently underway. Monitoring during the current period indicates that most wetlands are ephemeral surface water features, with minimal to some response to precipitation events. Upward shallow groundwater gradient at wetland W3 is noted, however further monitoring will be required to establish seasonal baseline conditions and to confirm surface water and groundwater interaction dynamics for each of the wetlands.

There is a potential that groundwater levels may rise during the spring period and provide contribution to seasonal baseflow of the wetlands. A reduction in recharge over the Site as a result of the development may result in a lowering of the water table and thus a reduction in groundwater contribution. The water balance completed for the Site shows there is a total increase in Site infiltration of 53,910 m³/yr following mitigation. The mitigation plan provides a significant improvement to the unmitigated Post-Development condition and is expected to maintain groundwater recharge across the Site. As a result, potential risk to the wetlands is expected to be eliminated.

#### **Reduction in Runoff Contribution:**

Results of the wetland water balance with mitigation, as provided in Section 8.2 of the FSR (Urbantech, October 2024), shows that the target hydroperiods and inundation are generally maintained within an approximate 20% range throughout the typical year for all the wetlands. Areas that are continuously inundated more than 50% of the year are closely maintained to pre-development conditions. As a result, potential risk to the wetlands is expected to be eliminated.

#### 8.3 Point of Discharge and Groundwater Quality

A discharge plan will be required for the discharge of pumped groundwater from construction dewatering activities. The plan must identify the discharge location and ensure the discharge will not result in any adverse impacts by identifying the discharge measures to be installed and control measures to limit the turbidity of the discharge water.

Discharged water from temporary construction dewatering activities should be managed to avoid direct discharge of potentially impacted water into sensitive features such as the wetland. To manage the potential risks to surface water quality, a discharge plan should be developed for the discharge of pumped groundwater from the construction dewatering.

While there were instances of metal exceedances in groundwater quality, baseline surface water quality samples also exceeded PWQO. Notably, the groundwater results were equivalent to or better than those of the baseline surface water quality samples. Therefore, groundwater may be discharged overland during dewatering. However, a basic treatment system is recommended to be implemented to minimize suspended fines and associated metals which can generally be treated through the use of a primarily filtration. The design and effectiveness of the pre-treatment system will be the responsibility of the pre-treatment system contractor. The quality of the discharge water must meet the guideline limits of the PWQO prior to discharging into any surface water features. If the pumped water is to be discharged into a surface water body, a monitoring plan will need to be prepared and submitted to the Toronto and Region Conservation Authority (TRCA), Peel Region and/or the Town of Caledon to obtain approval for a discharge permit.

#### 8.4 Source Protection Area

The Sites are located within the Toronto Region Source Protection Area (SPA). The Sites were identified to be within an area of significant groundwater recharge; however, a vulnerability score was not specified for the Sites. Significant groundwater recharge areas are characterized by porous soils such as sand and gravel, which allows water to seep easily to the ground. A recharge area is considered significant when it helps maintain water levels in an aquifer that supplies a community with drinking water. Groundwater impacts as a result of construction should be assessed and minimize potential impacts to drinking water.

# 8.5 Highly Vulnerable Aquifer

The Sites are not located within a Highly Vulnerable Aquifer (HVA). No HVA impacts are anticipated due to the proposed development.

#### 8.6 Wellhead Protection Area

The sites and the study area were not located within a municipal Wellhead Protection Area-Quantity (WHPA-Q). No WHPA-Q impacts are anticipated due to the proposed development.

#### 8.7 Intake Protection Zone

The Sites and the study area are not located within a water intake protection zone (IPZ). No IPZ impacts are anticipated due to the proposed temporary dewatering.

#### 8.8 Well Decommissioning

Following the completion of construction activities, all dewatering wells, well points, eductors, and monitoring wells installed at various stages of this project must be decommissioned. The installation and

eventual decommissioning of the wells and the dewatering system must be carried out by a licenced water well contractor in accordance with Regulation 903 of the Ontario Water Resources Act.

# 9.0 MONITORING AND MITIGATION

Based on the hydrogeological investigation, **Table 22** below provides a recommended monitoring program, triggers for mitigation and recommended mitigation measures for groundwater levels and the discharge of water during construction.

**Table 22: Monitoring and Mitigation Plan** 

PERIOD	MONITORING LOCATION	MONITORING FREQUENCY	METHOD	TRIGGERS FOR MITIGATION	COMMENTS / RECOMENDATIONS
WATER LEVE	LS				
Pre-	Groundwater level monitoring (available on-site monitoring wells)	Continuously for one week	Dataloggers within the existing wells	None	Complete hydrographs to document baseline water levels
Construction	Existing surface water stations (including staff gauages and nested piezometers)	Continuously for one week	Dataloggers within the existing staff gauges and manual measurements in nested piezometer	None	Complete hydrograph to document baseline water levels
	Existing monitoring wells or replacements adjacent to dewatering area	Daily until target water level is reached	Dataloggers with weekly downloads	Target drawdown not reached or exceeded	Increased / reduced pumping; if pumping is approaching 400 m³/day, a PTTW will be required
	Discharge volume	Daily at discharge location	Manual with totalizing flow meter in-line	Flow exceeds predicted volumes	Reduce to maximum allowed or obtain a PTTW
During construction	Existing surface water stations (including staff gauages and nested piezometers)	Continuously until pre-defined review and/or response trigger levels are reached	Dataloggers and manual monitoring with weekly downloads	Drawdown of groundwater levels in wetlands to pre-defined review and/or response levels	The review and response levels will be finalized upon completion of the 1-year pre-construction monitoring
	Groundwater Contribution to Wetland (if any)	Continuously until pre-defined review and/or response trigger levels are reached	Dataloggers and manual monitoring with weekly downloads	Drawdown of surface water flows in wetlands below pre-defined review and/or response levels	The review and response levels will be finalized upon completion of the 1-year pre-construction monitoring

PERIOD	MONITORING LOCATION	MONITORING FREQUENCY	METHOD	TRIGGERS FOR MITIGATION	COMMENTS / RECOMENDATIONS		
Post-	Existing monitoring wells or replacements adjacent to dewatering area	Weekly for one month or until water levels reach 90% of original static level	Datalogger water level monitoring with weekly downloads	NA	NA		
Construction	Existing surface water stations (including staff gauages and nested piezometers)	Weekly for one month or until water levels reach 90% of original static level	Datalogger water level monitoring with weekly downloads	N/A	N/A		
WATER QUA	WATER QUALITY						
During construction (discharge to surface water feature)	Groundwater Discharge from dewatering	Sample for parameters against the PWQO criteria Field monitoring for turbidity and correlation with lab results	Once the start of dewatering at the point of discharge  Weekly from the dewatering system for the first month of active dewatering Assuming water quality is compliant, monthly for the remainder of the dewatering period.	Discharge quality exceeds the PWQO criteria Field TSS/Turbidity exceed the PWQO criteria	More frequent monitoring will be considered  Enhanced treatment of the discharge water will be considered, if needed		
During Construction (surface water quality in wetlands)	Surface water flows at each surface water station	Sample for parameters against the PWQO criteria Field monitoring for turbidity and correlation with lab results	Sampling to be completed during construction monitoring on a monthly basis, until trigger level is reached	Exceedance in background turbidity concentration in water quality by more than 20 NTU or total suspended solids concentration above 25 mg/L	Conduct a site visit with the contractor; revisit the effectiveness of the pre-treatment system with the contractor and property owner to potentially alter construction phasing/methodology plan; revisit surface runoff at the Site and sediment and erosion control measures; and assess the need for clean up of the HDFs to minimize sediment transport		

## **10.0 LIMITATIONS**

This report was prepared for the sole use of the addressee to provide an assessment of the hydrogeological conditions on the property. The information presented in this report is based on information collected during the completion of the hydrogeological investigation. DS Consultants Limited was required to use and rely upon various information sources produced by other parties. The information provided in this report reflects DS' judgment in light of the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or findings, conclusions, and recommendations represented herein, is at the sole risk of said users. The conclusions drawn from the Hydrogeological report were based on information at selected observation and sampling locations. Different conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. DS Consultants Ltd. cannot be held responsible for hydrogeological conditions at the site that was not apparent from the available information.

Should you have any questions regarding these findings, please do not hesitate to contact the undersigned.

#### **DS Consultants Ltd.**

Prepared By:

Dorothy Santos, M.Sc. Project Manager

Scott Watson, B.A.T. GeoBase Solution (GBS) Ltd. Reviewed By:

Martin Gedeon, M.Sc. P.Geo., Senior Hydrogeologist

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# **Tables**

Staff Gauges (SG)		08-Sep-20	2-Oct-20	9-Dec-20	18-6	Feb-21	07-Ap	pr-21 09	-Jun-21	03-Sep-1	21 27	Oct-21 06	-Jan-22	09-Mar-22	05-May-22	07-Jul-22	08-Sep-2.	22 08-1	Nov-22 04	-Jan-23 2	-Mar-23 13	-Jul-23	11-Sep-23	21-Nov-23	13-1	Feb-24	15-May-24	_
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new W4-P25 2 261.65 new W4-P25 2 261.95 new W4	2.20 0.55 26 2.47 0.82 26 2.47	11.156  06-Aug-20  (60)  11.156  07-Aug-20  (75-Aug-20	8-5sp-20 (gr easily 2-3s are no o o o o o o o o o o o o o o o o o o	22-Oct-20 (Govern to Marker (TOM) (Seem) 2-20-20-20-20-20-20-20-20-20-20-20-20-20	9.0 (dO) 1400 Mater (100)	Dec-20 ((seem) and see of the company of the compan	258 268 278 278 278 288			09-Jus-2		Sep-21 27.  (Irrem) assert to Market	Oct-21  (Issue) and the Company of t	05-Jan-22 (See a) 2 see a) 05-Jan-22 (See a) 05-Jan-22 (S	Depth to Water (TOP)  172 Depth to Water (maxil)  272 92 92 92 92 92 92 92 92 92 92 92 92 92		07-Jul-22	1.18 260.47 260.506 22 08-3 (Feb. 20 20 20 20 20 20 20 20 20 20 20 20 20	1.28 260.50 dry 260.50 sep-22 08 (800) agent of the tensor	77 0.57 261. 16 0.95 261. Nov-22 0 (srew) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	88 0.54 261.1 31 0.95 261.0 Han-23 21 (graw) sate/M out sate/M	1 0.47 2 3 0.93 2 2 2 2 275.87	61.18 1.4 61.05 1.14 13.Jul-23 (SEEW) James M. O141260 4.87 275.92	250.25 250.84 11-Sep-23	0.67 260.9  1 260.9  21-7  (ISSEM) January 01 41860  275.52 5.7	08 0.71 103 1.03 Nov-23 (ST 28) 104 00 107 00 10	260.94 260.95 13-Feb-24	0.67 260.98 0.99 260.99 15-May 1600 15-May 1600 15-May 1600 1600 1600 1600 1600 1600 1600 160
Dec W4-82D 264.65   Cone W4-82D 261.98   Cone W4-82	2.20 0.55 26 2.47 0.82 26 2.47 0.82 26 2.47 0.92 26 6.92 0.96 7.20 0.94 6.20 0.95	1.099   1.199   1.196	30 272.44 dry	7.42 272. dry	.32 7.39 7.13	272.35	7.36 Dr	272.38 7.0 ry	7 272.499	7.29 2 7.06 2	272.446 7.7 272.439	7 271.97 7.3	19 272.35	05-Jan-22 05-Jan-22 09-Jan-20 4-72 276-07 6-82 272-92 6-7 272-80	6.95 272.79	6.82 272.92 6.7 272.80	07-Jul-21	1.18 260.47 (260.506 2	1.28 260.3 dry 260.50 sep-22 08 free 024 260.50 sep-22 08 275.27 5.7 272.17 7.8 272.19 7.0	72 0.57 261.  16 0.95 261.  Nov-22 0  17 0.95 261.  Nov-22 0  18 0.95 261.  18 0.95 261.  18 0.95 261.  18 0.95 261.  18 0.95 275.04 5.  19 271.85 5.  19 271.85 6.	8 0.54 261.1 3 0.95 261.0 1-Jan-23 21. 1-Jan-23 21. 1-Jan-23 21. 1-Jan-23 21. 1-Jan-23 21. 1-Jan-23 21. 1-Jan-23 4.9 1-Jan-23 4.9 1-Jan-24 4.9 1-Jan-24 4.9 1-Jan-25 4.9 1-	1 0.47 2 3 3 0.93 2 3 Mar-23 C	51.18 1.4 51.05 1.14 13-10-23 (Feb. 20 25 25 25 25 25 25 25 25 25 25 25 25 25	260.25 260.84 11.3ep.23 10 1.3ep.23 10 1.3ep.23 10 1.3ep.23 1.3ep.	26.9 1 260.9 21.7 (CERTIAL) JANES AND	0.71 0.71	260.94 260.95 13-Feb-24 600 13-Feb-24 4.79 27 6.88 27	0.67 260.98 0.99 260.99 15-May 160.00 4.06 76.00 4.06 77.94 6.06
December	2.20 0.55 26 1.47 0.82 26 1.47 0.82 26 2.60 0.96 6.92 0.96 7.20 0.94 6.20 0.95 5.54 0.00	1.1500   1.1	30 272.44 dry 75 272.32	7.42 272. dry inaccessible	7.39 7.13 inacc	272.35 272.37 cessible	7.36 Dr	272.38 7.0 ry zen 4.5	7 272.726 7 272.499 6 272.51	7.29 2 7.06 2 4.96 2	272.446 7.7 272.439 272.961 6.4	7 271.97 7.3 3 270.64 5.1	19 272.35 13 271.94	6.82 272.92 6.7 272.80	6.95 272.79 6.97 272.53	6.82 272.92 6.7 272.80 4.49 272.58	67-Jul-22	1.18 260.47 260.506 22 68.3 260.506 20 68.3 20 68.3 20 68.3 20 68.3 20 68.3 20 68.3 20 68.3 20 68.3 20 7.57 277.54 7.0 277.44 5.21	1.28 260.30 dry 260.50 sep-22 08 first 200.50 esp-22 08 esp-22 08 esp-	27 0.57 261. 66 0.95 261. Nov-22 0 18 0.05 261. Nov-22 0 Nov-22 0 18 0.05 261. Nov-22 0 18 0.05 261. Nov-22 0 18 0.0	88 0.54 261.13 3 0.95 261.0 13 0.95 261.0 13 0.95 261.0 14 25 261.0 14 27 27 27 27 27 27 27 27 27 27 27 27 27	1 0.47 2 3 3 0.93 2 2 Mar-23 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	61.18 1.4 61.05 1.14 13.101-23 13.101-23 13.101-23 14.07 13.101-23 14.07 16.07	260.25 260.84 11.3ep.23 00 00 00 00 00 00 00 00 00 00 00 00 00	0.67 260.9 1 260.9 21.4 (601) 300 PM AND	0.71 0.71	260.94 260.95 13-Feb-24 60 24 4.79 27 6.8 27 6.68 27	0.67 260.98 0.99 260.99 15.May 0.99 260.99 15.May 0.99 260.99 15.May 0.99 260.99 0.99 260.99 0.90 260.90 0.90 260.
men W4-P2D 264.65 Dec W4-P2D 26	2.20 0.55 26 1.47 0.82 26 2.47 0.82 26 2.47 0.82 26 2.47 0.96 2.47	1.099   1.099   1.196   1.099   1.196   1.099   1.196   1.096	30 272.44 dry 75 272.32 06 269.98 01 269.80	7.42 272. dry inaccessible 4.35 269 1.63 270.	7.13 7.13 inacc 69 4.25	272.35 272.37 cessible 269.79 270.73	7.36 Dr Fros 4.03 1.17	272.38 7.0 ry zen 4.5 270.01 3.7 270.64 1.1	1 272.726 7 272.499 6 272.51 6 270.277 .5 270.655	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.415 1.7	7 271.97 7.3 8 270.64 5.1 7 269.47 4.1 6 270.06 1.0	19 272.35 13 271.94 18 269.86 16 270.76	6.82 272.92	6.95 272.79	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71	dry	1.18 260.47 260.506 22 083 260.506 22 083 275.86 5.52 2775.86 5.52 2775.86 7.57 2772.41 5.21 270.47 1.48	1.28 260.30 dry 260.50 sep-22 08 08 0014360 00	72 0.57 261. 16 0.95 261. 18	88 0.54 261.13 3 0.95 261.0  1 3 0.95 261.0  1 3 0.95 261.0  2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 0.47 2 3 3 0.93 2 2 2 2 275.87 2 2 272.62 5 267.339 Inaccess 5 267.339 Inaccess 5 272.32 1 2 270.69	### 1.4	260.25 260.84 11-Sep-23 11-Sep	26.9 26.9 1 26.9 1 26.9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	88 0.71 1.03 Nov-23 FF 9 275.00 66 272.18 87 272.20 e e inse	260.94 260.95 13-Feb-24 00 01 4.79 27 6.88 27 4.53 27 4 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.67 260.99 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.90 260.
1000   1	2.20 0.55 26 1.47 0.82 26 1.47 0.82 26 1.47 0.82 26 1.47 0.82 26 1.47 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85	1.099   1.099	30 272.44 dry .75 272.32 .06 269.98 .01 269.80 .60 255.19	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18	272.35 272.37 cessible 269.79 270.73	7.36 Dr Fros 4.03 1.17 1.22	272.38 7.0 ry zen 4.5 270.01 3.7 270.64 1.1 261.57 1.	7 272.726 7 272.499 6 272.51 6 270.277 5 270.655 1 261.691	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.415 1.7 261.451 1.2	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 5 270.06 1.0 2 261.57 1.0	19 272.35 13 271.94 18 269.86 16 270.76 13 261.76	6.82 272.92 6.7 272.80 3.48 270.56	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48	4.93 2 7.05 2 6.96 2 4.93 2 1.34 2 1.34 2	1.18 260.47 260.506 22 063 20 063 20 063 20 063 275.86 5.52 272.69 7.57 272.41 5.21 270.21 4.26 270.21 4.26 270.21 4.26 270.21 4.26 270.21 4.26	1.28 260.36 day 260.50	72 0.57 261. 16 0.95 261. 18	Section   Sect	1 0.47 2 3 3 0.93 2	51.18 1.4 51.05 1.14 13.1u1-23 13.1u1-23 14.10 13.1u1-23 14.10 14.10 15.1u1-23 16.10 17.10	260.25 260.84 11-3ep-23 50 51 52 52 71 6.99 14 4.75 18 18 18 18 18 18 18 18 18 18	25.9 25.9 25.9 25.9 25.7 25.5 2 5.7 272.5 7 7.5 2 16.2 25.9 16.2 25.0 16.2 2	88 0.71 1.03 Nov-24 Nov-24	250.94 260.95 13-Feb.24 60.95 13-Feb.24 60.95 4.79 27 6.85 27 4.53 27 200.000000000000000000000000000000000	0.67 260.98 0.99 260.99 15-May 15-May 16 0.00 16 0.00
men W478D 255.65   25	2.20 0.55 26 1.47 0.82 26 2.47 0.82 26 2.48 0.82 26 2.49 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85	1.099   1.099   1.155   1.091   1.095	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.73	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22	272.35 272.37 cessible 5 269.79 8 270.73 8 260.61 9 269.10	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98	272.38 7.0 ry 2en 4.5 270.01 3.7 270.64 1.1 261.57 1. 269.28 5.0 265.12 3.	11 272.726 7 272.499 16 272.51 16 270.277 15 270.655 1 261.691 18 269.911 16 267.495	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.415 1.7 261.451 1.2 269.361 6.1 267.235 4.5	7 271.97 7.3 8 270.64 5.1 7 269.47 4.1 5 270.06 1.0 2 261.57 1.0 5 268.84 5.8 6 266.54 2.6	19 272.35 13 271.94 18 269.86 19 270.76 19 261.76 16 269.13 18 268.42	6.82 272.92 6.7 272.80	6.95 272.79 6.97 272.53 3.71 270.33	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76	07-Jul-21 07-Jul-21 07-Jul-22	1.18 260.47 260.506 12 68-3 15 60 17 88-5 17 88-5 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	1 28 260.3 day 260.50 Sep 22 OS Sep	72 0.57 261.6 0.95 261.1 Nov-22 0 20 20 20 20 20 20 20 20 20 20 20 20 20 2	Section   Sect	1 0.47 2 3 0.93 2  Mar-23  Mar-23  2 2 275.87 2 2 2772.72 2 2772.72 2 172.72 2 172.72 2 172.72 2 172.72 2 172.72 3 172.7	### 1.4	260.25 260.84 11.3ep.23 60 2 4 4 5 5 7 7.17 2 7.17 2 4.75 1 1 1 1 1 1 1 1 2 2 3 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21.7 250.9 1 260.9 1 260.9 1 260.9 1 260.9 1 260.9 260.9 260.9 27.7 27.7 25.2 5.7 7.5 27.7 25.2 5.7 7.5 27.7 25.1 7.0 27.7 25.1 7.0 27.7 25.1 260.9 1 260.0 1	98 0.71 1.03 Nov-23 105 105 105 105 105 105 105 105	250.94 260.95 13-Feb-24 600 02 4.79 6.88 27 6.68 27 4.53 22 24 24 25 25 27 26 27 27 26 27 27 26 27 27 27 28 27 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28	0.67 260.99 0.99 260.99 15-May 15-May 160.00 160.
man wir4(3) 25.6.6.1 man wir4(3) 25.6.1 man wir4(3)	2.20 0.55 26 1.47 0.82 26 2.65 2.65 2.65 2.65 2.65 2.65 2.65 2.65	1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.73 87 264.84	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79	272.35 272.37 cessible 269.79 270.73 260.61 269.10 264.88 264.92	7.36 Dr Fros 4.03 1.17 1.22 5.71 5.98 0.58	272.38 7.0  Ty  zen 4.5  270.01 3.7  270.64 1.1  261.57 1.  269.28 5.0  265.12 3.  265.13 0.4	11 272.726 7 272.499 16 272.51 16 270.277 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.415 1.7 261.451 1.7 261.451 6.1 267.235 4.5 265.181 0.9	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 1.0 2 261.57 1.0 2 268.84 5.8 5 266.54 2.6 5 264.76 0.8	99 272.35 33 271.94 18 269.86 105 270.76 103 261.76 106 269.13 106 264.85	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45	4.93 2 7.05 2 4.65 2 3.76 2 3.	1.18 260.47 260.506 20 68-3 (a) 260.506 (b) 260.506 (c) 268-3 (c) 270.506 (c) 270.506 (c	1 78 260 3 dry 260 56 260 20 260 20 260 20 275 27 57 272 17 7 272 140 7 272 180 160 160 160 160 160 160 160 160 160 16	72 0.57 261.  Nov-22 0  10 20 20 20 20 20 20 20 20 20 20 20 20 20	88 0.54 261.13 3 0.95 261.0  1-140-23 21  1-140-23 21 21 21 21 21 21 21 21 21 21 21 21 21	10 0.47 2 3 3 0.93 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$1.18 1.4 \$1.05 1.14 13.10 23 14.07 25 14.07 25 14.07 275.92 6.77 272.97 6.77 272.97 6.77 272.97 6.77 272.97 6.72 272.95 6.91 272.85 6.92 272.85 6.93 272.85 6.9	260.25 260.84 11.5ep.23 5.27 7.17 6.99 14.75 1.12 1.12 1.12 1.12 1.13 1.13 1.13 1.13	0.67 250.9  1 260.9  21.7  (60)  1 260.9  21.7  (60)  1 21.7  (60)  1 21.7  (60)  1 21.7  (60)  1 21.7  (60)  1 21.7  (60)  1 21.7  (77	88 0.71 98 1.03 Nor-23 103 103 103 103 103 103 103 10	260.94 260.95 13-Feb-24 (60) 4.79 27 6.8 27 6.8 27 4.33 27 30ccessible 1.12 26 2.81 26 2.81 26 2.81 26	0.67 260.99 0.99 260.99 13.May 13.M
men W4590 20.616   20	2.20 0.55 26 1.47 0.82 26 1.47 0.86 26 1.48 0.95 26 1.	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.277 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	118 260.47 200.506 200	1 78 260.3 doy 260.5 doy 260.5 doy 260.5 doy 260.5 do 260	72 0.57 261.  Nov-22 0  10 20 20 20 20 20 20 20 20 20 20 20 20 20	1	1 0.47 2 3 0.93 2  Mar-23  Mar-23  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	51.18 1.4 51.05 1.14 13.nJ.23 024 039 0487 275.92 6.75 272.97 6.65 272.85 6.77 272.97 6.65 272.85 6.80 12 270.61 12 270.61 12 270.61 12 270.61 13 270.61 14 270.61 15 270.61 16 270.61 17 270.61 18 270.61 19 270.61 19 270.61 19 270.61 19 270.61 10 270.	260.25 260.84  11.3ep.23  0	0.67 280.9 1 1 200.9 1 1 200.9 1 1 200.9 1 200	98 0.71 Nov-23  109 109 109 109 109 109 109 109 109 10	260.94   260.95   13.7eb.24   14.7eb.24	13. May 199 260.99 13. May 13. May 199 260.99 13. May 199 27.99 199 27
may wir4(3) 255.51 may wir4(3) 2	2.20 0.55 26 1.47 0.82 26 2.64 0.82 26 2.64 0.82 26 2.65 0.84 26 2.70 0.88 26 2.	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 8 272.37 cessible 5 269.79 8 270.73 8 260.61 9 269.10 8 264.88 9 264.92 8 264.40	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.277 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 88 269.86 96 270.76 93 261.76 96 269.93 96 268.42 96 264.85 98 267.45	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	07-Jul-21	118 250.47 (26.56) (26	1 28 260.3 day 260.50	77 0.57 261.6 0.95 261.1 Nov-22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	88 0.54 261.13 3 0.95 261.03 1 0.95 261.03 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 0.47 2 3 0.93 2  Mar-23  Fig. 5  Fig. 6  Fig. 7  Fig	51.18 1.4 13.10-23 10 13.10-23 10 13.10-23 10 13.10-23 10 13.10-23 10 13.10-23 10 13.10-23 10 14.87 275.92 10 16.75 272.95 10 16.75 272.95 10 17.75 272.95 10 18.75 272.95 10 19.75	260.26 260.84  11.5ep-23  01.5ep-23  12.5ep-23  13.5ep-23  14.75  15.75  16.75	0.67 260.00 21.00 20.00 21.00 20.00 21.00 20.00 21.00 20.00 21.00 20.00 21.00	0.71   88   0.73   98   1.03   98   1.03   98   1.03   98   98   98   98   98   98   98   9	260.94  13-760.95  13-760.95  4.79  2.70  4.79  2.70  2.20	0.67 260.99 0.99 260.99 13-May (160) 260.99 1400 260.
mm w4470 20.00.00 mm w4470 20.00.00 mm w4470 20.00 mm w4470 mm w44	2.20 0.55 26 1.47 0.82 26 2.6 0.95 26 2.6 0.95 26 2.6 0.95 26 2.7 0.96 26 2.7	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	118 250.47 1 260.50 2 2 68.50	1.128 260.3 0 0 7 260.5 0 0 7 260.5 0 0 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5 275 04 5. 275 24 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1   274   25   10   10   10   10   10   10   10   1	1 0.47 2 3 0.93 2 Mar-23  Mar-24  AR A 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	\$1.18 1.4 1.4 1.14 1.14 1.14 1.14 1.14 1.	260.25 200.84 113.6p.23 00 113.	0.67 260.90 200.00 1 260.90 200.00 20	0.71   88   0.73   88   1.03	260.94  13-760.95  13-760.95  13-760.95  4.79  2.79  4.79  2.70  2.20  2	0.67 260.98 (0.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 260.99 27.39 260.99 27.39 260.99 27.39 27
man wid-20 20.515 mm wi	2.20 0.55 26 1.47 0.82 26 1.48 0.00 27 1.48 0.00 27 1.49 0.82 26 1.40 0.82 26 1.	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 250.47 1 260.56	1 28 260 3 0 0 7 260 50 0 7 260 50 0 7 260 50 0 7 260 50 0 7 260 50 0 7 260 50 0 7 260 50 0 7 27 27 27 27 27 27 27 27 27 27 27 27 2	72 0.07 261.5 809.22 0 261.5 809.22 0 261.5 809.22 0 261.5 809.22 0 271.5 809.22 1 271.5	1	1 0.47 2 3 0.59 2 2 0.50 2 1 0	\$1.18 1.4 1.4 1.14 1.14 1.14 1.14 1.14 1.	260.25 26	0.67 260.00 20 20 20 20 20 20 20 20 20 20 20 20 2	0.71   88   0.73   88   1.03	260.94  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  00  13.46-24  13.45	0.67 260.98 (19.00) 260.99 (20.99) 2
man wi-470 2 26.6.6. man wi-470 2 26.6.6. man wi-470 3 270 3 270 3 26.6.6. man wi-470 3 270 3	2.20 0.55 24 147 0.82 24 24 0.82 24 25 0.82 24 26 0.85 24 26 0.85 24 26 0.85 24 26 0.85 24 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 250.47 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	127. 260.90 (20.00) 10. 20.00 10. 20	27		11. 0.47 2 3 3 0.51 2 0	\$1.18 1.4 1.4 1.14 1.14 1.14 1.14 1.14 1.	260.25 260.84 21.5ep.23 260.84 21.5ep.23 260.84 21.5ep.23 260.84	0.67 240.90 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0.71   0.72   0.73   0.74   0.75   0.	260.94  13.7eb.24  00  13.7eb.24  00  13.7eb.24  00  13.7eb.24  00  13.7eb.24  10.8eb.24  10.8eb.26  10.8eb.27	0.67 260.09 260.09 250.00 250.
mm w4470	2,20	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 250.47 1 260.50   22 083   24 080   25 083   26 080   26 080   27 083   28 080	127 20 30 50 50 50 50 50 50 50 50 50 50 50 50 50	17		1 0-47 2 3 0-51 2 4 0-51 2 5 0	\$3.18 1.4.4  13.04.23  13.04.23  4.42  13.04.23  4.42  13.04.23  14.04.23  13.04.23  1	200.25 200.84 21.5ep.23 200.84 21.5ep.23 200.84 200.84 200.84 200.85 217 217 217 217 217 217 217 217 217 217	6.67 260.90 200.00 200.	98 0.71  Nov-23  10  10  10  10  10  10  10  10  10  1	260.94  13.7eb.24  00  13.7eb.24  00  14.7e  17.7e  6.88  17.7e  1.12  2.66  2.7e  1.12  2.66  2.7e  2.7e  2.7e  2.8e  2.7e  2	0.62 26.08 2
The section of the se	2.20 0.55 22 22 147 0.82 22 14	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 360.47 4 2 2 363.50 2 4 363.50 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	122 200 200 200 200 200 200 200 200 200	12	1	1. 0.47 2 3 3 0.03 2 0.	\$5.18 1.4 1.4 1.14 1.14 1.14 1.14 1.14 1.1	200.5   200.5	0.67 260.00 200.	88 0.72 1  103 1.03 1  Nor-23 2  99 275.00 1  99 275.00 1  96 272.18 1  17 772.20 1  16 26 26 34 1  17 263.25 1  18 26 34 1  17 263.25 1  18 26 34 1  18 26 35 1  18 26 35 1  18 26 36 1	260.94 13-Feb-24 260.95 13-Feb-24 260.95 13-Feb-24 260.95	0.61 26.018   15.Mol   16.018
200.1	2,20	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 250.47 2	127 200 30 40 50 50 50 50 50 50 50 50 50 50 50 50 50	72 0.07 261.6 0.05 261.0 0.05 261		1 0.47 2 2 3 0.50 1 0.5	\$3.18 1.4 1.4 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1	260.25   260	0.67 260.00 200.	88 0.72 1 80 1.03 1 80 1.0	260.94  13-7eb-24  13-7eb-24  13-7eb-24  14-7eb-24  14-	0.02 26.09 26.00 2
The second secon	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 290.47 26 5050 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	128 269.00 269.0	72 0.07 261.6 0.05 281		1 0.07 2 2 3 3 0.091 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$5.18   1.4   \$1.50   1.14   \$1.50	200.25 200.84 200.84 200.84 200.85 20	0.67 260.90 200.10 200.00 200.10 200.00 200.10 200.00 200.10 200.00 200.10 200.	98 0.72   100   10	260.94  13.7eb.24  260.95  13.7eb.24  27.2eb.26  28.2eb.26  29.2eb.26  20.2eb.26  20.2eb	0.61 26.08
mm w4470 20.00 1 20.01 1 mm w4470 20.00	\$2.20 (0.5) 24 (2.5) 25 (2.5)	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 269.10 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 2.760.47 (200 C)	127. 260.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	17		1. 0.47 2 2 3 3 0.53 2 3 0.53	\$3.18   1.4   \$1.50   1.4   \$1.50   2.5   \$1	260.25   260	0.67 260.90 261 262.00	98 0,71 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	260.94  13-7eb-24  13-7eb-24  14-7eb-24  4-7eb-24  4-7eb	0.07 26.09 26.00 26.09 26.00 2
may wir470 20.00 1 20.00 1 may wir470 20.00 1 may w	2,20	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 1 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 2.760.47 26 0.000 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	127 29 19 20 19 20 20 20 20 20 20 20 20 20 20 20 20 20	72 0.07 261.6 0.05 281		1. 0.47 2 2 3 3 0.691 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$1.18   1.4   \$1.50-23	260.25 11.5ep.23 11.5ep.23 11.5ep.23 11.5ep.23 11.5ep.23 11.5ep.23 12.5ep.23	0.67 260.90 1 260.90	88 0,71 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	260.94  13.60-34  13.60-34  14.70  14.70  15.70  15.70  16.81  17.70  17	0.67 26.09 26.00 2
100   100	\$2.20 (0.5) 24 (2.5) 25 (2.5)	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 1 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 18 262.41 19 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 250.47 2 20 20 20 20 20 20 20 20 20 20 20 20 2	128 260 00 00 00 00 00 00 00 00 00 00 00 00 0	72   0.27   261.		1. 0.47 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	\$3.18   1.4   \$1.50   1.4   \$1	200.25   2	0.67 260.00 27.71.25 2.5.25 2.5.25 2.7.25 2.	88 0,71 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	260.96   13-feb.34   14-feb.34	0.02 26.028   15.002
The WARTS   2014	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 1 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 19 262.41 10 262.41 10 262.41 10 262.41 10 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 2760.47 26 3050 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	128 260 00 128 260 00	7		0.47   2   2   3   3   3   3   3   3   3   3	\$3.18   1.4   \$1.50   1.4   \$1	200.25   200	0.67 260.00 1 200.00	88 0,71 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	260.94  13/eb.24  13/eb.24  13/eb.24  14/eb.26  13/eb.24  14/eb.26  14/eb.27  14/eb.27  14/eb.27  15/eb.24  14/eb.27  15/eb.24	9.07 26.09 36.00 3
100   100	\$2.20 (0.5) 24 (2.5) 25 (2.5)	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 1 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 19 262.41 10 262.41 10 262.41 10 262.41 10 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 2760.47 2 20 20 20 20 20 20 20 20 20 20 20 20 2	127.27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	7		1. 0.47 2 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$1.35   1.4   \$1.30   1.4   \$1	260.25  11-sep.33  11-sep.34  11-	0.67 260.00 1 200.00	98 0.71   10 100   10	260.94  13-60-24  10-60-24  10-60-24  10-60-24  10-60-25	0.02 26.02 2
Common (1972) 20.5.15	2 20 0 0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.099   1.099	30 272.44 dry 75 272.32 06 269.98 01 269.80 60 255.19 60 269.39 37 264.84 31 264.22 28 261.81	7.42 272. dry inaccessible 4.35 269. 1.63 270. 4.41 258. 5.85 269. 6.33 264. 0.91 264. 4.47 264. 3.36 261.	32 7.39 7.13 inacc 69 4.25 18 1.08 38 2.18 14 5.89 77 6.22 80 0.79 80 4.13 73 2.90	272.35 272.37 cessible 5 269.79 8 270.73 269.10 1 264.88 9 264.92 8 264.40 9 262.19	7.36 Dr Froz 4.03 1.17 1.22 5.71 5.98 0.58 4.06 2.76	272.38 7.0  Py  2801 4.5  270.01 3.7  270.64 1.1: 261.57 1.  269.28 5.0  265.12 3.)  265.13 0.4  264.47 3.7  262.33 2.7.	11 272.726 7 272.499 16 272.51 16 270.257 15 270.655 1 261.691 18 269.911 16 267.495 17 265.241 18 262.41 19 262.41 10 262.41 10 262.41 10 262.41 10 262.41 10 26	7.29 2 7.06 2 4.96 2 4.01 2 1.39 2 1.34 2 5.63 2 3.86 2 0.53 2 4.11 2 3.03 2	272.446 7.7 272.439 272.961 6.4 270.027 4.5 270.015 1.7 261.451 1.2 269.361 6.1 267.235 4.5 264.421 4.6 262.057 3.4	7 271.97 7.3 3 270.64 5.1 7 269.47 4.1 6 270.06 10.0 7 261.57 1.0 6 288.84 5.8 7 265.54 2.6 6 264.76 0.8 7 263.86 1.0 8 251.66	99 272.35 33 271.94 18 269.86 15 270.76 36 261.76 36 269.13 38 268.42 36 264.85 37 267.45 38 268.20 39 267.45 30 262.09	6.82 272.92 6.7 272.80 3.48 270.56 5.21 269.78 3.23 267.87 1.34 267.19 2.46 262.63	6.95 272.79 6.97 272.53 3.71 270.33 1.19 270.62 5.41 269.58 3.77 267.33 3.83 264.70 2.81 262.28	6.82 272.92 6.7 272.80 4.49 272.58 3.3 270.74 1.1 270.71 1.31 261.48 4.99 270.00 3.34 267.76 0.26 265.45 1.81 266.72 2.58 262.41	dry	1.18 270.47 2 20 20 20 20 20 20 20 20 20 20 20 20 2	128 250.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	2		1. 0.47 2 2 1 0.00 1 0.	\$1.35   1.4   \$1.30   1.4   \$1	200.25 11.5ep.23	0.67 260.00 1 200.00	88 0.71   10   10   10   10   10   10   10	260.94   260.95   3   3   3   3   3   3   3   3   3	0.02 26.02 0 2

	SG			24-0	Oct-22	21-N	ov-22	19-D	ec-22	26-Ja	n-23	24-Fe	b-23	23-Ma	ır-23	26-Ap	r-23	25-M	lay-23	25-J	ul-23	25-A	ug-23	26-5	ep-23	23-0	ct-23	20-De	ec-23	16-M	ay-24
0 98 ID	TOP Elevation (masl)	Depth (top of pipe)	Surface Elev. (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)
SG1-1	261.479	1.43	260.049	dry	260.049	dry	260.049	1.29	260.19	1.30	260.18	1.31	260.17	1.23	260.25	1.31	260.17	1.32	260.159	1.31	260.169	1.28	260.199	Dry	260.049	dry	260.049	1.27	260.209	1.24	260.239
SG1-2	261.888	1.36	260.528	dry	260.528	dry	260.528	1.23	260.66	1.21	260.68	1.24	260.65	1.19	260.70	1.23	260.66	1.28	260.608	1.27	260.618	1.24	260.648	Dry	260.528	dry	260.528	1.24	260.648	1.22	260.668
SG1-3	260.755	1.38	259.375	dry	259.375	dry	259.375	1.26	259.50	1.24	259.52	1.26	259.50	1.24	259.52	1.32	259.44	1.34	259.415	1.34	259.415	1.3	259.455	1.34	259.415	dry	259.375	0.86	259.895	1.29	259.465
SG2	262.619	1.37	261.249	dry	261.249	dry	261.249 dr	y	261.249	1.36	261.26	1.25	261.37	1.23	261.39	1.33	261.29	dry	261.249	dry	261.249	lry	261.249	Dry	261.249	dry	261.249	Dry	261.249	0.9	261.719
SG3	261.818	1.29	260.528	dry	260.528	dry	260.528	1.13	260.69	iry	260.53	1.15	260.67	1.22	260.60	dry	260.53	dry	260.528	dry	260.528	lry	260.528			1.29	260.528	Frozen		Dry	260.528

PZ					24-00	t-22	21-No	v-22	19-De	c-22	26-Ja	1-23	24-Fe	b-23	23-M	ar-23	26-A	pr-23	25-M	ay-23	25-Ju	II-23	25-Au	g-23	26-Se	p-23	23-Oc	t-23	20-De	ec-23	16-Ma	ıy-24
G. S.	TOP Elevation (masl)	Depth (top of pipe)	Stick-up (m)	Surface Elev. (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)
PZ1-1S	260.01	2.06	1.13	258.88	1.21	258.80	1.24	258.77	1.28	258.73 d	ry	257.95	1.19	258.82	1.19	258.82	1.20	258.81	1.23	258.78	1.36	258.65	1.27	258.74	1.26	258.75	1.21	258.80 di	ry	257.95	1.23	258.78
PZ1-1D	260.24	3.22	1.37	258.87	1.06	259.18	1.56	258.68	1.59	258.65	1.44	258.80	1.42	258.82	1.43	258.81	1.47	258.77	1.52	258.72	1.57	258.67	1.56	258.68	1.57	258.67	1.06	259.18	1.50	258.74	1.47	258.77
PZ1-2S	257.56	1.87	0.73	256.83	1.12	256.44	0.87	256.69	0.77	256.79	0.70	256.86	0.73	256.83	0.67	256.89	0.75	256.81	0.77	256.79	0.78	256.78	0.74	256.82	0.81	256.75	1.12	256.44	0.73	256.83		
PZ1-2D	257.64	2.73	0.78	256.86	1.00	256.64	0.94	256.70	0.80	256.84	0.68	256.96	rozen		0.74	256.90	0.85	256.79	0.82	256.82	0.88	256.76	0.92	256.72	0.84	256.80	1	256.64	0.82	256.82	0.82	256.82
PZ1-3S	259.07	2.13	0.95	258.12	1.25	257.82	1.13	257.94	1.07	258.00	1.05	258.02	0.97	258.10	0.97	258.10	1.06	258.01	1.07	258.00	1.21	257.86	1.08	257.99	1.08	257.99	1.25	257.82	1.03	258.04	1.04	258.03
PZ1-3D	259.22	2.95	1.10	258.12	0.91	258.31	1.29	257.93	1.22	258.00	1.19	258.03	1.14	258.08	1.12	258.10	1.20	258.02	1.21	258.01	1.22	258.00	1.19	258.03	1.22	258.00	0.91	258.31	1.19	258.03	1.27	257.95
PZ2S	260.83	2.08	0.89	259.94	1.68	259.15	1.50	259.33	1.20	259.63	0.98	259.85	0.85	259.98	0.82	260.01	0.92	259.91	1.11	259.72	1.07	259.76	1.05	259.78	1.36	259.47	1.68	259.15 D	ry	258.75	0.96	259.87
PZ2D	261.20	3.25	1.23	259.97	2.54	258.66	1.9	259.30	1.62	259.58	1.38	259.82	1.24	259.96	1.20	260.00	1.34	259.86	1.51	259.69	1.43	259.77	1.41	259.79	1.74	259.46	2.54	258.66	1.85	259.35	1.40	259.80
PZ3S	260.11	2.22	0.82	259.29 di	ry	257.89	2.02	258.09	1.39	258.72	1.04	259.07	0.91	259.20	0.81	259.30	0.96	259.15	1.34	258.77	1.25	258.86	1.03	259.08	No Data		dry	257.89	1.20	258.91	1.16	258.95
PZ3D	259.89	2.70	0.61	259.28	2.29	257.60	1.83	258.06	1.53	258.36	0.92	258.97	0.70	259.19	0.61	259.28	0.74	259.15	1.17	258.72	1.08	258.81	0.94	258.95	5010		2.29	257.60	0.85	259.04	0.98	258.91

MW				26-Oct-22	2	-Nov-22	19-Dec-	-22	26-Ja	n-23	24-Feb-23	23-Mar-23	26-Apr-23	25-May-23	25-Jul-23	25-Aug-23	26-Sep-23	23-Oct-23	20-Dec-23	16-May-24
MW ID	Surface Elevation (masl)	Depth (mbgs)	Stick-Up (m)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)  Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (masl)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP)	Depth to Water (TOP)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP) Depth to Water (masl)	Depth to Water (TOP) Depth to Water (masi)
BH19-1	257.19	5.95	0.74	1.40 256	.53 1	50 256.43	1.56	256.37	0.67	257.26	0.45 257.48	0.40 257.53	0.67 257.26	0.71 257.22	0.63 257.30	0.8 257.13	1.1 256.83	1.22 256.71	1.19 256.74	0.56 257.37
BH19-3	259.82	6.06	0.71	1.48 259	.05 1	52 259.01	1.45	259.08	0.77	259.76	0.61 259.92	0.59 259.94	0.68 259.85	0.83 259.70	0.77 259.76	1.15 259.38	1.48 259.05	1.57 258.96	0.75 259.78	0.67 259.86
BH19-4	262.68	6.00	0.60	artesian		rtesian	artesia	n	artes	ian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian
BH19-5	260.69	6.10		artesian		rtesian	artesia	n	artes	ian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian
BH19-6	259.35	6.05	0.77	1.52 258	.60 1	50 258.52	1.41	258.71	1.22	258.90	1.20 258.92	1.04 259.08	1.21 258.91	1.29 258.83	1.22 258.90	1.12 259.00	1.08 259.04	1.05 259.07	Data Missing	1.07 259.05
BH19-7	260.44	7.1	0.88		no data		1.96	259.36	1.03	260.29	1.08 260.24	0.93 260.39	1 260.32	1.14 260.18	1.51 259.81	2.12 259.20	Tall Grass	2.31 259.01	1.81 259.51	1.05 260.27
BH1	260.44	4.59	0.71	3.82 257	.33 2	97 258.18	2.74							1.31	1.66	1.67	1.63	2.48	1.87	1.11
BH22-1	262.14	8.21	0.95	artesian	c	amaged	artesia	n	artes	ian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian
BH22-5	259.12	7.70	0.96	1.65 258	.43 1	70 258.38	1.76	258.32			0.45 259.63	0.45 259.63	0.75 259.33	0.82 259.26	0.85 259.23	1.18 258.90	1.35 258.73	1.45 258.63	0.88 259.20	0.7 259.38
BH22-7	257.63	10.33	1.07	2.46 256	.24 2	59 256.01	2.62	256.08	1.39	257.31	0.94 257.76	0.99 257.71	1.25 257.45	1.2 257.50	1.33 257.37	1.53 257.17	1.84 256.86	2.01 256.69	2.13 256.57	0.69 258.01
BH22-8	259.44	9.37	1.00	2.38 258	.06 2	24 258.20	2.20	258.24	1.27	259.17	1.18 259.26	1.00 259.44	1.11 259.33	1.15 259.29	1.11 259.33	1.24 259.20	1.23 259.21	1.9 258.54	1.58 258.86	1.16 259.28
BH22-9	261.62	7.45	0.67	artesian		rtesian	artesia	n	artes	ian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian	artesian

TABLE 3: Channel Transect Flow, Caledon Station, Caledon, ON

Date	SG	W2	SG	W3	SG	W4	SG	W5	SG W	НТ6-Е	SG	W7	SG	W8
Date	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day
2020-09-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020-10-23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020-12-09	0	0	0	0	23.76	23760	258.768	258768	0	0	0	0	0	0
2021-02-18	0	0	0	0	23.76	23760	258.768	258768	0	0	0	0	0	0
2021-04-27	475.2	475200	0	0	0	0	113.4	113400	0	0	59.616	59616	58.32	58320
2021-06-09	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021-09-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021-10-29	0	0	0	0	451.656	451656	38.016	38016	2471.904	2471904	0	0	989.712	989712
2022-01-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2022-03-09	0	0	0	0	649.728	649728	154.44	154440	787.968	787968	0	0	222.912	222912
2022-05-05	660.096	660096	21.168	21168	69.12	69120	235.44	235440	158.112	158112	0	0	10.368	10368
2022-07-07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2022-09-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2022-11-08	0	0	0	0	0	0	6.048	6048	0	0	0	0	0	0
2023-01-04	0	0	10.2384	10238.4	565.056	565056	360.72	360720	955.584	955584	0	0	289.44	289440
2023-03-21	77.544	77544	0	0	1487.808	1487808	385.776	385776	1198.368	1198368	250.128	250128	6885.648	6885648
2023-07-13	86	86400	0	0	1675	1674864	397	397440	1017	1016712	192	192240	6487	6487128
2023-09-11	98	97632	0	0	0	0	0	0	0	0	0	0	2654	2653776
2023-11-21	55	55080	0	0	0	0	0	0	0	0	0	0	1853	1853064
2024-02-13	0	0	0	0	308	307584	216	216000	106	105840	0	0	0	0
2024-05-15	285	285120	0	0	178	178416	38	37584	0	0	0	0	0	0

Data	SG1	-1	SG	1-2	SG	1-3	SC	3 2	SG	3
Date	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day	M^3/day	L/day
26-Oct-22	0	0	0	0	0	0	0	0	0	0
21-Nov-22	0	0	0	0	0	0	0	0	0	0
19-Dec-22	0	0	0	0	0	0	0	0	0	0
26-Jan-23	0	0	0	0	0	0	0	0	0	0
24-Feb-23	0	0	0	0	0	0	0	0	0	0
23-Mar-23	1054.08	1054080	2790.72	2790720	634.176	634176	0	0	761.4	761400
26-Apr-23	57.024	57024	100.224	100224	0	0	0	0	43.2	43200
25-May-23	1	1296	0	0		0	0	0	0	0
25-Jul-23	54	54432	0	0	0	0	0	0	0	0
25-Aug-23	1860	1860386	0	0	0	0	0	0	0	0
26-Sep-23	0	0	0	0	0	0	0	0	0	0
23-Oct-23	48	48384	0	0	0	0	0	0	0	0
20-Dec-23	0	0	0	0	0	0	0	0	0	0
16-May-24	0	0	0		0	0	0	0	0	0



## **Figures**

c/o GLEN SCHNARR & ASSOCIATES

Rev.

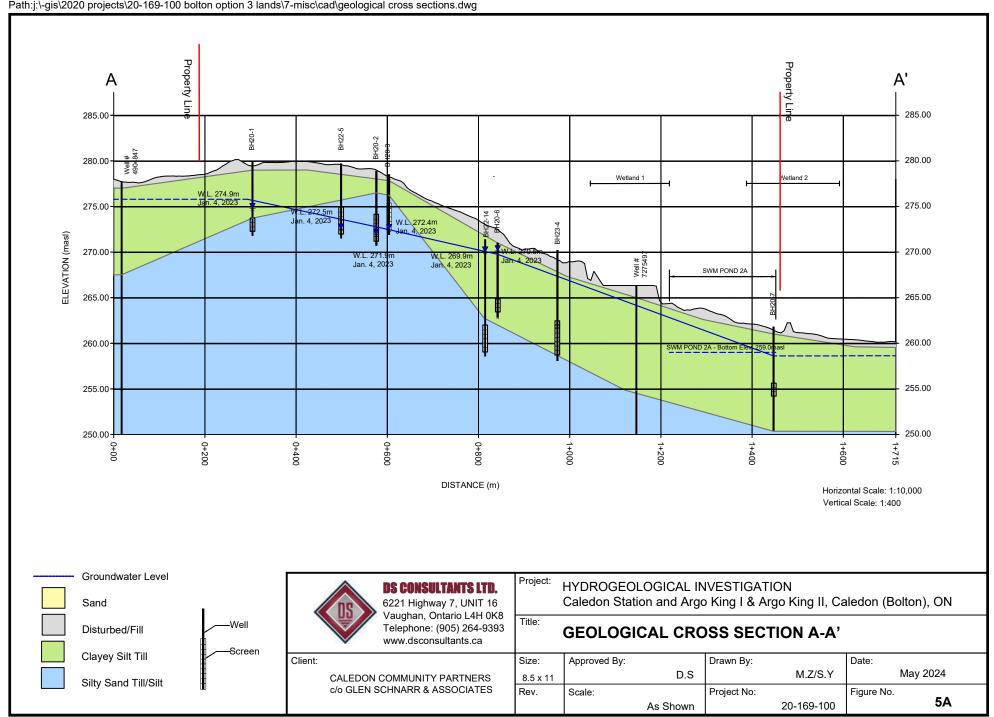
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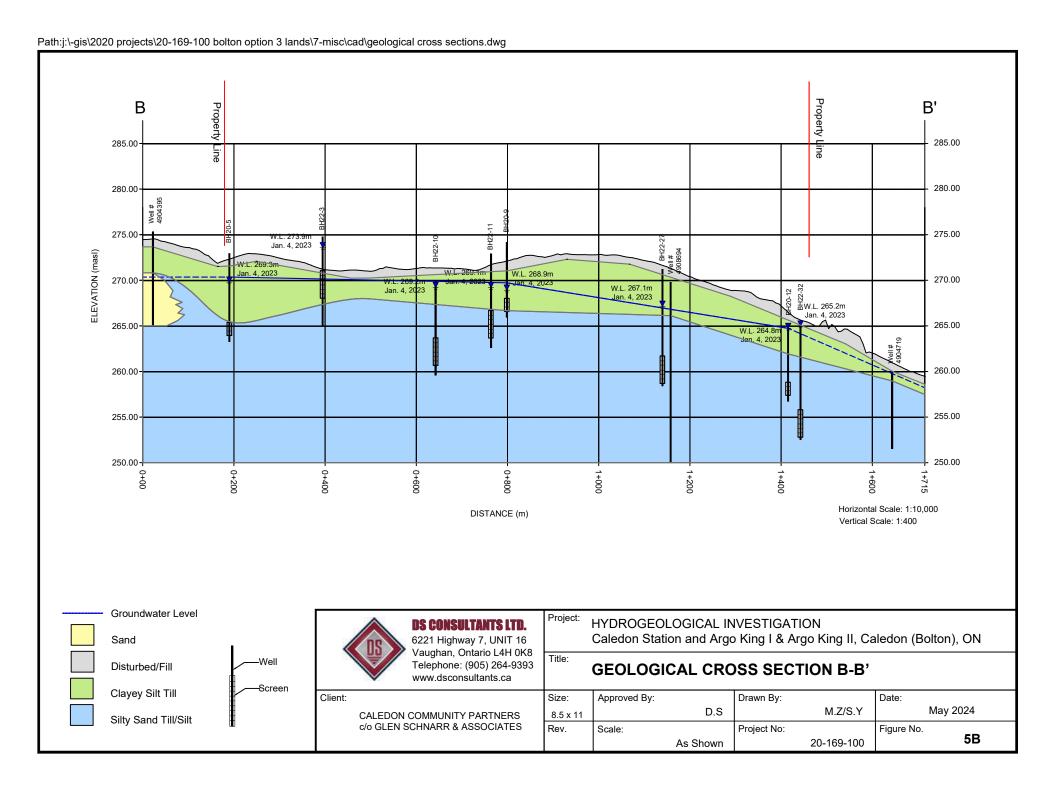
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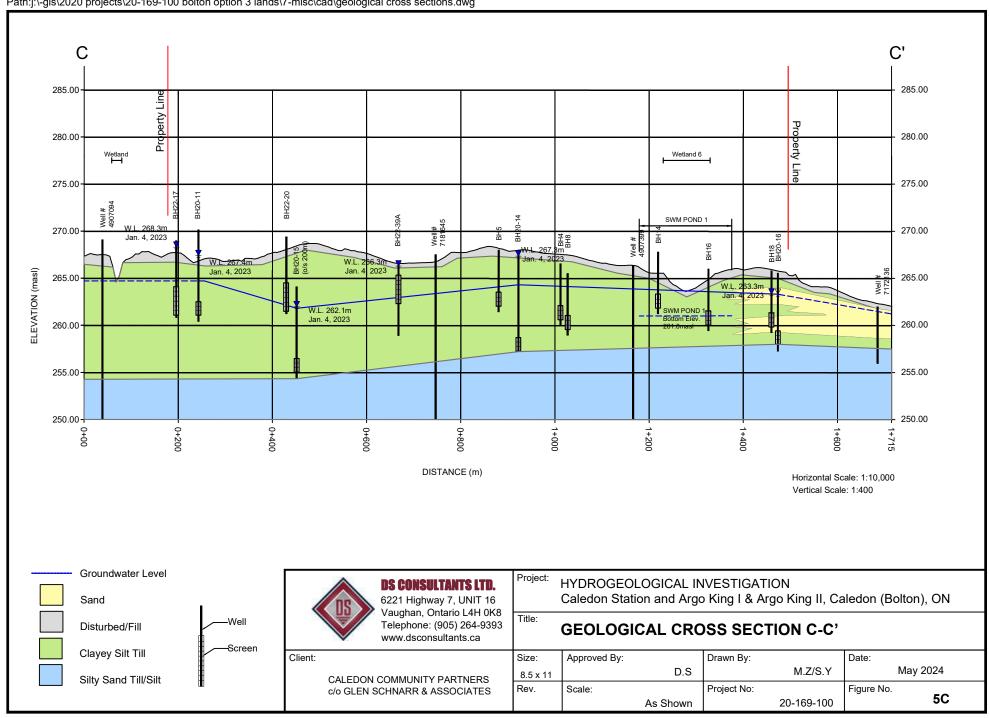
20-169-104

As Shown

Image/Map Source: Google Satellite Image







Rev.

Scale:

Project No:

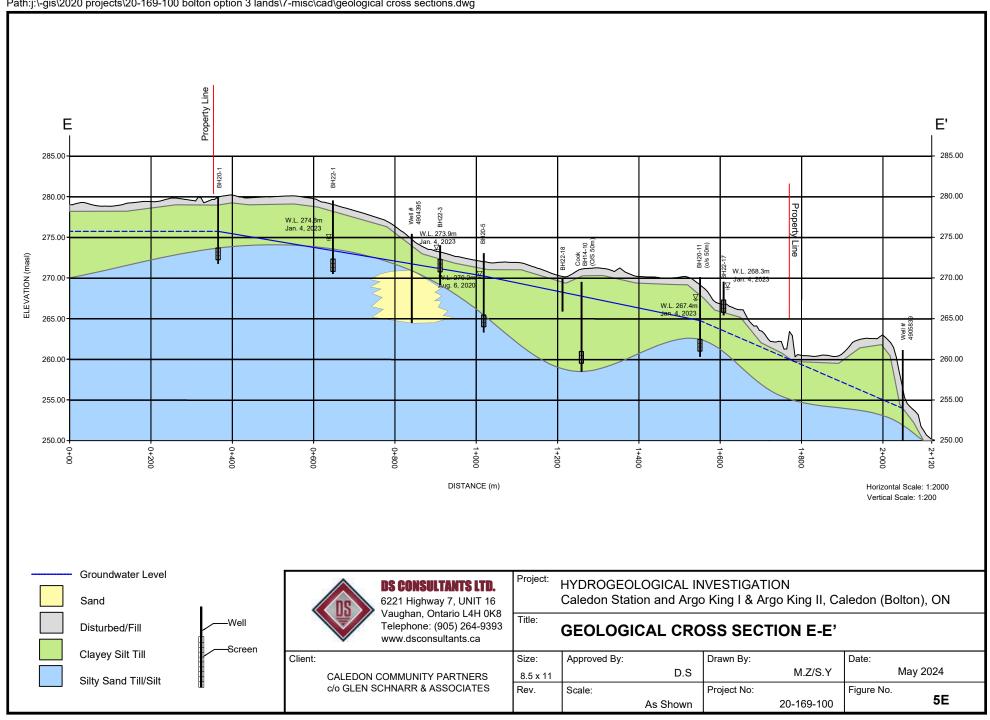
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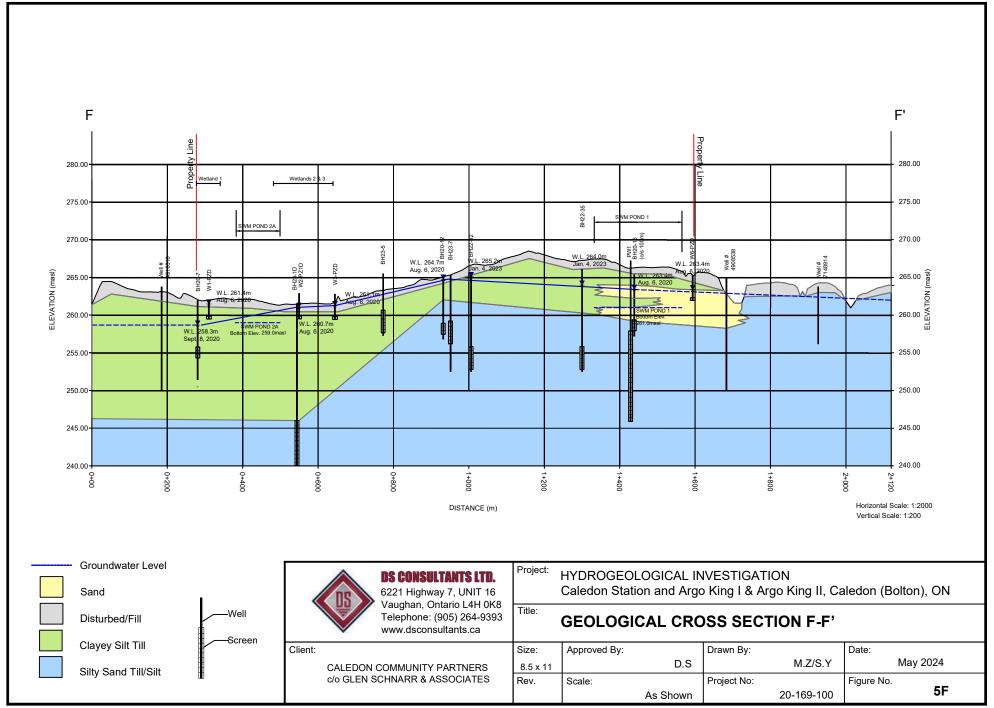
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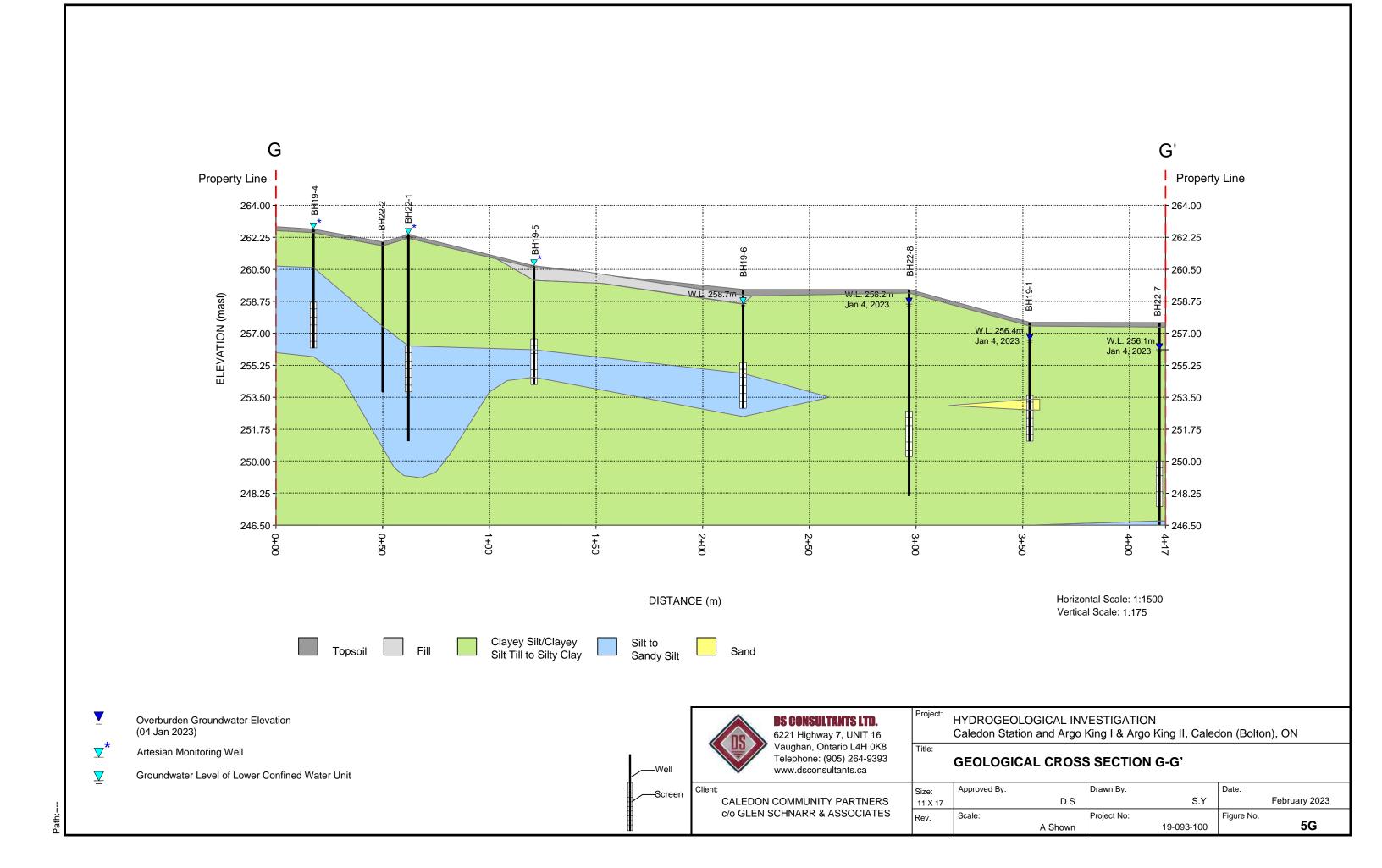
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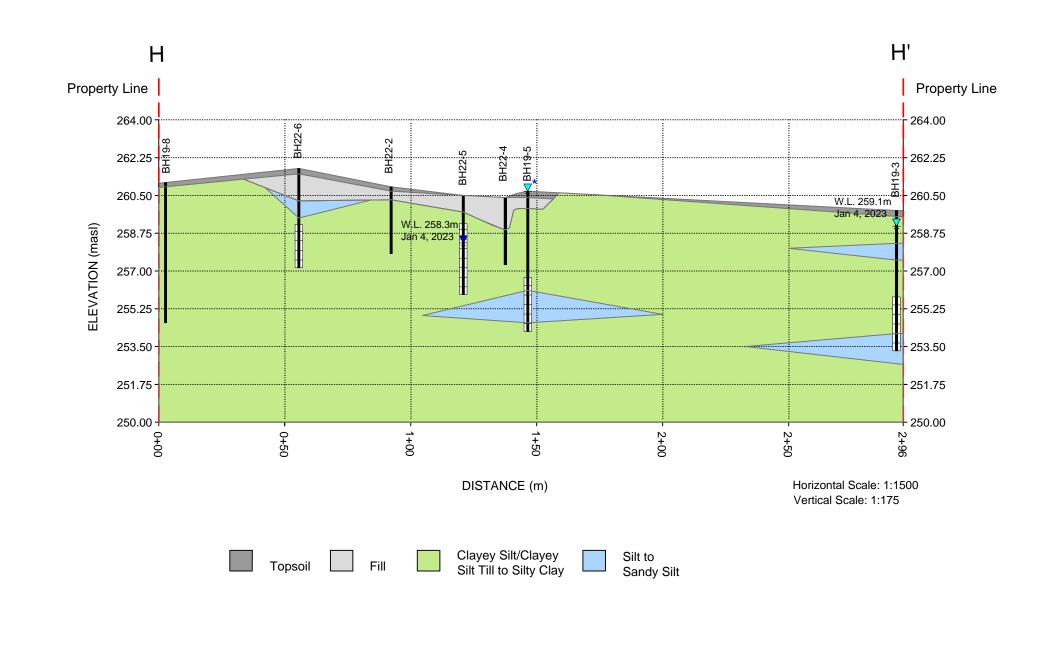
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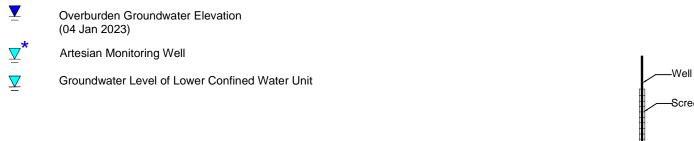
c/o GLEN SCHNARR & ASSOCIATES













**DS CONSULTANTS LTD.** 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393

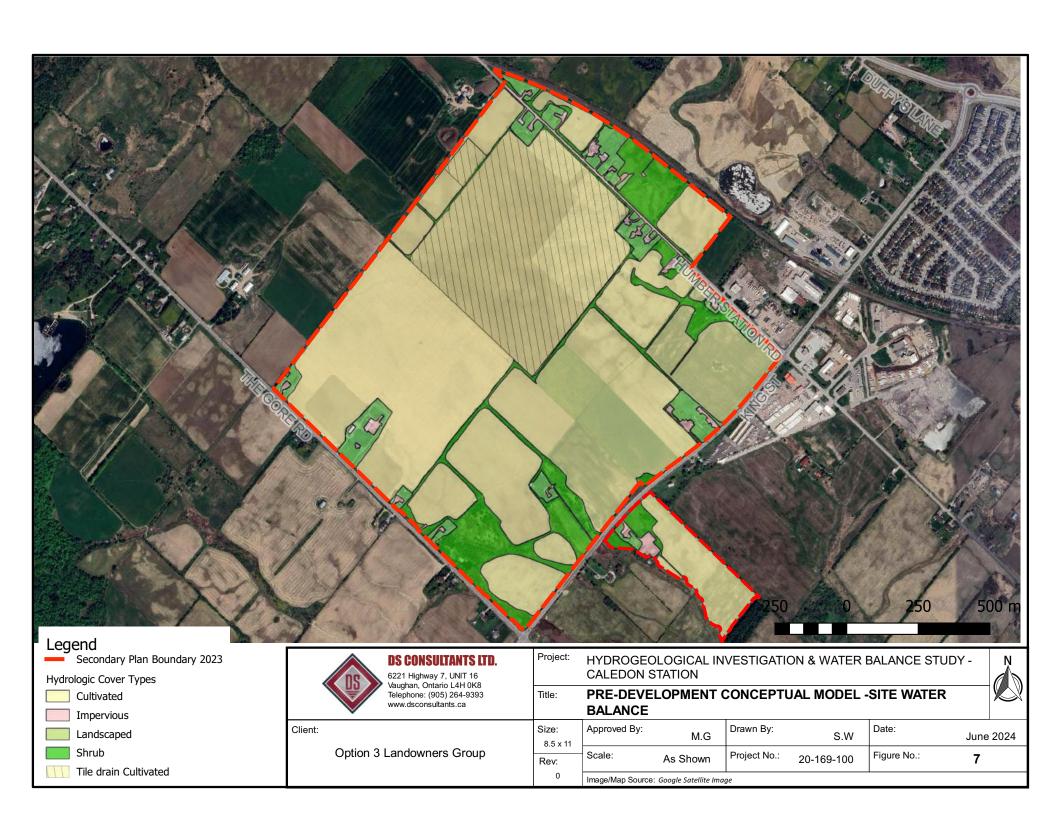
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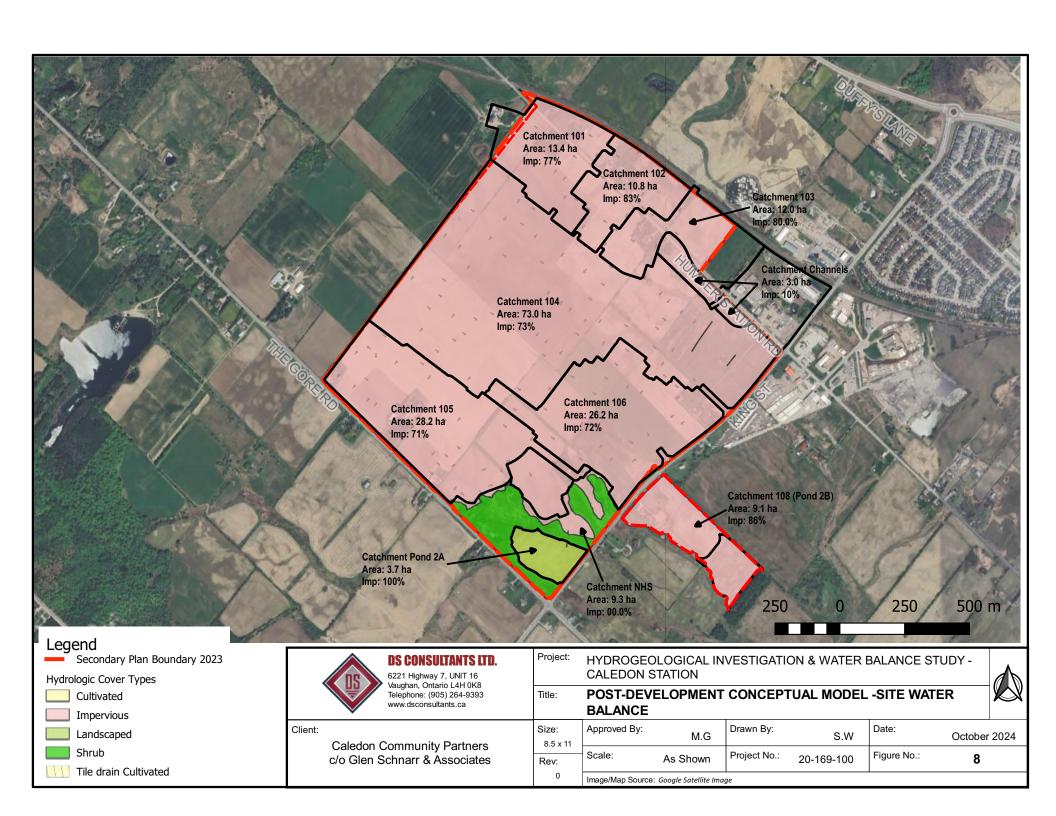
www.dsconsultants.ca

CALEDON COMMUNITY PARTNERS c/o GLEN SCHNARR & ASSOCIATES HYDROGEOLOGICAL INVESTIGATION Caledon Station and Argo King I & Argo King II, Caledon (Bolton), ON

**GEOLOGICAL CROSS SECTION H-H'** 

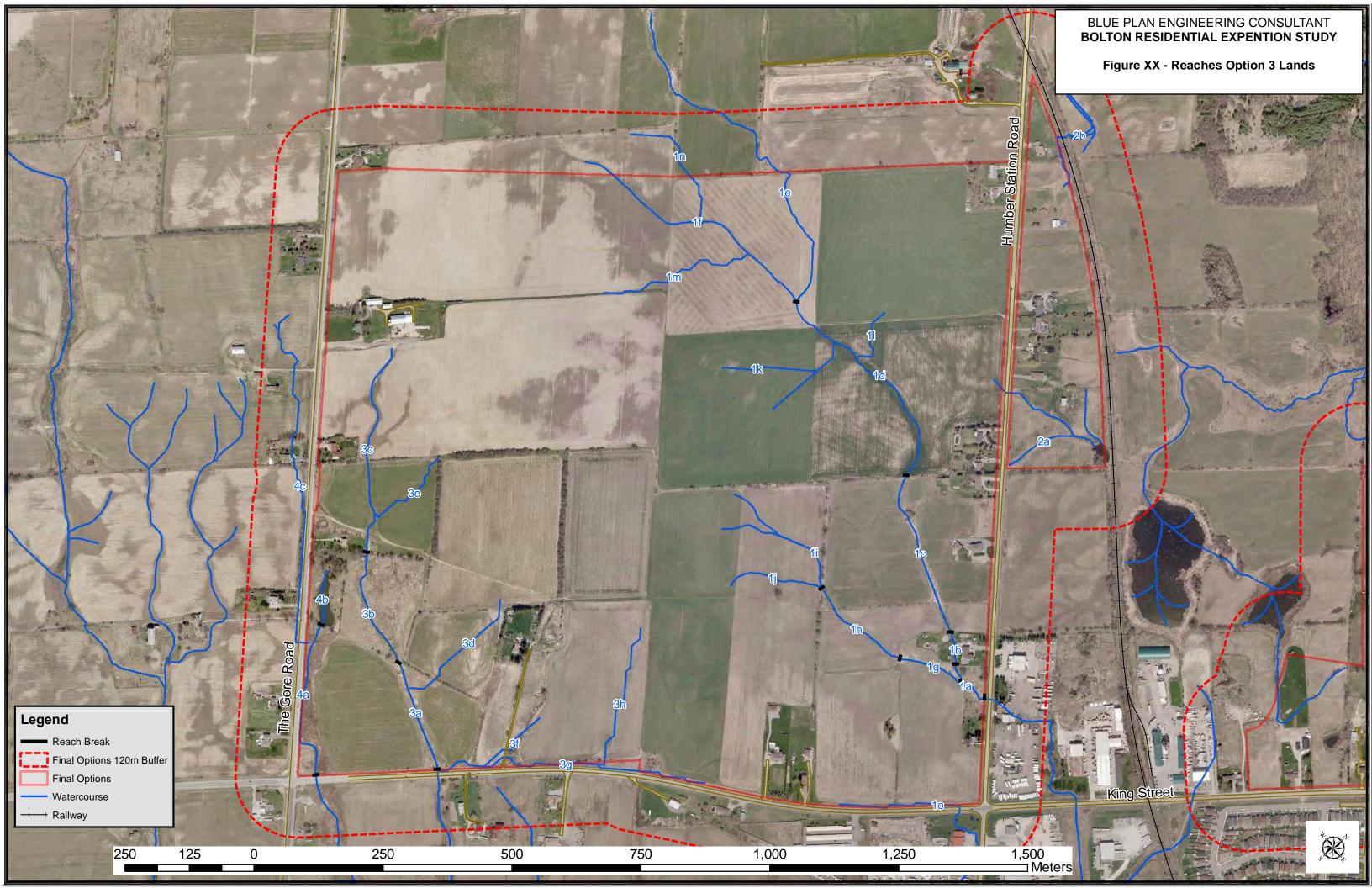
Date: Approved By: Drawn By: Size: S.Y February 2023 D.S 11 X 17 Scale: Project No: Figure No. Rev. 5H 19-093-100 A Shown







## **Appendix A**





## **Appendix B-1 Caledon Station**

CLIENT: Bolton Option 3 Landowners Group
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

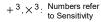
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	SOIL PROFILE		s	AMPL	.ES				DYNA RESIS	MIC CO	NE PEI E PLOT	NETRA	TION			NIATI	IDAI				METHAN
		Τ.				띮					0 60		0 10	nn	PLASTI LIMIT	C MOIS	TURE	LIQUID LIMIT	Z.	T WT	METHAN AND
(m)		107			S u	WA	SNS	z		1				,,,	W <sub>P</sub>		V V	WL	KPa)	N C N C N C	GRAIN SI
LEV PTH	DESCRIPTION	ΑP	쏦		BLOWS 0.3 m	Q	잍	6F		NCONF	RENGT	I Н (КН +	<b>′a)</b> FIELD V/ & Sensitiv	NE				—	SCKE CCCKE	RA S	DISTRIBUT
		STRATA PLOT	NUMBER	TYPE		GROUND WATER	ONO	ELEVATION	● Q	JICK T	RIAXIAL	. ×	LAB VA	NE	l	TER CC			<u> </u>	₹	(%)
79.8	TOPSOIL: 300mm	, 7, 1, 1/V	ž		ż	Ö	ŏ	ш	2	0 4	0 60	8 (	0 10	00	1	0 2	20 3	30			GR SA SI
7 <del>9</del> :8 0.3	FILL: sandy silt, trace gravel, dark	XX	1	SS	6											0					
79.0	brown, moist, loose	$\boxtimes$						270													
8.0	CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist,		2	SS	19			279								0					
	very stiff to hard								-												
			3	SS	36			278	<u> </u>										1		
			$\square$					0	Ė												
	trace cobble below 2.3m	13							-												
			4	SS	55		-В	entor 2 ' '	nite						٥				1		
			$\vdash \vdash$						E												
			5	SS	32				Ė							0					
			$\vdash$					276											-		
			1			¥	W	/. L. 2	-     275.7	 n											
75.3 4.5	SILTY CLAY: trace sand, grey,					$ar{ar{A}}$	A	ug 06	6, 2020 275.3	) <sup>ղ</sup>											
	very moist, very stiff		6	SS	17				, 2020								0		-		
			$\vdash$						Ē												
			1				:		ŧ												
73.8								274	-										1		
6.0	SILT: trace clay, grey, wet, compact		7	00	10		<u> </u> ::		E												
	1		7	SS	12	li	‡: <del> </del> F	ilter	L							0					
						K.E	]: -s	Slotte	d Pipe F										1		
						r:E			Ė												
						Į:F	1:		-												
71.6			8	SS	20	: :		272	<u> </u>							<b>—</b> (			1		
8.2	END OF BOREHOLE:	++++					+												T		
	Notes: 1) Water level at 4.5m below grade					1															
	during drilling. 2) 50mm dia. monitoring well					1															
	installed upon completion.																				
	3) Water level Reading:																				
	Date: Water Level (mbgl): Aug 6, 2020 4.11																				
	Sept 8, 2020 4.24																				
	Oct 22, 2020 4.51																				
						1															
						1															
						1															
						1															
- 1					1	i i	- 1		ı	1	1		1		l		1	1	1	1	1





CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	SOIL PROFILE		S	SAMPL	ES.	۳ ا			RESIS	STANCE	NE PEI E PLOT	NETR/	AHON		PLASTI	C NAT	URAL	LIQUID		۲	METHAN
m)		10			(OI	ATE!	S	_		20 4	0 60	) 8	30 1	00	LIIVIII	COV	STURE ITENT W	LIMIT	PEN.	UNIT V	AND GRAIN SIZ
EV PTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	" BLOWS 0.3 m	N GNNOS	CONDITIONS	ELEVATION	0 U ● Q	NCONF	RIAXIAL	+ . ×	FIÉLD V & Sensit LAB V	ANE		TER C	O		POCKET (Cu) (K	NATURAL I (kN/m	DISTRIBUT
78.8 7 <b>9</b> . <b>0</b>	TOPSOIL: 200mm	ν, γ, γ, ο	z	í–	þ	ŋ	Ö	Ш	- 4	20 4	0 60	) &	30 1	00	1	0 2	20 3	30			GR SA SI
0.2 78.0	FILL: sandy silt, trace gravel, brown, moist, loose		1	SS	8			278							0						
8.0	CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist, very stiff		2	SS	16			210								0					
70.5			3	ss	19			277 -Bento								•					
76.5 2.3	SANDY SILT: trace clay, brown, moist to very moist, very dense		4	SS	58			276								0					
			5	SS	58											0					
								275													
			6	SS	66			274								0					
								-Filter	L - - Pack-												
	wet below 6m		7	SS	51			-Slotte W. L. : Aug 06 W. L. :	272.7	m							0				
								Oct 22	, 2020  -  -	) <u>'</u>											
70.6			8	SS	52		<b>-</b> 1. ∶	271	-												
8.2	END OF BOREHOLE: Notes:																				
	Water level at 6.1m below grade during drilling.     Somm dia. monitoring well installed upon completion.     Water level Reading:																				
	Date: Water Level (mbgl): Aug 6, 2020 6.12 Sept 8, 2020 6.36 Oct 22, 2020 6.48																				
	Oct 22, 2020 6.48																				
									1						1						

CLIENT: Bolton Option 3 Landowners Group
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

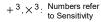
## DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	SOIL PROFILE		S	AMPL	ES				DYNA	MIC CO	ONE PE E PLOT	NETR	ATION				LIDA'				METUANE
		Τ.				띮							_	00	PLAST LIMIT	IC NAT	URAL	LIQUID LIMIT	ż	T WT	METHANE AND
n)		LOT			S L	WA	SNS	Z			10 6 RENG			1	W <sub>P</sub>		ITENT W	W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRAIN SIZ
EV PTH	DESCRIPTION	TA P	ËR		BLOWS 0.3 m	N O	일	ATIO		NCONI		іп (кі +	FIELD V & Sensit	ANE	<del></del>		·	—	(Cu)	(KN	DISTRIBUTI (%)
		STRATA PLOT	NUMBER	TYPE	Ž	GROUND WATER		ELEVATION			RIAXIAL 10 6	. ×	LAB V	ANE 00	1	TER CO		T (%) 30	ш.	¥	
8.6 9.9 8.3	TOPSOIL: 300mm	7/1/V				0		ш			+0 0			1			1	1			GR SA SI
0.3	FILL: sandy silt, trace gravel,	XX	1	SS	10			070								0					
7.8	brown, moist, compact	$\bigotimes$						278													
8.0	SILTY CLAY TILL: sandy, trace gravel, sand seams, brown, moist,		2	SS	13			-Bentoi	E aita								•				
	stiff							277	lile -												
			3	SS	10			211									0				
6.3																					
2.3	SILTY SAND: trace clay, grey,	1191			4.5			276													
	moist, compact to very dense		4	SS	15			270									0				
						╟┢															
			5	SS	35	H		275								0					
						ti E		2,0													
								Filter I	F Pack												
	wet below 4.5m					$I \cdot \vdash$	1:1	Slotte	F												
	wet below 4.5m		6	SS	65				<u> </u>								0				
		拙				l l		273	_												
						∦∷⊨ ∏	• • •	W. L. 2 Aug 06	272.6	m C											
1.9			7	SS	49			272									0				
6.7	END OF BOREHOLE: Notes:																				
	1) Water level at 4.5m below grade during drilling.																				
	2) 50mm dia. monitoring well																				
	Somm dia. monitoring well installed upon completion.     Water level Reading:																				
	Date: Water Level (mbgl):																				
	Aug 6, 2020 6.0																				
	Sept 8, 2020 dry Oct 22, 2020 dry																				





CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

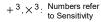
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	M: Geodetic							Date:	Jul/2	7/2020	)					Εľ	NCL N	O.: 5		
BORE	HOLE LOCATION: See Drawing 1 N	48577	1			34 T	1	DYNA	MIC C	ONE PE	NETR/	ATION						1		
—	SOIL PROFILE	_	*	SAMPL	.ES	띪		l		ONE PE E PLOT				PLASTI LIMIT	C NAT	URAL STURE	LIQUID LIMIT W <sub>L</sub> T (%)		M⊥	METHAN AND
(m)		STRATA PLOT			SI_	GROUND WATER CONDITIONS	z					30 1	00	W <sub>P</sub>	COV	ITENT W	WL	ET PE	LUNIT (m³)	GRAIN SI
EPTH	DESCRIPTION	A P	Ä.		BLOWS 0.3 m	P E	ELEVATION		NCONI	RENG FINED	1 H (KF	FIELD V & Sensit	ANE	<del></del>		o		(Cu)	(KN)	DISTRIBUT (%)
		TR.	NUMBER	TYPE	<u> </u>	PRO DIN	LEV.			RIAXIA 40 6	L ×	LAB V	ANE			ONTEN	T (%)		₹	(70)
277.1 278:8	CONCRETE: 300mm	S		-	-	0 0	Ш		20 .	+0 0	8 08	1	00	1	2	20 :	30	┢		GR SA SI
0.3	FILL: clayey silt, trace gravel, grey		1	SS	8			E						0						
76.3 0.8	to brown, moist, stiff	$\mathbb{X}$						Ē												
8.0	SANDY SILT: trace clay, brown, moist, compact to very dense		2	SS	21		276											-		
	, .						-Bento	nite F												
			3	SS	42			Ē							0					
			<u> </u>				275											-		
			<u> </u>					Ė												
			4	SS	62		.]	Ē						(						
			_				274													
			. 5	SS	56			Ē							0					
							W. L. :	F 273 3	 m											
						l: H:	Aug 06	5, 202	o'i									1		
	wet below 4.5m		]				Slotte	Ē.												
	wet below 4.5m		6	SS	46			u ripe  -								0				
			Ľ		10		272	<u> </u>										ł		
			1					E												
71.1			i					-												
6.0	SANDY SILT: trace silt, brown, wet, compact		$\vdash$				271	F-										1		
70.4	wet, compact		7	SS	28			-								0				
6.7	END OF BOREHOLE: Notes:																			
	1) Water level at 4.5m below grade																			
	during drilling. 2) 50mm dia. monitoring well installed upon completion.																			
	installed upon completion. 3) Water level Reading:																			
	Date: Water Level (mbgl): Aug 6, 2020 3.77																			
	Sept 8, 2020 3.90 Oct 22, 2020 inaccessible																			
- 1																				
			1																	
					1	1														





CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	SOIL PROFILE	-	S	AMPL	ES	بي		RESIS	TANCE	ONE PEN E PLOT		ATION		PLASTI	IC NATI	URAL TURE	LIQUID		WT	METHANE
n)		TO.			δl <sup>-</sup>	VATE	2 -	_		10 60			00	LIMIT W <sub>P</sub>	CON	TENT	LIMIT W <sub>L</sub>	T PEN (Pa)	uNIT	AND GRAIN SIZI
EV PTH	DESCRIPTION	STRATA PLOT	NUMBER	111	BLOWS 0.3 m	GROUND WATER	ELEVATION	0 0	NCONF		÷	FIÉLD V. & Sensiti		-	TER CO	<b>—</b>		POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	DISTRIBUTI (%)
3.0			NON	TYPE	þ	GRC	ELE,			RIAXIAL 10 60			ANE 00				30		Z	GR SA SI
<b>2.9</b> 0.3	TOPSOIL: 250mm  FILL: sandy silt, trace topsoil/	XX	1	SS	15										0					
2.2 0.8	organics, trace gravel, trace rootlets, brown, moist, compact						27	<u> </u>												
	SILTY CLAY TILL: sandy, trace gravel, frequent sand seams, brown, moist, hard		2	SS	35		272								0					
			3	SS	31		27								0			-		
			4	SS	39	<u> </u>		<u> </u>							0					
3.0	CLAYEY SILT TILL: sandy, trace gravel, interbed of sandy silt layers, greyish brown, moist to very moist,		5	SS	35	Ā Ā	W. L. Aug 0 vv. L.	270.2 ( 6, 2020 203.9 ( 269.6 (	m						0					
	hard						Oct 2	2, 2020												
	grey below 4.5m							Ē												
			6	SS	37		268	3						С						
							267	, <u> </u>												
	sand seams below 6m		7	SS	46									(	•					
							266	; <u> </u>												
7.5	SILTY SAND: trace clay, grey, moist, very dense		8	SS	74/ 280mi			<u> </u>						c	,					0 51 47
					200111		: : 1	Pack Fed Pipe												
	very moist at 9m						264	ļ										-		
3.3	,		9	SS	59			-							0					
9.7	END OF BOREHOLE: Notes: 1) Water level at 9.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:																			
	Date: Water Level (mbgl):																			
	Aug 6, 2020 2.78 Sept 8, 2020 3.09 Oct 22, 2020 3.38																			

CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	SOIL PROFILE		S	SAMPL	ES			DYN/ RESI	AMIC C	ONE P	ENETR T	ATION	١		- NATI	JRAI			<b>—</b>	METHA	ANF
(m) LEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE	20 AR ST	40 ΓRENC IFINED TRIAXI	60 GTH (k +	Pa) FIELD & Sen LAB	100 VANE sitivity		TER CO	TENT W DOMTEN	LIQUID LIMIT W <sub>L</sub> IT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN S DISTRIBL (%)	O SIZ JTK
71.0 7 <b>0</b> .9	TOPSOIL: 250mm	3/1/2.	_		-				Ť	Ť	<del> </del>	<del> </del>	<del> </del>	<u> </u>	i -		Ť			GIV OA C	)
0.3 70.2	FILL: sandy silt, trace topsoil/ organics, trace gravel, trace		1	SS	8										0						
0.8	rootlets, dark brown, moist, loose  CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist, stiff to hard		2	SS	12	¥	270 W. L. : Sep 08	L 269.8							0						
			3	SS	21		269	Ė						(	•						
	hard below 2.3m		4	SS	59		-Bento 268							0							
			5	SS	58									0							
	groupolou 4 Fro						267														
	grey below 4.5m		6	SS	31		266														
							265	-													
			7	SS	39	1 ⊠		·						0							
							W. L.: Aug 06	264.2 5, 202 E	m 0 									_			
00.0			8	SS	25		263	_						,				-			
62.8 8.2	END OF BOREHOLE:	111:1				1		-				+									_
	Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 6.77 Sept 8, 2020 1.15																				

CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

Comparison	BORE	HOLE LOCATION: See Drawing 1 N 4	18570				58 T	1	Ιηννια	MIC CO	NIE DEI	VETRΔ	TION		_				_	_		
261	, ,	SOIL PROFILE		s	AMPL	ES	H		1				_	00	PLASTI LIMIT	IC NAT	URAL STURE	LIQUID LIMIT	zi.	TW TI	METH AN	
1   SS   8   261	EPTH	DESCRIPTION	STRATA PLO	NUMBER	TYPE		GROUND WA	ELEVATION	SHE/	AR ST NCONF UICK T	RENGT FINED RIAXIAL	H (kF + . ×	Pa) FIELD V & Sensiti LAB V	ANE ivity	WA.	TER C	w O ONTEN	——і IT (%)	POCKET PI (Cu) (kPa)	NATURAL UN (kN/m³)	GRAIN DISTRIE (% GR SA	BUTI 6)
Post	0.0	TOPSOIL: 500mm							-												OIT OIT	
Collets, dark brown, moist, stiff CLAYE SILT TILL: some sand, trace gravel, brownish grey, very moist, stiff CLAYE SILT TILL: some sand, some gravel, greyish brown, moist, very stiff to hard grey, very moist to wet below 3m  5 SS 28  7 SS 19  8 SS 21  7 SS 19  9 SS 16  -Bentonite	268:5	FILL: clayey silt, trace topsoil/						261	<u> </u>										-			
## with slitt and sand seams at 1.5m with slitt and sand sand seams at 1.5m with slitt and sand sand sand sand sand sand sand	0.8	rootlets, dark brown, moist, stiff  CLAYEY SILT TILL: some sand,		2	SS	10										0						
2.3 SILTY CLAY TILL: some sand, some gravel, graysh brown, moist, very stiff to hard grey, very moist to wet below 3m grey, very moist to wet below 3m grey, very moist to wet below 3m some gravel, graysh brown, moist, very stiff to hard grey, very moist to wet below 3m some gravel, graysh brown, moist, very stiff to hard grey, very moist to wet below 3m some gravel, graysh brown, moist, very stiff to hard grey, very moist to wet below 3m some gravel, graysh provided and some gravely stiff to hard grey, very moist to wet below 3m some gravely graysh provided and some gravely graysh provided and some gravely graysh provided and grey with the provided graysh provid				3	SS	13		260	-							0						
5   SS   28   W. L. 256.3 m   Oct 22, 2020		some gravel, grevish brown, moist.		4	SS	39		-Bento	h nite							0	F	-			15 18	38
6 SS 21  257  7 SS 19  W.T. 255.2 m  0  W.T. 255.2 m  254  8 SS 25  9 SS 16  Bentonite: Bottom of hole 252  10 SS 24  251  10 SS 24  251  250  Aug de dyd during drilling, 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug de, 2020 dry		grey, very moist to wet below 3m		5	SS	28	Ţ	W. L.	E E 258.3	   m						0						
6 SS 21  7 SS 19  W. L. 255 2m  0  W. L. 255 2m  0  254  8 SS 25  9 SS 16  Bentlorite: Bottom of hole 252  10 SS 24  11.3 END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry								Oct 22	2, 2020  -  -  -	)												
7 SS 19    Will 2552 m				6	SS	21		257	, <u> </u>							0						
8 SS 25  254  9 SS 16  Bentonite: Bottom of hole 252  10 SS 24  50.4  END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry								∴ 256	; -										-			
8 SS 25  254  9 SS 16  Bentonite: Bottom of hole 252  10 SS 24  50.4  END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) Somm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry				7	SS	19		 W.L.	E 255.2	   m						0						
8 SS 25  254  9 SS 16  -Bentonite: Bottom of hole 252  251  10 SS 24  11.3 END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry								: -ISep 0 ∷: ∵	8, 202  -  -	0												
9 SS 16  -Bentonite: Bottom of hole 252  10 SS 24  11.3 END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry				8	SS	25	<u> </u>		<u> </u>							0						
250.4  11.3 END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry								253														
251  250.4  11.3  END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 dry				9	SS	16				 Bottom	of hole					0						
250.4  11.3  END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 dry								252														
11.3 END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry	250.4			10	SS	24		251	-							0						
1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 dry			V19V1																			
Date: Water Level (mbgl): Aug 6, 2020 dry		Borehole dry during drilling.     50mm dia. monitoring well installed upon completion.																				
Sept 8, 2020 6.52		Date: Water Level (mbgl): Aug 6, 2020 dry Sept 8, 2020 6.52																				
Oct 22, 2020 3.40		Oct 22, 2020 3.40																				

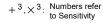
CLIENT: Bolton Option 3 Landowners Group
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

DESCRIPTION  TOPSOIL: 340mm  FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose  CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	STRATA PLOT	NUMBER	14PE	BLOWS 0.3 m	GROUND WATER CONDITIONS	_			NE PE E PLOT		_		PLASTI LIMIT	C NAT	URAL STURE	LIQUID	zi.	NATURAL UNIT WT (kN/m³)	М	ETHA AND	
TOPSOIL: 340mm  FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose  CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	<u>x1 1/2</u>		/PE	OWS 3 m	WATE	_	2	20 /					LUMBE	NOIS	JUKE	1.18.417	اخا	1.	ı	AND	1
TOPSOIL: 340mm  FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose  CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	<u>x1 1/2</u>		Æ	300	> <				0 6			00	W <sub>P</sub>	CON	ITENT W	LIMIT	PE)	UNIT	GF	AIN S	
TOPSOIL: 340mm  FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose  CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	<u>x1 1/2</u>		/PE		무유	l of		AR STI	RENG	TH (kl	Pa) FIELD V & Sensiti	ANE	" <u>-</u>		··	W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	JRAL (kN/n	DIS	RIBL	JΤ
FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	<u>x1 1/2</u>		\ \		SOUR	ELEVATION			RIAXIAL	_ ×	& Sensiti LAB V	vity ANE	WAT	TER CO	ONTEN	T (%)	PG S	NATI		(%)	
FILL: sandy silt, trace topsoil/ organics, trace gravel, brown, moist, loose CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	1	1	F	þ	GR CC	EL	2	20 4	0 6	3 0	30 1	00	1	0 2	20 :	30			GR :	SA S	31
organics, trace gravel, brown, moist, loose CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	$\otimes$		SS	8		277	-				-	-	,				1				
moist, loose  CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact	VV						E														
gravel, brown, moist, compact	क्रि	1			1		E														
	KK.	2	SS	10		276	-				-	-		0							
SILT: some clay, trace sand, trace	<del>    </del>				1		ŧ														
gravel, brown, very moist, compact		3	SS	19			F								•						
to very dense					1	275	<u> </u>				├─	₩	├								
		4	SS	58			E												٦	<b>a</b> o	
		4	33	36			Ė													2 0	J
					ł	274	<u> </u>				<u> </u>		<u> </u>								
		5	SS		<u> </u>		Ė							_ c							
					1		E														
						273	<u> </u>														
						2/0	Ė														
					1		F														
		6	SS	74		272								_ c							
					1	212	E														
							E														
SANDY SILT: trace clay brown	++++						Ė														
wet, very dense		. 7	SS	62		271								,					0	7 6	7
		Ľ		02			Ė													-, 0	'
		1					E														
		1				270	E														
		┝			ł		Ė														
		. 8	SS	54			F							0							
END OF BOREHOLE:	1.11					269	$\vdash$				_	_	_								-
Notes:																					
drilling.																					
							1														
V E N 1	END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  To SS  SS  SS  6 SS  7 SS  8 SS  END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  To so the second state of the second s	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes:  1) Water at depth of 6.1m during	5 SS 255mm  273  6 SS 74  273  SANDY SILT: trace clay, brown, wet, very dense  7 SS 62  270  8 SS 54  END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	5 SS 92/ 5 SS 92/ 5 SS 74  273  6 SS 74  272  SANDY SILT: trace clay, brown, wet, very dense  7 SS 62  270  8 SS 54  END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  SOURCE STATE	5 SS 92/ 5 SS 92/ 6 SS 74  273  6 SS 74  272  7 SS 62  271  7 SS 62  270  END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during	SANDY SILT: trace clay, brown, wet, very dense  SOURCE SILT: trace clay, brown, wet, very dense	SANDY SILT: trace clay, brown, wet, very dense  Solution of Borehole: Notes: No	SANDY SILT: trace clay, brown, wet, very dense  SOURCE SILT: trace clay, brown, wet, very dense  SANDY SILT: trace clay, brown, wet, very dense  To so	SANDY SILT: trace clay, brown, wet, very dense  SANDY SILT: trace clay, brown, wet, very dense  SANDY SILT: trace clay, brown, wet, very dense  O 271  8 SS 54  269  O 10 2	SANDY SILT: trace clay, brown, wet, very dense  SOURCE SILE STATE



CLIENT: Bolton Option 3 Landowners Group
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	M: Geodetic								Date:	Jul/2	28/2020	)					El	NCL N	0.: 1	0	
BORE	HOLE LOCATION: See Drawing 1 N 48 SOIL PROFILE	3579		4 E 59 SAMPL			-1		DYNA	MIC C	ONE PE	NETR	ATION		<u> </u>				Π		
(m) ELEV	DESCRIPTION	A PLOT		JAIVII L	BLOWS 0.3 m	GROUND WATER	SNOI	NOF	SHE	20 AR ST	40 ( RENG	60 E	80 Pa)	100	PLAST LIMIT W <sub>P</sub>		TURAL STURE NTENT W	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	CKET PEN.	RAL UNIT WT (kN/m³)	METHAN AND GRAIN SI DISTRIBUT
274.1 0.0	TOPSOIL: 550mm	STRATA PLOT	NUMBER	TYPE	"N" 0	GROUN	CONDI	ELEVATION 74	• q	UICK	FINED FRIAXIA 40 (	L ×		itivity /ANE 100			ONTEN	IT (%) 30	80	NATU	(%) GR SA S
73.6		<u>7</u>	1	SS	5	ı		2/4									0				
7 <b>9</b> . <b>9</b>	organics, trace clay, trace gravel, trace organics, trace rootlets, dark brown, moist, loose		2	SS	16			273								0			_		
	SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard		3	SS	25			272								0					
	sand seams below 2.3m		4	SS	38			-Bento	L nite							0					
			5	SS	72			271								0					
	grey below 4.5m		6	SS	45	- <u>7</u>	<u>Z</u>	270 W. L. 2 Aug 06	E 269.7	m O											
			0		45	<u> </u>		W. L. 2 Oct 22	269.1	m											
	trace cobble, very moist below 6m		7	SS	24			268 Filter	E Pack												
66.6 7.5	SANDY SILT: trace clay, grey, wet, compact		8	SS	29			-Slotte 267									0				
65.9 8.2	END OF BOREHOLE: Notes:	111				<u> </u>		266											┢		
	1) Water level at 7.6m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:																				
	Date: Water Level (mbgl): Aug 6, 2020 4.43 Sept 8, 2020 4.72 Oct 22, 2020 4.97																				

CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

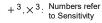
Diameter: 150mm REF. NO.: 20-169-100

Date: Jul/29/2020 ENCL NO.: 11

	IM: Geodetic	10501	046	E 607	'0EE 26	2		Date.	Jui/2	9/2020	'					El	NCL N	U I	ı	
BURE	EHOLE LOCATION: See Drawing 1 N 4 SOIL PROFILE	40004		E 597 SAMPL				DYNA	MIC CC	NE PE	NETRA	ATION								
	COLLINGIAL			, avii L		GROUND WATER CONDITIONS								PLASTI LIMIT	c NATU	JRAL TURE TENT	LIQUID LIMIT	z	NATURAL UNIT WT (KN/m³)	METHANE AND
(m)		STRATA PLOT			ا دار	NAT	z		Ĺ			1	00	W <sub>P</sub>	CON	TENT V	WL	POCKET PEN. (Cu) (kPa)	LUNI)	GRAIN SIZE
ELEV DEPTH	DESCRIPTION	A P	띪		BLOWS 0.3 m	ON OF	ELEVATION		NCONF	RENG	1 H (KI	ーa) FIELD V & Sensiti	ANE	-			<del></del>	SCKE SCKE	URAL (KN/	DISTRIBUTION
		RA1	NUMBER	TYPE		SOU	EVA			RIAXIAI	L ×	LAB V	ANE	WA	TER CC	NTEN	T (%)	100	NAT	(%)
268.3			ž	۲	Ž	<u> </u>	П	2	0 4	0 6	0 8	30 1	00	1	0 2	0 3	30			GR SA SI CL
268:0	TOPSOIL: 300mm	<u>11/4</u> .	1	SS	15		268													
0.3	FILL: sandy silt, trace topsoil/ organics, trace gravel, trace						200													
- 267.5 -1 0.8	cootlets, brown, moist, compact /		-			1		-												
F	SILTY CLAY TILL: some sand, trace gravel, sand seams, brown,		2	SS	21		007								0					
E I	moist to very moist, very stiff						267											1		
-		1	3	SS	25			<u> </u>							0					
<u>-2</u>			-			-														
					25	1	266								_			1		
F			4	SS	25			Ė							0					
-	grey below 3m					1														
			5	SS	16		265	-							0			1		
		797	-			-		E												
-4			1																	
-							264											ł		
F			-			1														
5		181	6	SS	20			Ē							0					
						1	263	<u> </u>										-		
			ł					Ė												
6			1					-												
ŧ			,		47		262													
F			7	SS	17										0					
E <sub>7</sub>								F												
<b>E</b>			1				261													
-							201													
F.		1,1	8	SS	15			Ė							0					
- 260.1 8.2	END OF BOREHOLE:																			
0.2	Notes:																			
	Borehole dry and open upon completion.																			
	completion.																			
																		1		
																		1		
																		1		
$\overline{}$			Ь									1	1	Ь		I				

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/1/8





CLIENT: Bolton Option 3 Landowners Group

PROJECT: Geotechnical Investigation

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

	ECT LOCATION: Bolton Option 3 Land M: Geodetic HOLE LOCATION: See Drawing 1 N		726 F	E 507	'2/1 10	<b>.</b>			: Jul/2	50mm 9/2020						ICL N			9-100
DOILL	SOIL PROFILE	4000	$\overline{}$	SAMPL				DYN/ RESI	MIC CO	ONE PEI	NETR/	ATION		NATI	IRAI			L	METHANE
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" <u>BLOWS</u> 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE o L	20 Z AR ST INCONF IUICK T	10 60 RENGT	ΣΗ (kl + . ×	Pa) FIELD V. & Sensiti		CON \ TER CO	TENT W DOMTEN	LIQUID LIMIT W <sub>L</sub> ——I T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT W (KN/m³)	AND GRAIN SIZ DISTRIBUTIO (%) GR SA SI
270.1 26 <sup>9</sup> :8	TOPSOIL: 300mm	317	<del>,                                     </del>				270		Ĺ										GIC SA SI
0.3 269.3	FILL: sandy silt, trace topsoil/ organics, trace gravel, trace cotlets, brown, moist, compact		1	SS	12								٥						
0.8	SILTY CLAY TILL: sandy, trace gravel, sand seams, brown, moist, very stiff to hard	**************************************	2	SS	19		269							0					
2		***	3	SS	22		268							0					
<u>3</u>			4	ss	28									0					
		1	5	SS	44		267 Bento-	F						0					
4	grey below 4.5m						266	Ē											
5			6	SS	24	•	265	E						0					
<u>3</u>						-	W. L. 2 Aug 06 264	6, 202 <b>L</b>	m 0										
			7	SS	21									0					
262.4							263	<u> </u>											
7.7	SILT: some sand, trace clay, trace gravel, grey, wet, compact		8	SS	28		-Fi <u>lter</u> -Slotte	H	•					0			-		1 11 80
9			9	SS	27		261							0			_		
9.7	END OF BOREHOLE:	Ш																	
	Notes: 1) Water level at 9.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 5.42 Sept 8, 2020 5.37 Oct 22, 2020 5.33																		

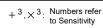
CLIENT: Bolton Option 3 Landowners Group

DRILLING DATA

Method: Solid Stem Auger

	8575	20.1	5 E 59	8321.	9											J 1	_	
SOIL PROFILE		5	SAMPL	ES	R		DYNAM RESIST	IC CONE P ANCE PLO	ENETI	RATION >		PLASTI	C NATI	URAL	LIQUID		ΛΤ	METHA
DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATEI CONDITIONS	ELEVATION	SHEAI O UN • QU	R STRENG CONFINED ICK TRIAXI	AL ×	kPa) FIELD V Sensiti	ANE vity ANE	LIMIT W <sub>P</sub> ⊢ WA¹	CON \ TER CO	TENT W DOMTEN	LIMIT W <sub>L</sub> ——	POCKET PEN. (Cu) (kPa)	NATURAL UNIT V (kN/m³)	AND GRAIN S DISTRIBU (%)
TOPSOIL: 400mm	1 1/2	H			¥		1 1 2	-	+									0.1. 0.1.
FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist,	$\boxtimes$					Aug 06	264.7 m 5, 2020	1					,					
SILTY CLAY TILL: some sand, trace gravel, sand seams, brown,		=																
grey below 2.3m						263												
SANDY SILT TO SILT: trace clay,		4	SS	10									0			_		
grey, very moist, dense		5	SS	32		261							0					
wet below 4.5m	.0					201												
		6	SS	36		260	-							<b>.</b>				
SILT: trace clay, trace sand, grey,	φ					259												
very moist, compact to loose		7	SS	25										o				0 1 9
						200												
		8	ss	7		257	-							0				
END OF BOREHOLE: Notes: 1) Water level at 3.1m below grade during drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 0.2 Sept 8, 2020 0.1 Oct 22, 2020 0.14																		
	DESCRIPTION  TOPSOIL: 400mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist, stiff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  grey below 2.3m  SANDY SILT TO SILT: trace clay, grey, very moist, dense  wet below 4.5m  SILT: trace clay, trace sand, grey, very moist, compact to loose  END OF BOREHOLE: Notes:  1) Water level at 3.1m below grade during drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 0.2 Sept 8, 2020 0.1	DESCRIPTION  TOPSOIL: 400mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist, stiff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  grey below 2.3m  SANDY SILT TO SILT: trace clay, grey, very moist, dense  wet below 4.5m  SILT: trace clay, trace sand, grey, very moist, compact to loose  END OF BOREHOLE: Notes:  1) Water level at 3.1m below grade during drilling 2) 50mm dia. monitoring well installed upon completion.  3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020  0.2 Sept 8, 2020  0.1	TOPSOIL: 400mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist, stiff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  SANDY SILT TO SILT: trace clay, grey, very moist, dense  SILT: trace clay, trace sand, grey, very moist, compact to loose  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, brown, moist to very moist, stiff  3  Grey below 2.3m  SANDY SILT TO SILT: trace clay, grey, very moist, dense  SILT: trace clay, trace sand, grey, very moist, compact to loose  FILD OF BOREHOLE: Notes:  1) Water level at 3.1m below grade during drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 0.2 Sept 8, 2020 0.1	SOIL PROFILE  DESCRIPTION  DESCRIPTION  TOPSOIL: 400mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist, stiff SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  SANDY SILT TO SILT: trace clay, grey, very moist, dense  SILT: trace clay, trace sand, grey, very moist, compact to loose  FILD OF BOREHOLE: Notes:  1 Water level at 3.1m below grade during drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020  Date: Water Level (mbgl): Aug 6, 2020  Can be samd, grey, very moist, compact to loose	SOIL PROFILE  DESCRIPTION  DESCRIPTION  TOPSOIL: 400mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, sand seams, trace rootlets, dark brown, moist, silff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff  SANDY SILT TO SILT: trace clay, grey, very moist, dense  SILT: trace clay, trace sand, grey, very moist, compact to loose  TOPSOIL: 400mm  TOPSOIL:	SOIL PROFILE  DESCRIPTION  DESC	SOIL PROFILE  SAMPLES  SOIL PROFILE  DESCRIPTION  A VALUE OF BOREHOLE:  Notes:  1 N 4857520.15 E 598321.99  SAMPLES  SAM	SOIL PROFILE  SAMPLES  SAMPLES	SOIL PROFILE  SAMPLES  SAMPLES	SOIL PROFILE  SAMPLES  SOIL PROFILE  SAMPLES  SA	SOIL PROFILE   SAMPLES   SAMPLES	DESCRIPTION   See Drawing 1   N 4857520.15   E 598321.99	DESCRIPTION   SAMPLES   SAMPLES	SOIL PROFILE  SAMPLES  SOIL PROFILE  SAMPLES  DESCRIPTION  LANGE AND LES AND L	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMP	SOIL PROFILE   SAMPLES   SAMPLES





CLIENT: Bolton Option 3 Landowners Group

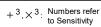
DRILLING DATA

Method: Solid Stem Auger

	ECT LOCATION: Bolton Option 3 Land: M: Geodetic	s, ca	iledo	n, Ont	ano			Diam Date:	50mm 0/2020							F. NC ICL N			9-100
	HOLE LOCATION: See Drawing 1 N 4	8579				)9					TION								
	SOIL PROFILE		S	SAMPL	ES.	 			NE PE PLOT		_		PLASTI LIMIT	C NATI	URAL TURE	LIQUID LIMIT		TW.	METHAN
(m) ELEV DEPTH 268.1	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	E	2	 0 6 RENGTINED RIAXIAL 0 6	- ' '		ANE ivity ANE	w <sub>P</sub> ⊢ WA1	TER CC	N DNTEN	W <sub>L</sub> ——  Γ (%)	POCKET PEN (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN S DISTRIBU (%) GR SA SI
26 <b>0.9</b> 0.2	TOPSOIL: 200mm  FILL: clayey silt, trace topsoil/ organics, trace gravel, trace rootlets, dark brown, moist, stiff	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	SS	12		268	- - - -						0			-		
0.8	SILTY CLAY TILL: some sand, trace gravel, sand seams, brownish		2	ss	19		267							-0-					
	grey, moist, stiff to very stiff		3	ss	20									0					
			4	SS	26		266	-						0					
			5	SS	14		265							0					
.							264	- - - -											
	grey below 4.5m		6	SS	9									0					
						<u> </u>	263										-		
			7	SS	19		262	<u>-</u> - - - -					(						
							261	<u>-</u> - - -											
7.5	SANDY SILT TO SILT: trace clay, trace gravel, grey, wet, very dense		8	SS	94/			[ - - -						0					
259.9 8.2	END OF BOREHOLE:		É		255mr	<u> </u>	260	<u> </u>										L	
	Notes:  1) Water at 7.6m below grade during drilling																		







CLIENT: Bolton Option 3 Landowners Group

PROJECT: Geotechnical Investigation

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-100

Date: Jul/30/2020 ENCL NO.: 15

	SOIL PROFILE		s	AMPL	ES			RI RI	YNAM ESIST	IC CO ANCE	NE PEN PLOT	NETRA	ATION		ы леті	_ NAT	URAL	LIOUID		F	METHA	N۴
(m) EEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	Э <sub>С</sub>	BLOWS 0.3 m	GROUND WATER	ELEVATION	SI	20 HEAF	4 R STF	0 60 RENGT	) 8 H (kF +	Pa) FIELD V	ANE	PLASTI LIMIT W <sub>P</sub> 	CON	URAL STURE TENT W O	LIQUID LIMIT W <sub>L</sub> ——I T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN S DISTRIBU (%)	) SIZ JT
67.7	TODON 100		N	TYPE	þ	GR.		↓	20				0 1		1	0 2	20 3	30			GR SA S	ŝI
0.0	TOPSOIL: 400mm	7/7.	1	SS	7			F								٥						
0.4	FILL: clayey silt, trace topsoil/ organics, trace gravel, trace sand,	$\bowtie$					26	57 <u> </u>	+										1			
8.0	trace rootlets, brown, moist, firm  SILTY CLAY TILL: some sand, trace gravel, frequent sand seams, brown, moist, stiff to hard		2	SS	14											0						
	brown, moist, sun to naru	****	3	SS	13		26	66								0			-			
			4	SS	27		26	55								0						
		***	5	SS	28	Ā	W. L	264	4.3 m							0						
						Ĭ	Aug_ Oct		2020 <sub>1</sub> 2020										-			
							-Ben	tonit E														
			6	SS	24		20	13								О						
							26	32											-			
	grey below 6m		7	SS	18		00	ļ.								0						
							26															
		**	8	SS	29		26	50 E								0						
							∴ 25	59														
		* * * * * * * * * * * * * * * * * * *	9	SS	22																	
							Fi <u>lte</u>	F Pa ted F	ck_ Pipe													
	interbed of clayey silt and sany silt						25	F 17														
256.4	layers, wet below 10.5m		10	SS	35											0						
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading:																					
	Date: Water Level (mbgl): Aug 6, 2020 3.32																					
	Sept 8, 2020 3.43 Oct 22, 2020 3.59																					
11.3																						

CLIENT: Bolton Option 3 Landowners Group

DRILLING DATA

Method: Solid Stem Auger

PROJE	ECT LOCATION: Bolton Option 3 Lands							Diame	ster. I	30111111							EF. NC	) <u>Z</u> (	0-108	- 100
	M: Geodetic							Date:	Jul/30	)/2020						EN	NCL N	0.: 1	6	
BORE	HOLE LOCATION: See Drawing 1 N 4	8587	$\overline{}$			7		IDVALA	110.00	NE DE	VETD/	TION								
	SOIL PROFILE			SAMPL	.ES	ı <sub>c</sub>		RESIS	TANCE	NE PEI	NE IRA	ATION		PLASTI	C NAT	URAL	LIQUID		Þ	METHAN
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	ТҮРЕ	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UN	ICONF	RENG	ΓΗ (kF + . ×	FIELD V. & Sensiti	ANE vity ANE	W <sub>P</sub> ⊢ WA1	TER CO	ITENT W O ONTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND GRAIN S DISTRIBU <sup>*</sup> (%) GR SA SI
0.0 263.8	TOPSOIL: 350mm	31 14	1				264													OK OA O
0.4	FILL: clayey silt, trace topsoil/	$\bowtie$	1	SS	12			Ē							0					
263.3	organics, trace gravel, trace sand,							E												
8.0	trace rootlets, brown, moist, stiff  CLAYEY SILT TILL: some sand,		2	SS	18		263													
	trace gravel, sand seams, brown,		1				200	Ė												
	moist, stiff to very stiff		「	00	20			-												
		ΝŊ	3	SS	22			-							0					
		[4]	匚			Ā	262											1		
			4	ss	27		₩. L. ź	261.7 r	n						0					
			1_				Aug 06	5, 2020 <b>I</b> -	)											
		$ \mathcal{Y} $	十				261	-										┨		
			5	SS	27		-Bento	⊦ nite							0					
			厂					-												
			1				260	<u> </u>										-		
			1					E												
	grey below 4.5m		1	00	4-7			-												
			6	SS	17		259	_							٥					
			$\Box$				200	-												
			1					-												
		rl/!	1					-												
			7	SS	14		258								0			1		
		ИÜ		33	14			-							"					
			1					-												
			1				257	-										1		
		<u> </u>						-												
			8	SS	16			E							0					
			├				-Filter -Slotte	Pack_ L										ł		
			1				-Slotte	d Pipe ⊩												
		PH	1					-												
	wet below 9m		<u> </u>				255													
			9	SS	12			-							0					
54.4 9.7	END OF BOREHOLE:	[1]	十					-									+	$\vdash$	$\vdash$	
	Notes:																	1		
	<ol> <li>Water level at 9.1m below grade during drilling.</li> </ol>																			
- 1	2) 50mm dia monitoring well																			
	installed upon completion		1															1		
	2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading:				1	1												1		
	Water level Reading:																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6. 2020 2.41																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6. 2020 2.41																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			
	3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33																			

CLIENT: Bolton Option 3 Landowners Group

PROJECT: Geotechnical Investigation

DRILLING DATA

Method: Solid Stem Auger

	M: Geodetic HOLE LOCATION: See Drawing 1 N 4	8578	348.7	E 598	3703.7	5		Date	: Jul/3	1/2020						ΕN	NCL N	O.: 1	7	
	SOIL PROFILE			SAMPL				DYN/ RESI	AMIC CO STANC	ONE PE E PLOT	NETR/	ATION		PLASTI	C NAT	URAL STURE	LIQUID		Ţ.	METHAN
m) LEV PTH	DESCRIPTION	STRATA PLOT	NUMBER	ТҮРЕ	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE O L	AR ST INCONI QUICK T	FINED RIAXIAL	ΓΗ (kF + . ×	Pa) FIELD V & Sensiti LAB V	ivity	LIMIT  W <sub>P</sub> WA1	CON TER CO	ITENT W O ONTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SI DISTRIBUT (%) GR SA SI
0.0	TOPSOIL: 400mm	7/1/						-												
0.4 64.7 0.8	FILL: clayey silt, trace topsoil/ organics, trace gravel, trace rootlets, brown, moist, stiff SILTY CLAY TILL: some sand,		2	SS	33		265	-  -  -  -							0					
1.5	trace gravel, sand seams, brown, moist, stiff to hard GRAVELLY SAND: some silt,		3	SS	30		264							0						
	trace clay, brown, very moist to wet, compact to dense		4	SS	24	Ţ Ţ	W. L. Aug 0 W. L.	6, 202 263.1	m						0					22 64 10
3.3	SANDY SILT: trace clay, brown,	   	5	SS	20		Oct 22	É	0							0				
31.0	wet, compact						262	! <del></del>												
4.5	SAND AND GRAVEI: some silt, trace clay, brownish grey, wet, very dense	0.0	6	SS	66		261	-						(	<b>)</b>					42 37 15
		ο. 					260													
9.3 6.2	SILTY SAND: some clay, trace gravel, greyish brown, wet, dense		7	SS	38		-Filter	1							0					3 61 26
8.0							-Slotte 258	į .	Э											
7.5	SANDY SILT: trace clay, grey, wet, dense		8	ss	41		230								0					
8.2	END OF BOREHOLE: Notes:  1) Water level at 2.3m below grade during drilling.  2) 50mm dia. monitoring well installed upon completion.  3) Water level Reading:  Date: Water Level (mbgl): Aug 6, 2020 2.12 Sept 8, 2020 2.27 Oct 22, 2020 2.49																			



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

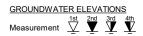
DRILLING DATA

Method: Solid Stem Auger

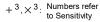
Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-31-2022 ENCL NO.: 2

	CATION: See Drawing 1 N 4858060.2 SOIL PROFILE		s	AMPL	ES	<u>_</u>		DYNA RESIS	MIC CO STANCE	NE PEI	NETRA	ATION		PLASTI	C NATI	JRAL TURE	LIQUID		ΤΛ	REN	//ARKS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE/	AR STI NCONF UICK T	RENGT RENGT INED RIAXIAL	H (kF + . ×	Pa) FIELD V & Sensiti LAB V	ANE vity ANE O0	LIMIT  W <sub>P</sub> WA1	CON' V TER CC	TENT v D ONTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRA DISTR	(%)
279.0 27 <b>9</b> . <b>9</b>	TOPSOIL: 300mm	<u> </u>	1	SS	9		ш				, ,			'	0 2	.0				GR SA	A SI
0.3 278.2 0.8	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, \[ \text{trace sand, trace gravel, trace} \]						0.70														
0.0	rootlets, brown, moist, stiff SILTY CLAY TO CLAYEY SILT		2	SS	24		278								0						
	TILL: trace to some sand, trace gravel, brown, moist, very stiff to		3	SS	28		277								∘⊩		1			2 18	3 47
	hard sandy silt till layer @2.3m		4	SS	32			Ē							o						
							276	_													
			5	SS	31	<u>¥</u>	W. L. Sep 0								0						
							. 275	É													
	grey below 4.6m		6	SS	34		: : 274								0						
							: 217														
72.7							273														
6.3	SANDY SILT TILL: trace clay, trace gravel, grey, very moist, very		7	SS	65		:	Ē							0						
	dense						272														
7.6	SANDY SILT TO SILTY SAND: trace clay, trace gravel, grey, wet,		8	SS	78										0						
8.2	ery dense  END OF BOREHOLE:	]. . <u> </u>					. 271	-													
	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																				
	Date: Water Level(mbgl): Sept. 8, 2022 3.4																				
														1							







PROJECT: Geotechnical Investigation **DRILLING DATA** CLIENT: ARGO Development Corp Method: Hollow Stem Auger PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario Diameter: 200mm REF. NO.: 20-169-100 DATUM: Geodetic Date: Apr/22/2021 ENCL NO.: 2 BOREHOLE LOCATION: See Drawing 1 N 4858817.153 E 598138.646 DYNAMIC CONE PENETRATION RESISTANCE PLOT SOIL PROFILE SAMPLES PLASTIC NATURAL MOISTURE CONTENT METHANE GROUND WATER CONDITIONS LIQUID LIMIT POCKET PEN. (Cu) (kPa) AND 40 60 100 NATURAL UNIT (KN/m³) (m) STRATA PLOT GRAIN SIZE BLOWS 0.3 m SHEAR STRENGTH (kPa)
O UNCONFINED + ESensitivity ELEVATION ELEV DEPTH DISTRIBUTION DESCRIPTION NUMBER (%) WATER CONTENT (%) QUICK TRIAXIAL X LAB VANE 60 80 10 20 30 GR SA SI CL 264.1 TOPSOIL: 300mm 264 263:8 SS 8 0 FILL: clayey silt, trace topsoil/ organics, trace gravel, trace sand, 0.3 W. L. 263.6 m trace rootlets, brown, moist, stiff May 03, 2021 0.8 CLAYEY SILT TILL: some sand, 2 SS 10 263 trace gravel, brown, moist, stiff to very stiff 3 SS 11 262 SS 15 4 -Filter Pack -Slotted Pipe SS 19 5 260 grey below 4.5m 6 SS 26 0 259 -Bentonite 258 SS 23 0 257.4 END OF BOREHOLE: 1) Borhole dry and open at completion of drilling 2) 50mm dia. monitoring well installed upon completion.
3) Water level Reading: Date: Water Level (mbgl): May 3, 2021



SOIL LOG 20-169-100 ARGO HUMBER STATION.GPJ DS.GDT 21/6/28

S

PROJECT: Geotechnical Investigation **DRILLING DATA** CLIENT: ARGO Development Corp Method: Hollow Stem Auger PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario Diameter: 200mm REF. NO.: 20-169-100 DATUM: Geodetic Date: Apr/22/2021 ENCL NO.: 3 BOREHOLE LOCATION: See Drawing 1 N 4858839.839 E 598092.887 DYNAMIC CONE PENETRATION RESISTANCE PLOT SAMPLES SOIL PROFILE PLASTIC NATURAL MOISTURE CONTENT METHANE GROUND WATER CONDITIONS LIQUID LIMIT POCKET PEN. (Cu) (kPa) AND 40 60 100 NATURAL UNIT (KN/m³) (m) STRATA PLOT GRAIN SIZE BLOWS 0.3 m SHEAR STRENGTH (kPa)
O UNCONFINED + ESensitivity ELEVATION ELEV DEPTH DISTRIBUTION DESCRIPTION NUMBER (%) WATER CONTENT (%) QUICK TRIAXIAL X LAB VANE 40 60 80 10 20 30 GR SA SI CL 263.8 TOPSOIL: 200mm 26**9.6** 0.2 SS 7 0 FILL: clayey silt, trace topsoil/ organics, trace sand, trace rootlets, -Bentonite brown, moist, firm W. L. 263.1 m SILT: trace clay, brown, saturated, May 03, 2021 2 SS 9 1.0 CLAYEY SILT TILL: trace gravel, trace sand, brown, moist to wet, stiff 3 SS 29 to hard 262 SS 27 4 0 -Filter Pack -Slotted Pipe SS 34 5 0 260 grey below 4.5m 259 6 SS 24 0 Bentonite SS 22 257.1 END OF BOREHOLE: Notes: 1) Dry and open upon completion of drilling. 2) 50mm dia. monitoring well installed upon completion.
3) Water level Reading: Date: Water Level (mbgl): May 3, 2021



SOIL LOG 20-169-100 ARGO HUMBER STATION.GPJ DS.GDT 21/6/28

S

CLIENT: ARGO Development Corp

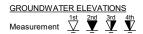
PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario

DRILLING DATA

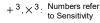
Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-100

BORE	HOLE LOCATION: See Drawing 1 N 485				.05		IDVA	ANIC C	ONE DE	NETD	ATION								
	SOIL PROFILE	$\perp$	SAMPI	LES	<u>ا</u> بب		RES	AMIC CO ISTANC					PLAST	IC NAT	URAL STURE	LIQUID	_	WT	METHANE
(m)		LOT		SNE	GROUND WATER CONDITIONS	z	епе					00	LIMIT W <sub>P</sub>	CON	ITENT W	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZ
EPTH	DESCRIPTION	STRATA PLOT	l	BLOWS 0.3 m	OND	ELEVATION	0 1	AR ST	FINED	+	FIELD \ & Sensit	/ANE tivity			o	——————————————————————————————————————	(Cu)	TURAI (KN	DISTRIBUT (%)
266.9		STRATA F	TYPE	ż	GRO	ELEV	•	QUICK T				ANE 00		TER CO		11 (%) 30		≥	GR SA SI
260.0	TOPSOIL: 200mm	\ 1 <sub>1/2</sub> .					-	+											011 071 01
0.2	topsoil/organics, trace sand, trace	$\bigotimes_{-1}^{1}$	SS	8			Ē							0					
0.8	_gravel, brown, moist, firm				1	266	<u> </u>												
	trace sand, brown, moist to wet, stiff	2	SS	21			Ē							0					
	to hard				1		Ē												
	P	3	SS	30		265	<u> </u>	+					-	0			ł		
	ٳٛ						Ē												
		4	SS	38			Ė							0					
	م [ ]	灿二				264											1		
		5	SS	44			Ē							0					
	[]	<b>州</b> —			1	263	Ė												
						203	E												
	grey, stiff below 4.5m						Ē												
	groy, e.m. belett item	6	ss	17		262	<u> </u>	+						-			-		
	ļ;	∦ <u>⊢</u>			-		Ė												
							Ē												
	f.					261	<u> </u>	+									ł		
	<u> </u>	7	SS	12			E							0					
6.7	END OF BOREHOLE:	14	+	+			-	+									<u> </u>		
0	Notes:  1) Borehole was open and wet at																		
	the bottom upon completion of																		
	drilling.																		
		- 1		1	1	l	I		1				1		1		I	1	









CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

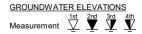
DRILLING DATA

Method: Hollow Stem Auger

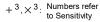
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-31-2022 ENCL NO.: 3

RH FO	CATION: See Drawing 1 N 4857899.6	0 L 0						DYNA	MIC CC	NF PF	NFTR/	ATION						_		
	SOIL PROFILE		_ S	AMPL	ES	<u></u>		RESIS	MIC CC STANCE	PLOT		TION		PLASTI	NATI	URAL	LIQUID		Ş	REMARK
(m)		F				GROUND WATER CONDITIONS		2	20 4	0 6	0 8	30 1	00	LIMIT	MOIS CON	TURE	LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND
ELEV		STRATA PLOT			BLOWS 0.3 m	W C	N O	SHE	AR ST	RENG	ΓΗ (kF	Pa)	1	W <sub>P</sub>	٧	N	WL	Ē,	ALU Nm°	GRAIN SI DISTRIBUT
EPTH	DESCRIPTION	¥	NUMBER		0.3	N E	ELEVATION	οU	NCONF	INED	÷	FIÉLD V. & Sensiti	ANE ivity					000	동	(%)
		18€	N N	TYPE	į.	ROL	LEV		UICK TI		. ×	LAB V	ANE		ER CC					
280.2	TORONI 000		z	Ĺ	-	0 0	_		20 4	0 6	0 8	80 1	00	1	0 2	0	30		$\sqcup$	GR SA SI
27 <b>9</b> : <b>9</b>	TOPSOIL: 300mm WEATHERED/DISTURBED	<u> </u>	1	SS	8		280	E							0			1		ı
79.4	NATIVE: sandy silt, clayey, trace		┢					Ė												ı
0.8	rootlets, trace gravel, brown, moist,	74.	2	SS	13	1		Ē							0					ı
78.7	SILTY CLAY TO CLAYEY SILT	KK	Ľ	33	13		279											1		ı
1.5	TILL: some sand to sandy, trace		1	2	45	1		Ē						_						ı
	notlets, trace gravel, brown, moist,		. 3	SS	15									0						ı
	stiff SILTY SAND TO SANDY SILT:						278											1		ı
	trace clay, brown, moist, compact to		4	SS	36			Ē						0						ı
	dense							Ē												ı
			5	SS	34		277	-						0				1		ı
								F												ı
			1				276	Ē												ı
			1				2/0											1		ı
	wet, trace gravel below 4.6m		Ţ		45	1		Ė							_					ı
		[[]	6	SS	45		275	Ē							0					ı
			1				210	-												ı
			1					F												ı
			┢				274											]		ı
			7	SS	44			Ė							(	•				ı
			⊢					Ē												ı
			1				273													ı
							2,0	-												ı
	grey below 7.8m		. 8	SS	35	1		Ē							٥					ı
	grey below 7.6m		டீ	33	33		272	<u> </u>												ı
			1					Ē												ı
			ł					-												ı
	compact below 9.1m					ł	271	<u> </u>												ı
	compact bolow c. IIII		9	SS	19			E							0					ı
		$\ \cdot\ $	$\vdash$			1		Ē												ı
			ł				270													ı
269.5								-												ı
10.7	SAND: some silt to silty, trace clay,		10		16	1		Ē							_					ı
	grey, wet, compact		10	SS	16		269	-	-						0		-	1		ı
		: :						Ē												ı
268.0		.::						Ē												ı
268.0 12.2	SANDY SILT TILL: some clay,	   •	$\vdash$				268	<u> </u>										1		ı
67.4	trace gravel, grey, wet, very dense		11	SS	53			Ė								0				ı
12.8	END OF BOREHOLE:	1	П																$\Box$	
	Notes: 1) Water at depth of 4.5m during																			ı
	drilling.																			ı
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CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

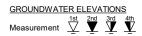
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-30-2022 ENCL NO.: 4

SOIL PROFILE		S	AMPL	.ES	<u>ر</u>		DYNA RESIS	MIC CC STANCE	NE PEN PLOT	NETRA	ATION		PLASTI	C NAT	URAL	FIOHID	]	М	REMARKS
	Ĕ				肾~		I					00	LIMIT	CON	ITENT	LIMIT	BEN.	NI V	AND
	PLC			S E	) NO	N O	SHEA	R STI	RENGT	H (kF	Pa)		W <sub>P</sub>	\	w 0	W <sub>L</sub>	Ä.	AL U	GRAIN SIZ
DESCRIPTION	₹.	3ER		BLO 0.3	\ \ \	I A	0 U	NCONF	INED	÷	FIÉLD VA & Sensitiv	ANE vity				<b>—1</b>	O O	J. N.	(%)
	₹	N N	ΥPE		N S					. ×	LAB VA	ANE				. ,		≱	
TORCOII - 050		z	Ĺ	-	0 0	Ш	2	20 4	10 60	) 8	0 10	)0	1	0 2	20	30	-		GR SA SI
		1	SS	9			E								0				
NATIVE: clayey silt to silty clay,	/	1				07.4	Ė							"			1		
trace sand, trace gravel, trace	/ 12	1	00	20		2/4	E										1		
rootlets, brown, moist, stiff		Ľ	0	20			E							"			1		
		<u>├</u>				W. L. :	273.4	m									1		
brown, moist, very stiff		13	SS	23		Sep 08	3, 2022 F	<u></u>						-			1		
		$\blacksquare$					E										1		
		4	SS	28		:	Ė							0			1		
		$\vdash$				. 272											1		
SANDY SILT TILL: some clay to	1181	1	99	30	<b>l</b> ∷∏:	:	E						Ι,	ļ			1		
clayey, trace gravel, grey, moist,		<u> </u>	- 00	30	l∷∃:		Ė						`	ĺ			1		
compact to dense					l::目:	2/1	=										1		
		1			l::目:		E										1		
		₩			:目:	:	Ė										1		
	-[- -	6	SS	21		] 2/0	Ē							0			1		
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					:   <u> </u>	269	=										1		
		. 7	SS	28		:	-												
		Ľ		20										Ĭ					
		ł				268	-										1		
							E										1		
SANDY SILT: trace clay trace		-				007													
gravel, grey, wet, dense to very		8	SS	42		267								0			1		
dense							E										1		
	:	ł				000	Ė										1		
						266											1		
	1.11	. G	SS	59			E							_			1		
	<u> </u>	ا "	00	55			-							Ŭ					
1) 50mm dia. monitoring well																	1		
installed upon completion.																	1		
2) water Level Readings:																			
Date: Water Level(mbgl):																			
Sept. 08, 2022 1.42																	1		
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																	1		
	TOPSOIL: 250mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rototets, brown, moist, stiff  SILTY CLAY TO CLAYEY SILT  TILL: trace sand, trace gravel, brown, moist, very stiff  SANDY SILT TILL: some clay to clayey, trace gravel, grey, moist, compact to dense  SANDY SILT: trace clay, trace gravel, grey, wet, dense to very dense  END OF BOREHOLE:  Notes:  1) 50mm dia. monitoring well installed upon completion.  2) Water Level Readings:	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff  SILTY CLAY TO CLAYEY SILT  TILL: trace sand, trace gravel, brown, moist, very stiff  SANDY SILT TILL: some clay to clayey, trace gravel, grey, moist, compact to dense  SANDY SILT: trace clay, trace gravel, grey, wet, dense to very dense  END OF BOREHOLE:  Notes:  1) 50mm dia. monitoring well installed upon completion.  2) Water Level (mbgl):	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff  SANDY SILT TILL: some clay to clayey, trace gravel, grey, moist, compact to dense  SANDY SILT: trace clay, trace gravel, grey, wet, dense to very dense  END OF BOREHOLE: Notes:  1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl):	DESCRIPTION    Color   Color	DESCRIPTION    TOPSOIL: 250mm	DESCRIPTION    Variable   Variabl	DESCRIPTION    Column   Column	DESCRIPTION    Langle   Langle	DESCRIPTION    A	DESCRIPTION	DESCRIPTION	DESCRIPTION    A	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION    Second   Second	DESCRIPTION	DESCRIPTION





CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

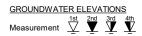
DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-30-2022 ENCL NO.: 5

	SOIL PROFILE		S	AMPL	.ES	۳_		DYNA RESIS	MIC CO STANCE	NE PE E PLOT	NETR/	ATION		PLASTI	C NATI	JRAL TURE	LIQUID		ΤV	REMARK
(m)		ΙĔ				GROUND WATER CONDITIONS		l		0 6			00	LIMIT	MOIS CON	TURE TENT	LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND
		STRATA PLOT			BLOWS 0.3 m	NS W	NC	SHE	AR ST	RENG	TH (kl	 Ра)	1	W <sub>P</sub>		v	$W_L$	Ē,	4L U	GRAIN SI
PTH	DESCRIPTION	ΙĀ	띪		0.3	₽ E	ELEVATION		NCONF		+	FIELD V & Sensiti	ANE	I '''		,		ξĝ	칠	DISTRIBUT
		₩	NUMBER	TYPE		S	*			RIAXIAL	. ×	LAB V	ANE	WAT	TER CO	NTEN	T (%)	_ ا	¥	(%)
79.8		STI	₽	Ξ	ż	9 8 8	==			0 6			00	1	0 2	0	30			GR SA SI
7 <b>9.8</b> 7 <b>9.2</b>	TOPSOIL: 200mm	1 1/2			_			E							-					
0.2	WEATHERED/DISTURBED	72	1 1	SS	9			F							0					
70.0	NATIVE: clayey silt to silty clay,		仁			1	279	<u> </u>												
78.8	trace sand, trace gravel, trace		2	SS	26		-/ "	Ė							0					
1.0	rootlets, brown, moist, stiff SILTY CLAY TO CLAYEY SILT		\ <u></u>	33	20			Ė							"					
	TILL: trace sand, trace gravel,		仠		50/	1		Ė												
	brown, moist, very stiff to hard	1	3	SS	130mr	ή.	278	E							-			1		
77.5	sand pocket@1.5m					1		E												
2.3	SAND: trace to some silt, trace	1	1.			1		F												
	gravel, brown, moist, dense	· · · .	4	SS	36		277	<u> </u>						0				1		
						1		Ē												
		· .	5	SS	41			Ė												
			Ľ	00	71			Ė						ľ						
			1				276	Ē										1		
			-					Ė												
75.2		<u></u>	<u>.</u>					Ē												
4.6	SANDY SILT TO SILT: trace clay,	ПП		SS	25	1	275	_												
	brown, wet, compact to dense		6	33	25			Ė								0				
		111				1		Ė												
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		1111						E												
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		$ \cdot \cdot $	_			1	269	Ē												
		11.11	10	SS	45		209	E								0				
68.5	grey below 10.7m	111	<u> </u>		٠.٠			<u> </u>						Ь				_	oxdot	
11.3	END OF BOREHOLE:																			
	Notes: 1) Water at depth of 4.6m during																			
	drilling.																			
	3																			
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CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

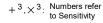
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-31-2022 ENCL NO.: 6

	SOIL PROFILE		S	SAMPL	ES	<u>~</u>		DYNA RESIS	MIC CO STANCE	NE PEI E PLOT	NETRA	ATION		PLASTI	IC NATI	URAL TURE	LIQUID LIMIT		TW	REMARK
(m)		LOT			NS L	WATE	Z		1	0 60 RENG		0 10	0	LIMIT W <sub>P</sub>	CON	TENT W	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	L UNIT \	AND GRAIN SIZ
PTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER	ELEVATION	0 U ● Q	NCONF UICK T		+ ×	& Sensitiv	ANE vity ANE 00	1	TER CC		—— <mark>-</mark> IT (%) 30	POCK (Cu)	NATURAL UNIT WT (kN/m³)	DISTRIBUTI (%) GR SA SI
79.7 7 <b>9</b> : <b>2</b>	TOPSOIL: 320mm	21 1/2	1	SS	10			<u> </u>							0		Ť			GR SA SI
0.3 78.9	WEATHERED/DISTURBED NATIVE: clayey silt, some sand to	Ш	<u> </u>	33	10		270	Ē												
0.8	sandy, trace rootlets, trace gravel, brown, moist, stiff		2	SS	45		279								0					
	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, hard		3	SS	30		278							ļ ,						
			4	SS	37	Ш	277								0					
76.6							211													
3.1	SANDY SILT: trace clay, brown, moist, dense to very dense		5	SS	82		276								0					
	wet below 4.6m						: : : 275													
	not policin		6	SS	46											0				
73.6 6.1	SILT: some clay, trace sand, silty						274	<u>-</u>												
	clay pockets, trace gravel, brown, wet, dense		7	SS	40		 W. L. : Sep 08									0				
	some sand to sandy@7.6m						: : : 272													
71.5		Ш	8	SS	48											0				
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																			
	Date: Water Level(mbgl):																			
	Sept. 08, 2022 6.53																			
		1	i	1		1	1	ı	1	1			1	1	1	1	1	I	1	







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

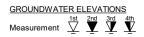
DRILLING DATA

Method: Hollow Stem Auger

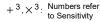
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-31-2022 ENCL NO.: 7

	SOIL PROFILE		S	AMPL	ES			DYNA RESIS	MIC CC STANCE	NE PE PLOT	NETR/	ATION		DI ACTI	, NATI	URAL	LIOUID		П	REI	MARK
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	Э. Е	BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O U	20 4 AR STI NCONF	0 6 RENG	0 8 TH (kF +	Pa) FIELD V. & Sensiti	ANE vity	PLASTIC LIMIT W <sub>P</sub> 	MOIS CON V	w >	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRA DISTR	AND NN SIZ
278.0			D <sub>N</sub>	TYPE	ŗ	GR CS	ELE			0 6		30 1		1	0 2	20	30			GR S	A SI
279:6		<u>111</u>	1	SS	9			Ē						0	0						
0.4 277.2	WEATHERED/DISTURBED  NATIVE: sandy silt, trace clay,	.  .																			
0.8	trace gravel, trace rootlets, brown, noist, loose SILTY SAND TO SANDY SILT:		2	SS	10		277							0							
	trace clay, brown, moist, compact to dense		3	SS	25		276							0							
			4	SS	38									0							
							275														
			5	SS	45		074							0							
							274														
	wet below 4.6m		6	SS	33		273	_							(	•					
			7	SS	23		272									0					
							271														
			8	SS	19		270									0				0 5	1 46
							260														
			9	SS	18		269									0					
							268														
			10	SS	26		267									0					
							266	_													
265.2	greyish brown below 12.2m		11	SS	31										(						
12.8	END OF BOREHOLE: Notes:																				
	Water at depth of 4.6m during drilling.																				









CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

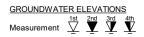
DRILLING DATA

Method: Hollow Stem Auger

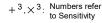
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-30-2022 ENCL NO.: 8

	SOIL PROFILE		s	AMPL	ES	_ س		DYNA RESIS	MIC CO STANCE	ONE PE	NETR/	ATION		PI ASTI	C NAT	URAL	LIOLID		5	RI	EMAF	RKS
(m)		=				GROUND WATER CONDITIONS		2	20 4	ιο 6	30 0	30 1	00	LIMIT	IC NATI MOIS CON	TURE	LIQUID LIMIT	PEN.	NATURAL UNIT WT (kN/m³)		ANE AIN	
LEV	DECORIDATION	STRATA PLOT	~		BLOWS 0.3 m	N O	ELEVATION	SHE	AR STI	RENG	TH (kl	Pa)		W <sub>P</sub>	\ \	N 0	W <sub>L</sub>	POCKET PE (Cu) (kPa)	SAL L	DIS	RIBU	
PTH	DESCRIPTION	ΔTA	NUMBER	111	0.0		¥	0 U	NCONF	INED	+	& Sensit	tivity	١٨/٨٠	TER CO	NITEN	IT (%)	Š.	P.		(%)	
70.0		TR	NO.	TYPE	ż	SRC	Ë	• Q	UICK II	KIAXIA	L X	LAB V	ANE 00				30		Ž	GR :	24 (	21
79.8 7 <b>9</b> . <b>9</b>	TOPSOIL: 300mm	31 1/2.	H							ĺ ·			Ť			Ĺ	Ť			GIV.	JA (	J1
0.3	WEATHERED/DISTURBED	77	1	SS	7			-							0							
79.0	NATIVE: silty clay, trace sand,	XX	1			1	279															
8.0	trace rootlets, trace gravel, brown, /		2	SS	10		219								c							
78.3	SANDY SILT: some clay, brown,							Ė														
1.5	moist, compact		3	SS	24		278	Ē								0						
	SILT: some sand to sandy, trace		Ŭ		- '		210															
	clay, trace gravel, brown, very moist, compact to dense					ł		-														
	occasional silty clay pockets, wet		4	SS	31		077	-								0						
	below 2.3m						277	E														
	silty clay layer@3.1m		5	SS	31			-							,	•				0	0 7	<b>'</b> 5
						-	076	Ė														
							276											1				
								E														
	grey below 4.6m					-																
	g ,		6	SS	39		275	E								0		1				
						1		Ē														
							074	Ė														
							274	E										1				
			7	SS	26			-								0						
			·					-														
							273															
								Ē														
								E														
			8	SS	43		272	E								0		1				
								Ė														
							l															
							271											1				
			9	SS	31			-								0						
			Ŭ		01			Ē														
							270											1				
								Ė														
								Ē														
			10	SS	32		269	-								0						
								_														
								Ė														
							268	-										1				
						1		E														
67.0			11	SS	30											0						
12.8	END OF BOREHOLE:	ш																				
	Notes:																					
	<ol> <li>Water at depth of 2.3m during drilling.</li> </ol>																					
	drilling.																					
														1				1				
														1				1				
														1				1				
							1	l														









CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

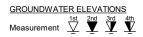
DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-01-2022 ENCL NO.: 9

	SOIL PROFILE		S	AMPL	ES			DYNA RESIS	MIC CO STANCE	ONE PE E PLOT	NETR/	ATION		ы леті	IC NAT	URAL	LIQUID		Л	REMARK
(m)		LOT			WS m	WATER	Z	2	20 4		80 0	30 1	00	LIMIT W <sub>P</sub>	CON	TURE TENT W	LIQUID LIMIT W <sub>L</sub>	ET PEN. (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SI
EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" <u>BLOWS</u> 0.3 m	GROUND WATER CONDITIONS	ELEVATION	0 U • Q	NCONF UICK T	INED RIAXIA	+ L ×	& Sensit	ANE	1	TER CO		` '	POCKET PE (Cu) (kPa)	NATURA (kh	DISTRIBUT (%)
277.0 27 <b>8.9</b> 0.2	TOPSOIL: 200mm	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	⊢ SS	11	00	Ш	-	20 4	0 6	80 8	30 1	00	<u>'</u>	0 2	20 :	30			GR SA SI
276.2 0.8	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	17		276								0					
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	26		275								0					
2.3	SILT: some sand to sandy, trace clay, trace gravel, brown, moist,		4	SS	65										0					
	dense to very dense		5	SS	60		274								0			-		
							273											_		
	grey, wet below 4.6m		6	SS	51		272									•				
							271													
			7	SS	38		270									o				
							270													
			8	SS	34		269									0		-		
9.1	SILTY SAND TO SANDY SILT:		9	SS	24		268									0				
	trace clay, grey to brown, wet, compact to dense						267													
	brown, clayey silt pocket@10.7m		10	SS	48		266									0				
264.2			11	SS	44		265									0				
12.8	END OF BOREHOLE: Notes: 1) Water at depth of 4.6m during drilling.																			



GRAPH NOTES

 $+3, \times 3$ : Numbers refer to Sensitivity

O <sup>8=3%</sup> Strain at Failure



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-02-2022 ENCL NO.: 10

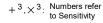
BH LOCATION: See Drawing 1	N 4857907.13 E 597643.95
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(m) ELEV DESCRIPTION  DESCRIPTI	BH LC	DCATION: See Drawing 1 N 4857907.1	3 E 5	5976	43.95		,		In a													
278-2		SOIL PROFILE			SAMPL	ES	] <sub>~</sub>		RESIS	MIC CC STANCE	NE PE	NETR/	ATION		PLASTI	C NATU	JRAL	LIQUID		۲.	REMA	RKS
279.9   TOPSOIL: 250mm   5	(m)		10			(0)	ATEI							00	LIMIT	CON	TURE TENT		PEN.	NIT V	ANI	
279.9   TOPSOIL: 250mm   5	ELEV	DESCRIPTION	\ PL(	~		3 m	M OF	NOF				TH (kF	Pa)	ANF				W <sub>L</sub>	SKET (KFT	RAL ( kN/m	DISTRIB	
279.9   TOPSOIL: 250mm   5	DEPTH	DESCRIPTION	₩	/BE	Щ		N DC TI	Y-A-I				+ · ×	& Sensiti	ivity	WA	TER CC	NTEN	T (%)	ğ0	MATU)	(%)	)
278	278.2			Ž	F	ş	GR	H												_	GR SA	SI CL
FILE: clayer slit to sary trace gravel, trace crootlets, organic staining, dark brown to brown, moist, tim to stiff (possible weathered/disturbed native)	270.9	TOPSOIL: 250mm	7/1/2	1	SS	7		278								0						
1	5 0.3	sand to sandy, trace gravel, trace	$\otimes$	}—			-		Ė.							0						
(possible weathered/disturbed native)  275.9  275.9  SILT: some sand to sandy, trace clay, brown, moist, dense to very dense  5 SS 53  274  wet below 4.6m  6 SS 53  273  274  wet below 4.6m  6 SS 53  273  274  272  271  271  271  271  28 SSILT: some sand to sandy, trace clay, brown, moist, dense to very dense  5 SS 53  275  0 0  274  275  276  277  277  277  277  277  279  28 SS 53  270  270  270  271  271  271  271  271	1	rootlets, organic staining, dark	$\bowtie$	2	SS	11	1	277								٥						
275.9   276   27		(possible weathered/disturbed	$\bowtie$			ļ		211	-													
275   276   276   276   276   275	Ē,	native)	$\otimes$	3	SS	9			Ē							0						
274   275	275.9		$\boxtimes$	$\vdash$			1	276	<u> </u>				-									
272.1   wet below 4.6m   6   SS   53   273   274	2.3	SILT: some sand to sandy, trace		4	SS	31			Ē							0						
	3						}		Ē													
wet below 4.6m  6 SS 53  273  273  273  273  274  275  276  277  271  271  271  271  271  271	ŧ l			5	SS	53		2/5	E							0						
wet below 4.6m  6 SS 53  273  273  273  273  274  275  276  277  271  271  271  271  271  271	Ē.						1		Ē													
SANDY SILT TO SILTY SAND: trace clay, brown, wet, dense   State   St	=							274	<u> </u>						-							
SANDY SILT TO SILTY SAND: trace clay, brown, wet, dense   State   St	<u> </u>	wat halaw 4.6m		<u> </u>			4		Ē													
272_1	5	wel delow 4.om		6	SS	53			Ė							0						
6.1 SANDY SILTY SAND: trace clay, brown, wet, dense							1	273	Ē													
6.1 SANDY SILTY SAND: trace clay, brown, wet, dense	Ē.								Ē													
trace clay, brown, wet, dense	- 272.1 6 1	SANDY SILT TO SILTY SAND:					-	272	<u> </u>													
271 8 SS 38 270 271 1 S SS 38 270 1 S SS 38 270 1 S SS 38 269 1 O SS 43	F "			7	SS	42			Ē								>					
270 269 269 269 209 209 209 209 209 209 209 20	7			·			1		ŧ													
270 269 209 209 209 209 209 209 209 20				1				271	F													
270				$\vdash$	00	00	1		F													
269 10 SS 38 10 SS 43	<u>-8</u>			: <u> </u>	55	38		270	Ē							°						
SS   38	E			-]					Ē.													
1   9   SS   38	- -9								E													
10.1   END OF BOREHOLE:   Notes:   1) Water at depth of 4.6m during				9	SS	38		269	F							0						
208.1							1		F													
Notes: 1) Water at depth of 4.6m during		END OF BORFHOLE:	[::1:]:	:  ''	- 00	40	_															
1) Water at depth of 4.6m during drilling.	10.1	Notes:																				
		Water at depth of 4.6m during drilling.																				
		3																				



DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21







PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-06-2022 ENCL NO.: 11

	IM: Geodetic		-0-0					Date:	Sep-	06-202	22					ΕN	NCL N	0.: 1	1	
BH LC	OCATION: See Drawing 1 N 4858145.98 SOIL PROFILE	8 E 5	1	19.82 SAMPL	.ES			DYNA	MIC CO	ONE PE E PLOT	NETR	ATION			NAT	LIDAL		Π	l	REMARK
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m	GROUND WATER	ELEVATION	SHE/	AR ST	40 6 RENG	TH (kl	Pa) FIELD V	OO /ANE ivity ANE	W <sub>P</sub>	,	STURE ITENT W O	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND GRAIN SIZ DISTRIBUT (%)
269.9 26 <b>9</b> . <b>0</b>	TOPSOIL: 280mm	7/7/ S	Z		ż	<u>P</u> S	3 =	; 	20 4	40 6	00 8	30 1	00	1	0 2	20 3	30			GR SA SI
0.3 269.1 0.8	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace to some sand, trace gravel,		1	SS	8		269								0	0				
68.4	tkace rootlets, brown, moist, stiff  SILTY CLAY TILL: trace to some sand, trace gravel, brown, moist,		3	SS	15 29	⊻	Sep 0	[ 268.6 8, 202	 m 2						0					
	very stiff  SANDY SILT TILL: trace to some clay, trace gravel, brown, moist,		4	SS	71		268								<b>d</b>					
	compact to very dense		5	SS	61		267	· <u></u>							0					1 24 64
							266	j 												. 2. 0.
	grey, wet below 4.6m	φ	6	SS	56		265								•			_		
63.8							.: ∴ 264													
6.1	SANDY SILT TO SILTY SAND: trace clay, trace gravel, grey, wet, compact to dense		7	SS	38		.:. ::: ::: 263								0					
			8	SS	37		262													
					0.															
			9	SS	23		<u>;;.</u> ] 261									0				
59.6			10	SS	31		260	E							0			1		
<u>59.6</u> 10.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 1.27	1111																		



PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-06-2022 ENCL NO.: 12

	SOIL PROFILE		5	SAMPL	ES			DYN/ RESI	AMIC CO STANC	ONE PE E PLOT	NETRA	TION		PLASTIC	NATU MOIST	JRAL	LIQUID		۲	REMARK
(m)		гот			NS m	WATER			1	10 6 RENG			00	LIMIT W <sub>P</sub>	MOIST CONT W	ENT	LIQUID LIMIT W <sub>L</sub>		NATURAL UNIT WT (KN/m³)	AND GRAIN SI
EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER	ELEVATION	0 U	INCONI UICK T		+ - ×	FIELD VA & Sensitiv LAB VA	ANE	WATE	 R CO 20		T (%)	POCK (Cu)	NATURA (kN	DISTRIBUT (%) GR SA SI
272.9 27 <b>2.0</b> 0.3	TOPSOIL: 250mm WEATHERED/DISTURBED	37, XX	1	SS	8			E							0					OR OA OI
72.1 0.8	NATIVE: silty clay, trace sand, trace gravel, trace rootlets, brown, nioist, stiff		2	SS	21		272	<u></u>						О						
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	32		074							c						
70.0	to hard						27													
70.2 2.7	SANDY SILT TILL: clayey, trace gravel, brown, moist, dense to very		4	SS	50/		270							•				-		
	dense		5	SS	50mm	<u> </u>	W. L.	£ 269.3	<u>m</u>					0						
68.3		. o					Sep (	8, 202 <u>E</u> F												
4.6	SANDY SILT TO SILTY SAND: trace clay, trace gravel, brown, wet, compact to very dense		6	SS	54		268	3							•					
							∴ 267	, <u> </u>												
			. 7	SS	44			Ē								0				
							266 													
			. 8	SS	14		26	<u></u>								•				
							::: ::: ::: 264													
			9	SS	37	<u> :</u> ∵.□:	<u> </u>								0					
262.6			. 10	SS	53		263	3							0					
10.3	END OF BOREHOLE: Notes:  1) Monitoring well installed 1 m away from borehole.  2) 50mm dia. monitoring well installed upon completion.  3) Water Level Readings:  Date: Water Level(mbgl): Sept. 08, 2022 3.6																			



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

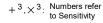
Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-02-2022 ENCL NO.: 13

BHLC	DCATION: See Drawing 1 N 4857721.12	2 E 5						DVALA	MO 00	NE DE	NETD/	TION									
L	SOIL PROFILE		5	AMPL	.ES	~		RESIS	TANCE	NE PE E PLOT	NE TRA	ATION		PLASTI LIMIT	C NATI	URAL	LIQUID		M		MARKS
(m)		5			ωı	GROUND WATER CONDITIONS	_		1	1	1	0 1	00	LIMIT W <sub>P</sub>	CON	TENT V	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)		AND IN SIZE
ELEV	DESCRIPTION	STRATA PLOT	e:		BLOWS 0.3 m	N OF	ELEVATION		NR STI	RENG	TH (kF	Pa) FIELD V & Sensiti	ANE	w <sub>P</sub>		·		OCKET Cu) (k	JRAL (KN/m	DISTR	RIBUTION
DEPTH		RAT,	NUMBER	TYPE		9 2	EVA				L X	& Sensiti	ivity ANE	WA	TER CO	ONTEN	Γ(%)	89	NATL		(%)
277.7		ı		ΤY	ŗ	R 00	ELI	2	0 4	0 6	8 0	80 1	00	1	0 2	20 3	0			GR SA	A SI CI
27 <b>9</b> : <b>4</b>	TOPSOIL: 300mm WEATHERED/DISTURBED	<u>111</u>	1	SS	10			-							0						
ļ	NATIVE: sandy silt to silt, trace						277														
276.7	clay, trace gravel, trace rootlets, dark brown to brown, moist,	HH	2	SS	18										0						
-	opmpact /																				
-2	SILT: some sand to sandy, trace clay, trace gravel, brown, moist,		3	SS	33		276	-							0						
	compact to very dense							-													
	clayey@2.3m		4	SS	59		275								0						
<u>-3</u>							2,0														
-	wet below 3.1m		5	SS	75											0					
F <sub>4</sub>						1	274	-													
							273														
5			6	SS	66		273									0					
						1															
E							272	-													
			7		40	1															
F			7	SS	40		271									0					
7							211														
270.1								_													
7.6	SANDY SILT TO SILTY SAND:		8	SS	38	1	270	-								0					
Ě	trace clay, brown, wet, compact to dense		Ľ		-																
			ł				269														
-9			<u></u>				209														
			9	SS	33											0					
Ę			├				268														
<u>10</u> -		Hif	1					_													
<b>F</b>							267														
11	grey below 10.7m		10	SS	45		267									o					
<u>.</u>			╁			-															
			1				266	-													
			╙																		
264.9			11	SS	14		265					L				0					
12.8	END OF BOREHOLE:						705														
	Notes: 1) Water at depth of 3.1m during																				
	drilling.																				
-						GRAPH	3	3 1	l			2-3%		Ь					ш		

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21





PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

BH LO	CATION: See Drawing 1 N 4857674.46	E 597	764	3.49		_			Invari	MICC	ONE 55	NIC T	DATIC:					_			
(m) ELEV DEPTH	SOIL PROFILE  DESCRIPTION	STRATA PLOT	NUMBER	AMPL 3d 1	"N" BLOWS 0.3 m	GROUND WATER	CONDITIONS	ELEVATION	SHE	STANC 20 AR ST NCON	RENG FINED	50 TH (F + L ×	80 (Pa) FIELD & Ser LAB	100 L D VANE	TER CO		LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GR. S	MARK AND AIN SIZ RIBUTI (%)
27 <b>9.9</b> 0.3		1 1%:	1	SS	9			276					+		0						
275.2 0.9	trace rootlets, trace sand, trace gravel, brown, moist, stiff  SILT: trace sand, trace clay, trace		2	SS	15	ı		275	<u> </u>				-		-						
	gravel, brown, moist, compact to very dense		3	SS	19			274	Ē						C						
			4	SS	70										0						
			5	SS	72	ı	ı	273	 												
						ı		272	<u>-</u>				+								
	wet below 4.6m		6	SS	52			271					-			•		=		0 ;	3 93
						$ar{2}$	7														
			7	SS	34		\	W.L. Sep 0	270.1 8, 202	m 2 						0					
268.5							ı	269	<u> </u>												
7.6	SANDY SILT: trace clay, brown, wet, compact to dense		8	SS	35	ı		268	<u> </u>				+			0					
١								267	, <u> </u>												
	grey below 9.1m		9	SS	21		ત્ર"⊶ા									0				0 3	1 64
								266													
			10	SS	46			265	<u> </u>							0					
2	ŀ							264	-				_								
263.3 12.8	END OF BOREHOLE:	.]]] 1	11	SS	37				_							0		_			
	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																				
	Date: Water Level(mbgl): Sept. 08, 2022 6.03																				
263.3 12.8																					



CLIENT: Caledon Community Partners
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Sep-01-2022 ENCL NO.: 15

	SOIL PROFILE		S	AMPL	ES			D F	OYNAI RESIS	MIC CC TANCE	NE PE	NETR	ATION -		DI ASTI	IC NAT	URAL	LIQUID		WT		MAR	KS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	ТҮРЕ	l" BLOWS 0.3 m	GROUND WATER	ELEVATION	S	0 UN ● QI	R STI NCONF JICK TI	RENG INED RIAXIA	TH (k + L ×	Pa) FIELD \ & Sensi LAB V	'ANE	W <sub>P</sub> WA	TER C	ITENT W O ONTEN	LIMIT  W  T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT (KN/m³)		(%)	SIZE
271.4 279.9		1 1/2.			.z.	0 0	<u></u>	+	2	0 4	0 ε	50	80 1	100	1	0 :	<u> </u>	30			GR S	SA S	d
0.3	WEATHERED/DISTURBED NATIVE: clayey silt, trace rootlets,		1	SS	7		2	71								0	0						
1.0	_ trace sand, trace gravel, brown,		2	SS	9			ŧ								0							
	SILTY CLAY TO CLAYEY SILT TILL: some sand to sandy, trace gravel, brown, moist, stiff to hard		3	SS	34		2	70							0	•							
	sandy below 2.3m		4	SS	42		20	69											-				
			5	SS	48		20	68E															
	grey below 3.4m		J		40		20		,														
				00			26	67							<u> </u>								
			6	SS	22		20	66								,							
								Ē															
			7	SS	26		26	65								1					4 3	31 4	5
						-	26	64															
			8	SS	28		20	63							c								
							· · · · ·																
			9	SS	19		20	62								0							
							20	61															
			10	SS	16			Ē								0							
								60	-0-														
258.6	moist to very moist @12.2m		11	SS	12		Sep	L. 25 08, E	59.5 r 2022	m 2						0							
12.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 11.9	иц																					



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

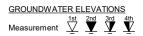
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-29-2022 ENCL NO.: 16

	SOIL PROFILE		s	AMPL	ES	<u>_</u>		DYNA RESI	MIC CO STANCE	NE PE E PLOT	NETRA	ATION		PLASTI	C NAT	URAL	LIQUID		Τ	REMAR	≀KS
(m) ELEV EPTH 270.2	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER	ELEVATION	SHE.	AR ST NCONF UICK T	RENGT RENGT INED RIAXIAL	TH (kF + ×	Pa) FIELD V & Sensiti LAB V	ANE vity ANE O0	W <sub>P</sub> ⊢ WA	CON V TER CO	TENT W O ONTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN S DISTRIBU (%) GR SA S	SIZI
26 <b>9</b> : <b>9</b>	TOPSOIL: 300mm WEATHERED/DISTURBED	171	1	SS	10		27	0							0	0				<u> </u>	
	NATIVE: clayey silt to silty clay, trace rootlets, trace gravel, trace sand, brown, moist, stiff to firm		2	SS	6		26	-							0						
1.5	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	25	<u> </u>		. 268.3	m						o						
	som, moot, vay our to hard		4	SS	38		Sep	08, 202 E E	2						0						
			5	SS	24		26	7							0						
	grey below 4.6m		6	SS	22		26	6							0						
								5													
		* * * * * * * * * * * * * * * * * * *	7	SS	21		26	4							0						
262.6	OANDY OUT THE						26	3													
	SANDY SILT TILL: trace to some clay, trace gravel, grey, moist, very		8	SS	57			F							0						
	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 1.93																				









PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

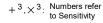
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-29-2022 ENCL NO.: 17

	SOIL PROFILE		S	AMPL	ES			DYNA RESIS	MIC CC STANCE	NE PE E PLOT	NETRA	ATION		DI ACTI	_ NATI	URAL	LIOLID		E	REMARKS
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS		SHEA O U	20 4 AR STI NCONF UICK T	0 6 RENG INED RIAXIA	TH (kf + L ×	Pa) FIELD V & Sensiti	ANE wity ANE O0		TER CO	w DNTEN	LIQUID LIMIT WL T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZE DISTRIBUTIO (%) GR SA SI
268.8 26 <b>9</b> . <b>0</b>	TOPSOIL: 250mm	1/1/2											Ť							GIC SA SI
0.3 268.0 1 0.8	WEATHERD/DISTURBED NATIVE: clayey silt, some sand, trace gravel, brown, moist, stiff SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel,		2	SS	17		268								0			-		
2	brown, moist, very stiff to hard		3	SS	20		267													
3			4	SS	36		266								0					
<u>4</u>	grey below 3.5m		5	SS	27		265								0			-		
5			6	SS	27		264								0					
6		**************************************					263											-		
<u>-</u>			7	SS	21		262								0					
- - - 260.6	silty sand pockets @ 7.6m		8	SS	25		261								0					
8.2	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.																			







PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

BH LO	M: Geodetic CATION: See Drawing 1 N 4858813.11	I E 59	9781	7.61					_	29-2022							NCL N			
	SOIL PROFILE		S	AMPL	ES	æ		DYN/ RESI	AMIC CC STANCE	NE PEI	NETR/	ATION		PLASTI	C NAT	URAL	LIQUID		WT	REMARKS
(m) ELEV EPTH 269.0	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE O L	20 4 AR STI INCONF QUICK TI 20 4	RENGT INED RIAXIAL	H (kl	FIÉLD VA & Sensitiv	ANE rity ANE	- W <sub>P</sub> 	CON V TER CO	TENT W O ONTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT V (kN/m³)	AND GRAIN SIZ DISTRIBUTIO (%) GR SA SI
269:9		<u>x\ 1/.</u>	1	SS	8															0.1 0.1 0.
0.3	WEATHERED/DISTURBED NATIVE: sandy silt, trace to some				0			-							0					
0.8	clay, trace rootlets, trace gravel, brown, moist, loose		2	SS	23		268								0					
	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	27		267								0					
			4	SS	33	$\underline{\vee}$	W. L. 2 Sep 08								0					
			5	SS	31		266								0					
							265													
			6	SS	26															
	grey below 4.9m				20		264													
	possible boulder@6.1m		7	SS	50/		263	_							О					
					₹5mm		262													
							202													
260.8			8	SS	24		261								0					
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																			
	Date: Water Level(mbgl): Sept. 08, 2022 2.26																			
	. ,																			



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

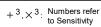
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-29-2022 ENCL NO.: 19

	M: Geodetic							Date	Aug-	29-202	22					Е	NCL N	O.: 1	9	
BH LO	CATION: See Drawing 1 N 4858460.9 SOIL PROFILE	5 E 5		28.58 SAMPL	.ES			DYNA	MIC C	ONE PE E PLOT	NETR	ATION		I						DELLARIA
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE.	AR ST NCON	40 6 RENG FINED TRIAXIA	50 8 TH (kl	Pa) FIELD V & Sensit	ANE ivity		TER C	w O ONTEN	LIQUID LIMIT W <sub>L</sub> 	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARK AND GRAIN SIZ DISTRIBUT (%)
26 <b>9</b> . <b>Ø</b>	TOPSOIL: 250mm WEATHERED/DISTURBED		1	SS	3											0				OIT OA OI
0.8	NATIVE: clayey silt, some sand, trace rootlets, trace gravel, brown, / noist, soft		2	SS	21		269								0			-		
	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	21		268								0					
			4	SS	34										0					
			5	SS	31		267								0					
							266													
	grey below 4.6m		6	SS	18		265											-		
33.9							264													
6.1	CLAYEY SILT: trace sand, grey, moist, very stiff		7	SS	29										•					
52.4							263													
7.6 61.8	SAND AND SILT TILL: some clay, some gravel, grey, moist, dense		8	SS	31		262							-				-		11 38 4
	Notes:  1) Borehole wet at the bottom upon completion.																			







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

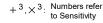
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-30-2022 ENCL NO.: 20

	SOIL PROFILE		s	AMPL	ES	_		RESIS	MIC CC STANCE	NE PEI	NETR/	ATION		ы леті	_ NAT	URAL	רוטווים		۲	REMARK
(m)		F				GROUND WATER CONDITIONS		٠,	20 /	0 60	1 8	0 1	00	LIMIT	C NAT MOIS CON	TURE ITENT	LIQUID LIMIT W <sub>L</sub> ——I	Ë.	NATURAL UNIT WT (kN/m³)	AND
		STRATA PLOT			BLOWS 0.3 m	SNC	N O	SHE	AR STI	RENGT	TH (kF	 Ра)	-	W <sub>P</sub>		w	W <sub>L</sub>	KP.	AL UI	GRAIN SI DISTRIBUT
LEV EPTH	DESCRIPTION	Į.	NUMBER		0.3	\  \  \  \  \  \  \  \  \  \  \  \  \	ELEVATION	οÜ	NCONF	INED	+	FIÉLD V. & Sensiti	ANE vity	l				00 00 00 00 00 00 00 00 00 00 00 00 00	J. J. S.	(%)
		₹	JME	TYPE		NO.	EV.	• Q	UICK II	RIAXIAL	. ^	LAD V	AINE		TER CO					
69.0	T070011 000		Ž	Ĺ	þ	ဖပ	Ш		20 4	0 60	) 8	0 10	00	1	0 2	20	30			GR SA SI
26 <b>9</b> . <b>Ø</b>	TOPSOIL: 280mm WEATHERED/DISTURBED		1	SS	6											0				
68.2	NATIVE: clayey silt, trace sand,																			
0.8	trace rootlets, trace gravel, brown,		_	SS	9		268											-		
	noist, firm SILTY CLAY TO CLAYEY SILT		2	9	9										0					
	TILL: trace sand, trace gravel,							Ē												
	brown, moist, stiff to hard		3	SS	23		267								0			-		
	trace fine rootlets above 0.9m																			
		19.1	4	SS	31			Ē							0					
							266													
			5	SS	32										0					
				- 00	52			Ē												
							265											-		
		195																		
	sandy, grey below 4.6m		-					Ē												
			6	SS	24		264	-						_ c				ł		
								Ē												
							263	_										-		
			7	SS	24									,	•					
		191						E												
							262	-									1	1		
								E												
								Ė										1		
60.8			8	SS	20		261								0			L		
8.2	END OF BOREHOLE:																			
	Notes: 1) Water at depth of 7.3 during																	1		
	drilling.																	1		
																		1		
																		1		
																		1		
																		1		
																		1		
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									1											









PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Aug-29-2022 ENCL NO.: 21

BH LOCATION: See Drawing 1 N 4858613.57 E 597956.89 DYNAMIC CONE PENETRATION RESISTANCE PLOT SAMPLES SOIL PROFILE PLASTIC NATURAL MOISTURE REMARKS ËR

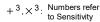
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATE	ELEVATION	SHEA O UI	NCONF	RENG	TH (kF + - ×	L Pa) FIELD \ & Sensif LAB V	OO ANE ivity ANE OO	1	CON V TER CO	LIMIT  W <sub>L</sub> T (%)	POCKET PEN (Cu) (kPa)	NATUR (k	AND GRAIN S DISTRIBL (%)	SIZE JTION
269.2	TOPSOIL: 250mm			SS				-												
0.3	WEATHERED/DISTURBED		1	55	7		269	-							0					
268.6 1 0.8	brown, moist, firm		2	SS	24		268													
2	SILTY CLAY TO CLAYEY SILT TILL: trace sand, gravelly sand pocket@1.0m, brown, moist, very stiff to hard		3	ss	30		200								0					
	Sun to hard		4	ss	45	abla	267 W. L. 2 Sep 08	9.66 <u>2</u>							0					
			5	ss	39		266	Ė							•					
-							· . 265													
- - - -	grey below 4.6m		6	SS	19										0					
6							264													
-			7	SS	21		263								-					
<u>-</u>							262													
- - 261.2			8	SS	18		:	Ē							•					
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):					*1 1														

Sept. 08, 2022 2.51



DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GRAPH NOTES





CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

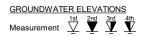
DRILLING DATA

Method: Hollow Stem Auger

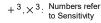
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-26-2022 ENCL NO.: 22

	SOIL PROFILE		S	AMPL	ES	ι <u>κ</u>		DYNA RESIS	MIC CC STANCE	NE PE PLOT	NETRA	ATION		PLASTI LIMIT	C NATI	URAL	LIQUID LIMIT		WT		MARI	KS
(m) LEV EPTH	DESCRIPTION	STRATA PLOT	ER		BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION		20 4 AR STI NCONF				00 ANE	LIMIT W <sub>P</sub> ⊢—	CON	TENT W	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GR.	AND AIN SI RIBUT	
67.4		STRAI	NUMBER	TYPE	al F	SROU	∃LEV#	● Q	UICK T	RIAXIA	L X	LAB V	ANE 00		TER CO		IT (%) 30	ă -	NAT	GR S	(%) :A SI	ı
69.9 0.3	TOPSOIL: 250mm WEATHERED/DISTURBED	<u> </u>		SS	6		267								0					0		_
66.6	NATIVE: sandy silt, trace rootlets,  trace clay, trace gravel, brown,						201	Ė						0								
8.0	moist, loose  SILTY CLAY TILL: some sand,	18 × × × × × × × × × × × × × × × × × × ×	2	SS	20		266								0							
	trace gravel, brown, moist, very stiff to hard		3	SS	18										0							
		121	4	SS	30		265								0							
			5	SS	33		264								•					1 1	7 47	7
					33		204													,	, 4,	
							263															
	grey below 4.6m		6	SS	16										0							
							262															
			7	SS	16		261															
				00	40		260								_							
8.2 8.2	END OF BOREHOLE:	1/2/	8	SS	19										٥							_
	Notes:  1) Borehole wet at the bottom upon completion.																					
																		1				









PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

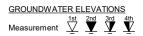
DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-26-2022 ENCL NO.: 23

SOURTHONE   Source		SOIL PROFILE		S	SAMPL	ES				DYNA RESIS	MIC CC TANCE	NE PEI E PLOT	NETR/	ATION		PLASTI	C NAT	URAL	LIQUID		ΛΤ	REMAI	RKS
269.6   TOPSOIL: 250mm	ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	rype	N" BLOWS 0.3 m	SROUND WATER	SONDIFICINO	ELEVATION	SHEA O UI	AR STI NCONF UICK T	RENGT RENGT INED RIAXIAL	ΓΗ (kF + . ×	Pa) FIELD V & Sensiti LAB V	ANE ivity	LIMIT W <sub>P</sub> ⊢— WA	CON YER CO	TENT W DOMTEN	LIMIT  W  IT (%)	POCKET PEN. (Cu) (kPa)	-	ANI GRAIN DISTRIBI (%)	SIZI UTIC )
1	260.9	WEATHERED/DISTURBED	1/ 1/r.	H					Ш													GR SA	OI .
CLAYEY SILT TO SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard  4 SS 33  265  grey below 4.6m  6 SS 15  262  7 SS 22  7 SS 22  8 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand accepted by the clayer of the clay		trace rootlets, some sand, trace		2	SS	16			267								0						
grey below 4.6m  grey below 4.6m  6 SS 15 263  7 SS 22 261  260  280.2  3 SANDY SILT TILL: some clay to clayey, trace gravel, sity sand clayey, trace gravel, sity sand some clayes, trace gravel, sity sand some clayes gravely dense. Notes:  1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level (mbgl):		CLAYEY SILT TO SILTY CLAY TILL: trace sand, trace gravel,		3	SS	26	¥										0						
grey below 4.6m    5		brown, moist, very sun to hard	* * * * * * * * * * * * * * * * * * *		SS	33			·								٥						
grey below 4.6m  6 SS 15  262  7 SS 22  7 SS 22  261  8 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand pockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):									265														
60.2 7 SS 22 261 8 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand sockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):				5	SS	39			264								0						
60.2 7 SS 22 261 8 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand sockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):		arev helow 4.6m							262														
7 SS 22 261  7 SS 22 261  7 SS 22 261  8 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand pockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl):  Date: Water Level(mbgl):		grey below 4.0111		6	SS	15			203								0						
60.2  7.6 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand pockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl):							l∷⊟		262											-			
60.2  7.6 SANDY SILT TILL: some clay to clayey, trace gravel, silty sand 8.2  8.2  SS 68  SS 68  O  O  O  Dockets, grey, moist, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl):  Date: Water Level(mbgl):				7	SS	22	J∷⊨		261								0						
clayey, trace gravel, silty sand  clayey	260.2																						
8.2 Rockets, grey, most, very derise  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):		clayey, trace gravel, silty sand		8	SS	68			260							0							
		Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl):																					









PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

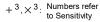
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-26-2022 ENCL NO.: 24

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	SOIL PROFILE		s	AMPL	ES	<u></u>		DYNA RESIS	MIC CO STANCE	NE PE PLOT	NETR/	ATION		PLASTI	C NATI	URAL	LIQUID		ΛT	REMARKS
(m) ELEV DEPTH 270.6	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UI	AR STI NCONF UICK T	0 6 RENG INED RIAXIAI 0 6	TH (kl	Pa) FIELD \ & Sensi LAB V	/ANE tivity /ANE 100		TER CO	w DNTEN	W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZE DISTRIBUTIO (%) GR SA SI (
27 <b>0</b> . <b>9</b>	TOPSOIL: 250mm WEATHERED/DISTURBED	*** ***	1	SS	5			-							0					
269.8 1 0.8	NATIVE: silty clay, trace rootlets, trace sand, trace gravel, brown, noist, firm		2	SS	23		270								0					
2	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	24		269								0					
-			4	SS	29		268								-					
<u>3</u>			5	SS	30		007								0					
4							267													
<u>i</u>	grey below 4.6m		6	SS	21		266								o					
							265											-		
6.1	SANDY SILT TILL: clayey, trace gravel, grey, moist, compact to very		7	SS	27		264							0						
2	dense						204													
262.5	END OF BOREHOLE:	-  -  -  -	8	SS ,	50/ 100mn	   	263							0						
	Notes: 1) Borehole wet at the bottom upon completion.																			







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

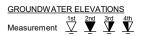
DRILLING DATA

Method: Hollow Stem Auger

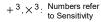
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-25-2022 ENCL NO.: 25

	CATION: See Drawing 1 N 4857889.8 SOIL PROFILE			SAMPL	ES			DYNA	MIC CC	NE PE PLOT	NETR/	ATION			AIA T	IIDAI			l	DEMARK
	· -	Τ.				GROUND WATER CONDITIONS							00	PLASTI LIMIT	C MOIS	UKAL TURE	LIQUID LIMIT W <sub>L</sub> T (%)	z:	T WT	REMARI AND
(m)		STRATA PLOT			ا د	NS NS	z					30 1	<u> </u>	W <sub>P</sub>		N N	W <sub>L</sub>	KPa)	υ N N N	GRAIN SI
LEV PTH	DESCRIPTION	ΑP	监		BLOWS 0.3 m		OF.		NCONF	RENG	IH (KI +	FIELD V & Sensiti	ANE	-		·	—	SQ.	절활	DISTRIBUT
		₽¥.	NUMBER	TYPE			ELEVATION			RIAXIAL	. ×	& Sensiti	vity ANE	WA	TER CO	ONTEN	T (%)	<u> </u>	¥	(%)
73.1		ST	₽	Σ	ż	9.00 8.00 9.00 9.00 9.00 9.00 9.00 9.00			0 4				00	1	0 2	20 3	30	L		GR SA SI
7 <u>0.0</u> 7 <u>0.7</u> 70.4	TOPSOIL: 200mm	13/2	1	SS	12		273									0				
0.4	WEATHERED/DISTURBED NATIVE: silty clay, trace sand,	13/	<u> </u>			-									О					
	trace rootlets, brown, moist, stiff /		2	SS	32	1	272								_					
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to				02		212													
	hard		3	SS	36			-							0					
						-	271							-				-		
			4	SS	35	1		Ē							0					
			Ŀ			ļ														
			5	SS	38	1	270	-							0					
			L"	33	36															
							269													
88.5							209													
4.6	SILT: some clay, some sand, trace	HIT	6	SS	30	1		Ē							0					
	gravel, grey, moist, dense		0	33	30		268								U			-		
								Ė												
57.0								Ė												
6.1	CLAYEY SILT TO SILTY CLAY	19.	7	00	20	1	267	F						<u> </u>				1		
	<b>TILL:</b> trace sand, trace gravel, grey, moist, very stiff		7	SS	20			-							0					
	groy, moist, very sum						200	Ė												
							266											1		
				00	17	1		-												
			8	SS	17		265	<u> </u>						ļ	0					
								Ē												
			1					Ē												
	sandy @9.1m					1	264											ł		
		181	9	SS	17	]		Ė							0					
			10	90	16	1		Ē												
32.7			10	SS	16		263								°					
10.4	END OF BOREHOLE: Notes:																			
	1) Borehole wet at the bottom upon																			
	completion.																			
		1																		
				1	I	I	l													
						I						i .	i .							









PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

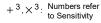
Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-25-2022 ENCL NO.: 26

	SOIL PROFILE			SAMPL	ES.				RESIS	TANC	ONE PEI E PLOT	$\geq$			PLAST	IC NAT	URAL	LIQUID		W	REI	MARK
m)		5			(0)	ATE!	S		2	.0 4	10 60	) {	30 1	00	LIMIT	CON	TURE	LIMIT	PEN.	L TIN (	GP/	AND AIN SIZ
EV PTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	" BLOWS 0.3 m	GROUND WATER	NOILION	ELEVATION	O UI ● Q	NCONF UICK T	RIAXIAL	+ ×	FIÉLD V & Sensit LAB V	ANE	W <sub>P</sub> ⊢ WA	TER C	w O ONTEN	w <sub>L</sub>	POCKET (Cu) (KF	NATURAL UNIT W (kN/m³)	DISTE	RIBUTI (%)
70.9	TOPOGUL 000		ž	7	ż	Ö	ŏ	ш	2	:0 4	10 60	3 (	30 1	00	1	0 2	20 3	30			GR S	A SI
7 <b>0</b> : <b>0</b> 0.3 70.1	TOPSOIL: 300mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay,		1	SS	10											o	o					
8.0	trace rootlets, trace sand, trace gravel, brown, moist, stiff  SILTY CLAY TILL: some sand,		2	SS	28			270								0						
	trace gravel, brown, moist, very stiff to hard		3	SS	29			269								∘⊩		-			1 1	4 49
			4	SS	31			268								0						
			5	SS	30	1	<u>∠</u> :	200 W. L. 2 Sep 08	L 267.8 i	 m <u>2</u>						0						
								267														
	grey below 4.6m		6	SS	18			266								•						
								265														
			7	SS	34			265								•						
								264														
7.6	SILTY SAND: trace clay, silt seams, grey, wet, compact to very		8	SS	57			263								0						
	dense																					
			9	SS	22			262								0					0 7	0 27
								261														
			10	SS	37			260									•					
59.6 11.3	END OF BOREHOLE:	<u>: [] [</u>				╀	4		_													
	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																					
	Date: Water Level(mbgl): Sept. 08, 2022 3.1																					
	• /																					







CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-24-2022 ENCL NO.: 27

BH L	BH LOCATION: See Drawing 1 N 4857983.06 E 598243.39														
SOIL PROFILE				SAMPLES				DYNAMIC CONE PENETRATION RESISTANCE PLOT  PLASTIC NATURAL LIQUID  REMARKS							
(m) ELEV DEPTH	DESCRIPTION	ATA PLOT	/BER	П	BLOWS 0.3 m	DUND WATER	VATION	20 40 60 80 100  SHEAR STRENGTH (kPa)  O UNCONFINED + FIELD VANE O UNCONFINED + & Sensitivity  WATER CONTENT (%)  WATER CONTENT (%)							

	SOIL PROFILE		١ ٠	SAMPL	.ES	L		RESIS	TANCE	PLOT	$\geq$			PLASTI	NAT	URAL	LIQUIE		₽	REMARKS
(m)		=				GROUND WATER CONDITIONS						1	00	LIMIT		URAL TURE TENT	LIMI	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT	AND
1 ' ' 1		STRATA PLOT	١		BLOWS 0.3 m	N N	N O	SHE	R STI	RENG	TH (ki	¬а)		W <sub>P</sub>		v >	W <sub>L</sub>	Ē,Š	A P N	GRAIN SIZE DISTRIBUTION
ELEV DEPTH	DESCRIPTION	₹	NUMBER		0.3	\( \)	ELEVATION	0 U	NCONF	INED	÷	FIÉLD V & Sensit	'ANE ivitv	l		-		80	통	(%)
		I≱	Įξ	TYPE	ш	[장칭	Ä	• Q	UICK T	RIAXIA	L ×	LAB V	ANE		ER CC			1	≨	
269.0			ž	F	ż	ਹ ਹ	Ш	2	0 4	0 6	80 8	30 1	00	1	0 2	20	30			GR SA SI CL
26 <b>9.9</b> 0.2	TOPSOIL: 200mm	317.	1	SS	9			Ė								0				
268.2	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,		<u>L</u>		L.			F							0					
1 0.8	trace rootlets, trace sand, brown, /		1—			ł		Ē												
F 0.0	noist, stiff		2	SS	28		268								0					
E	SILTY CLAY TO CLAYEY SILT		⊫					E												
E.	TILL: trace sand, trace gravel, brown, moist, stiff to hard		3	SS	22			E							0					
<u> </u>	brown, moist, sun to nard	1/1	1—			1	267											1		
E			<del>.</del>			1		Ė												
			4	SS	39			Ē							0					
<u>-3</u>			$\equiv$			]	266	E										1		
E l		14	5	SS	34			E							0					
			1—			ł		Ė												
-4			1				265	-										+		
		183	1					Ē												
F	grey below 4.6m		Ή			1		Ē												
<u>-5</u>	g. ey 20.011		6	SS	14		264	<u> </u>							0			-		
			$\vdash$			1		Ė												
			1					Ē												
<u>-6</u>		189	1				263											4		
	silty sand pockets below 6.1m		7	SS	31			E												
E		liki	<u>Ľ</u>	33	31			Ē						۱ `	,					
7			1				262	Ε												
			1				-0-	Ē												
E		18				-		Ē												
-8			8	SS	53		261	<u> </u>							0			1		
		ligi	┢			-	201	Ė												
-			1					Ė												
259.9			1				260	E												
259.6	SILT: trace to some sand, trace		9	SS	50/	1	200	Ė							0					
9.4	clay, grey, moist to wet, very dense	Т.			130mr	h														
	END OF BOREHOLE: Notes:																			
	Borehole wet at the bottom upon																			
	completion.																			
																			1	1
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1		1	l																1	1
			1						1	1	1	1	Ú.	1		1	1	1	1	1

 $\frac{\text{GROUNDWATER ELEVATIONS}}{\text{Measurement}} \stackrel{\text{1st}}{\underbrace{\sum}} \stackrel{\text{2nd}}{\underbrace{\sum}} \stackrel{\text{3rd}}{\underbrace{\sum}} \stackrel{\text{4th}}{\underbrace{\sum}}$ 

GRAPH NOTES

+  $^3$ ,  $\times$   $^3$ : Numbers refer to Sensitivity

O <sup>8=3%</sup> Strain at Failure



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-19-2022 ENCL NO.: 28

DESCRIPTION  TOPSOIL: 230mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay, some sand to sandy, trace rootlets, /	STRATA PLOT	NUMBER		S/s	GROUND WATER					ONE PE E PLOT 10 6		30 1	20	PLASTI LIMIT	✓ MOIS	URAL STURE	LIQUID	z	\	AND
TOPSOIL: 230mm WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,		IMBER		SIC	188	2   z	. 1-		-0	10 0			JU		CON	TENT	LIMIT	1 m =		
TOPSOIL: 230mm WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,		MBER		≤ ⊏	1 = 0	1 O	; I	SHE	AR ST	RENG	ΓΗ (kF	 Ра)		W <sub>P</sub>	٧	N	$W_L$	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRAIN SIZ
WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,		ΜĒ		BLOWS 0.3 m	E	ELEVATION			NCONF		+	FIELD V & Sensiti	ANE vitv			0	-	ξĝ	J. S.	DISTRIBUT (%)
WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,			TYPE		<u>ا</u> کا ا	<u> </u>		• Q	UICK T	RIAXIAL	. ×	LAB V	ANE	WAT	ER CC	ONTEN	IT (%)	l"	₹	(70)
WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,	<u>1//</u> .		₹	ž	99 9	3 🗆		2	20 4	0 6	3 0	30 1	00	1	0 2	20	30			GR SA SI
NATIVE: clayey silt to silty clay,	12	1	SS	12		2	71	-							0					
some sand to sandv. trace rootlets.	M	<u>'</u>	00	12			ı	-							Ĭ					
		4—					-	-												
trace gravel, brown, moist, stiff		2	SS	23		2	70								0			-		
SILTY CLAY TILL: trace sand,		$\blacksquare$																		
trace gravel, brown, moist, very stiff	ИX	3	SS	35			F	-							0					
SANDY SILT: trace clay, trace		ب	-			2	69													
gravel, brown, moist, dense		$\vdash$				_	оэ													
	[[-][	. 4	SS	46			E								0	,				
	[[]						!													
clayey seams @3.1m		_	00	11		2	68 	=										1		
	[1.]	Ľ	33	44			ŀ													
	[]]						ŀ													
		1			$\nabla$	2	67	<u> </u>						_				ł		
grey @4.5m	$\Box$																			
SILT: some clay to clayey, some		6	SS	29		Sep	oo o H	, 2022 -	<u> </u>							0				
sand, grey, very moist, compact		Ľ	-			2	66	-										-		
							ı													
							ŀ	=												
						2	65													
wet below 6.1m		7	SS	26		_	~									0				
							ŀ	-												
							ا ۱	-												
						2	64											1		
SANDY SILT: trace clay, grey, wet	₩	╀					ŀ													
compact		8	SS	20			F									0				
	$ \cdot \cdot $	$\vdash$				2	63											1		
	-					::•	F													
	$[\cdot] [\cdot]$						- [													
		Н			t:⊨	. 2	62											-		
		9	SS	19	E:E		ŀ									0				
					t∷E		ŀ	-												
		1			l:: =	: 2	61													
	$\left  \cdot \right  \left  \cdot \right $	1			ŀΕ	-	٠,													
	HH	⊣			╂∴ႃ⊟		ŀ	-												
		10	SS	17			ء ا									0				
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	$ \cdot $						[													
SILTY SAND: trace clay, grey, wet,	111	1				<u>:</u> 2	59	=										1		disturbed
(disturbed)		11	SS d	isturb	ed.		ŀ	Ξ.								0		1		sample
END OF BOREHOLE:	<u> </u>	т			т-	$\vdash$	寸											T	T	
Notes:					1		- 1											1		
1) 50mm dia. monitoring well																				
					1		- [											1		
,					1		- [											1		
					1		- 1											1		
Sept. 08, 2022 4.25					1		- [											1		
					1		- [											1		
					1		- 1											1		
					1		- [											1		
					1		- [											1		
					1		- 1											1		
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					1													1		
					1		- [											1		
					1													1		
7;; ' ; ' ; ' ; ' ; ' ; ' ; ' ; ' ; ' ;	grey @4.5m SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  SANDY SILT: trace clay, grey, wet, compact  SILTY SAND: trace clay, grey, wet, (disturbed)  END OF BOREHOLE:	grey @4.5m  SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  SANDY SILT: trace clay, grey, wet, compact  SILTY SAND: trace clay, grey, wet, disturbed)  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (Readings:  Date: Water Level(mbgl):	clayey seams @3.1m  grey @4.5m SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  7  SANDY SILT: trace clay, grey, wet, compact  8  SILTY SAND: trace clay, grey, wet, compact  10  SILTY SAND:	clayey seams @3.1m  grey @4.5m SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  7 SS  SANDY SILT: trace clay, grey, wet, compact  9 SS  10 SS  SILTY SAND: trace clay, grey, wet, disturbed)  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level (mbgl):	clayey seams @3.1m  grey @4.5m  SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  7 SS 26  SANDY SILT: trace clay, grey, wet, compact  9 SS 19  SILTY SAND: trace clay, grey, wet, disturbed)  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level (mbgl):	clayey seams @3.1m  grey @4.5m SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  7 SS 26  SANDY SILT: trace clay, grey, wet, compact  9 SS 19  10 SS 17  11 SS disturbed.  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level (mbgl):	clayey seams @3.1m  grey @4.5m  SILT: some clay to clayey, some sand, grey, very moist, compact  wet below 6.1m  7 SS 26  2  SANDY SILT: trace clay, grey, wet, compact  8 SS 20  2  SILTY SAND: trace clay, grey, wet, (disturbed)  END OF BOREHOLE: Notes: 1) 5 SM disturbed.  SILTY SAND: trace clay, grey, wet, (disturbed)  END OF BOREHOLE: Notes: 1) 5 SM disturbed.  2 2  2 3  3 3 3 4 4 4 2 2  2 4 4 4 2 2 2  3 4 5 5 SS 44 4 2 2  2 5 5 SS 44 4 2 2 2  3 6 SS 29 2 2 2  4 7 SS 26 2 2 2  4 8 SS 20 2 2 2  5 SILTY SAND: trace clay, grey, wet, (disturbed)  10 SS 17 2 2 2  2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	clayey seams @3.1m  268  268  267  267  W. L. 2  Sep 08  Sep 08  Sep 08  266  Wet below 6.1m  7 SS 26  264  SANDY SILT: trace clay, grey, wet, compact  3 SANDY SILT: trace clay, grey, wet, compact  263  SILTY SAND: trace clay, grey, wet, disturbed  5 SS 19  262  263  SILTY SAND: trace clay, grey, wet, disturbed  5 SS 17  260  SILTY SAND: trace clay, grey, wet, disturbed  5 SS 29  265  266  267  268  SANDY SILT: trace clay, grey, wet, some and sep 08  269  269  260  261  261  260  259  SILTY SAND: trace clay, grey, wet, some and sep 08  260  259  SILTY SAND: trace clay, grey, wet, some and sep 08  260  259  SILTY SAND: trace clay, grey, wet, some and sep 08  260  261  262  263  264  265  269  269  260  260  260  260  260  260	clayey seams @3.1m    Some clay to clayey, some sand, grey, very moist, compact   Case	clayey seams @3.1m    SiltT: some clay to clayey, some sand, grey, very moist, compact   6 SS 29   266	clayey seams @3.1m    Solution   Silter   Sand   Sa	clayey seams @3.1m  grey @4.5m  SILT: some clay to clayey, some sand, grey, very moist, compact  6 SS 29  Sep 08, 2022  266  SANDY SILT: trace clay, grey, wet, compact  9 SS 19  9 SS 19  261  10 SS 17  259  SILTY SAND: trace clay, grey, wet, (disturbed)  SILTY SAND: trace clay, grey, wet, (disturbed)	clayey seams @3.1m    Solution   Solution	clayey seams @3.1m  5 SS 44  268  267  W. L. 266 9 m Sep 08, 2022 266  Wet below 6.1m  7 SS 26  SANDY SILT: trace clay, grey, wet, compact  8 SS 20  SANDY SILT: trace clay, grey, wet, compact  9 SS 19  261  10 SS 17  260  SILTY SAND: trace clay, grey, wet, (disturbed)  END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (Readings: Date: Water Level (mbgl):	Sandy silt: trace clay, grey, wet, compact   Silty Sand: trace c	clayey seams @3.1m  5 SS 44  268  0  267  W. L. 266.9 m Sep 08, 2022 266  wet below 6.1m  7 SS 26  263  SANDY SILT: trace clay, grey, wet, compact  8 SS 20  9 SS 19  260  SILTY SAND: trace clay, grey, wet, (disturbed)  SILTY SAND: trace clay, grey, wet, (disturbed)  END OF BOREHOLE: Notes: Notes: Notes: Use Clayer and Sand Sand Sand Sand Sand Sand Sand	SANDY SILT: trace clay, grey, wet, compact	clayey seams @3.1m    Sociation   Sociatio	clayey seams @3.1m  grey @4.5m  grey @4.5m  SiLT: some clay to clayey, some sand, grey, very moist, compact  6 SS 29  6 SS 29  6 SS 29  7 SS 26  266  267  SANDY SILT: trace clay, grey, wet, compact  8 SS 20  SILTY SAND: trace clay, grey, wet, compact  10 SS 17  267  268  268  269  300  301  301  302  303  304  305  305  307  307  308  308  308  309  309  309  309  309	clayey seams @3.1m  grey @4.5m  grey @4.5m  SiLT: some clay to clayey, some sand, grey, very moist, compact  6 SS 29  wet below 6.1m  7 SS 26  263  SANDY SILT: trace clay, grey, wet, compact  8 SS 20  SILTY SAND: trace clay, grey, wet, compact  10 SS 17  11 SS disturbed  259  SiLTY SAND: trace clay, grey, wet, compact  11 SS disturbed  268  268  269  260  260  260  260  260  260  260



PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-19-2022 ENCL NO.: 29

	SOIL PROFILE			AMPL	ES.	_			DYNA RESIS	MIC CO STANCE	NE PEI	NETR/	ATION		PLASTI	_ NAT	URAL	LIQUID		F	REMARKS
m)		F				GROUND WATER	_				0 60		30 1	00	LIMIT	MOIS CON	URAL TURE TENT	LIQUID	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND
EV	DESCRIPTION	STRATA PLOT	<b>ا</b>		BLOWS 0.3 m	Ì	ÑO	ELEVATION			RENG	TH (kl	<sup>2</sup> a)	ANIE	W <sub>P</sub>		<i>N</i> ○	W <sub>L</sub>	SET (SP.	₹AL U kN/m³	GRAIN SIZE DISTRIBUTIO
PTH	DESCRIPTION	ATA	NUMBER	Ш	0.3	١ş	<u> </u>	VAT		NCONF	INED RIAXIAL		FIELD V & Sensiti		WA	TER CO	NTFN	T (%)	9 0 0	ATUF.	(%)
70.9		STR	Ş	TYPE	ż	GRC	δ	ELE			0 60			AINE 00	1			30		_	GR SA SI (
7 <b>0.0</b> 0.2	TOPSOIL: 200mm	11/1/		SS	13		T		-												
- 1	WEATHERED/ DISTURBED NATIVE: clayey silt, some sand to			33	13				Ē						C	]					
70.1 0.8	sandy, trace gravel, trace rootlets, /	13	1_			H		270	<u> </u>										1		
	brown, moist, stiff SILTY CLAY TO CLAYEY SILT	KI)	2	SS	30				Ē						C						
	TILL: trace sand, trace gravel,		3	SS	55				ŧ							0					
20.6	brown, moist, hard sandy@1.5m		<u> </u>	33	33			269	F										1		
2.3	SANDY SILT TILL: trace clay.	1.1	+-			H			-												
	trace to some gravel, brown, moist,		. 4	SS	44			268	<u> </u>							0					
3.1	dense SANDY SILT: trace clay, brown,	<del>         </del>	-					200	Ė												
	very moist to wet, very dense		5	SS	72				Ē							o					
								267	<u> </u>										ł		
		$ \cdot \cdot $	1						Ė												
			┝				7		Ė												
5.0	SILT: some clay to clayey, trace	$\mathbb{H}$	6	SS	56		V	N. L. 2	266.1	m						-			1		
0.0	sand, trace to some gravel, grey,							Sep 08	s, 202. F	Í											
	very moist to wet, dense to very dense							265	<u> </u>												
	45.165					Н		203	ŧ												
			7	SS	32				Ē							0					1 10 71
								264	<u> </u>										ł		
									Ė												
7.6	SANDY SILT: trace clay, grey, wet,	<del>       </del>	┈			╂╬╞	-:		F												
	compact to dense		. 8	SS	37	-	#:	263	F							-			1		
						1:E	34		Ē												
		.[+]	1					262	<u> </u>												
			⊢			┟╬		202	Ė												
		$ \cdot $	9	SS	29		]::[		F							0					
						1::	##	261	<u> </u>										ł		
						l: f	1.1		Ē												
		: :				<b>∤</b> ∷⊧	#:		Ė												
50.6			10	SS	14			260								ļ .	•		1		
59.6 11.3	END OF BOREHOLE:		H			╁	╁												$\vdash$		
	Notes: 1) 50mm dia. monitoring well																				
	installed upon completion.																				
	2) Water Level Readings:																				
	Date: Water Level(mbgl):																				
	Sept. 08, 2022 4.81																				
- 1		1	i	l	1	1	- 1		ı	I	1 1		1	1	1	1	i .	1			ı



PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-23-2022 ENCL NO.: 30

	SOIL PROFILE		S	AMPL	ES			DYNA RESIS	MIC CO STANC	ONE PE E PLOT	NETR/	ATION		DI ACTI	IC NAT	URAL	LIQUID		5	REMARK
(m)		F				GROUND WATER CONDITIONS		l				30 10	00	LIMIT		TENT	LIMIT	PEN.	NATURAL UNIT WT (kN/m³)	AND
LEV		PLC			S E	N O	Z O	SHE	AR ST	RENG	TH (kl	Pa)		W <sub>P</sub>		N	W <sub>L</sub>	Ä,	AL U	GRAIN SIZ
EPTH	DESCRIPTION	STRATA PLOT	NUMBER		BLOWS 0.3 m	N E	ELEVATION	0 U	NCON	FINED	+	FIELD VA & Sensitiv	ANE vity	,			——————————————————————————————————————	POCKET PE (Cu) (kPa)	R 동	(%)
		T.	ME	TYPE	Į.	NO NO	l e				L ×	LAB VA	ANE	1	TER CO		. ,	-	≨	
68.9	TORONI - OFO		z	Ĺ	-	0 0	Ш	4	20 4	40 6	8 06	80 10	0	1	0 2	20 ;	30			GR SA SI
0.3	TOPSOIL: 250mm WEATHERED/DISRURBED	11/2 11/2	1	SS	10			Ė							_	0				
8.1	NATIVE: silty clay, trace sand,	11	1					ŧ							0					
0.8	trace gravel, trace rootlets, brown,	13/		00	-00		268	<b>-</b>							_			1		
	moist, stiff	KX	2	SS	26			F							0					
	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel,	12	H					E												
	brown, moist, very stiff to hard	121	3	SS	26		267	╞─							0			-		
	·							Ė												
	sandy silt till lenses below 2.3m	161	4	SS	34			F							0					
			$\vdash$		ļ - ·		266	<u> </u>		-				-		-		1		
3.2	SAND: trace silt, trace gravel,	rur.						ŧ												
3.2	orange brown, moist to wet,		5	SS	36			F							00					
	compact to dense	· · · :				$\perp$	wî-	E 265.1	 m									1		
		· · ·					Sep 0	8, 202	2											
		::::						É												
	clayey silt pockets, grey, wet@4.6m		6	SS	39		264	<u> </u>										1		
		: · ·	Ľ					É												
		:::						F												
							263	<u> </u>	-	1								-		
		:	$\vdash$			t∷H:		E												
		:::	7	SS	29			Ė							'	þ				
		: ; ;					262	<u> </u>	_	1								1		
							::	Ē												
						]::[]	::	Ē												
		ļ	8	SS	32		261	<u> </u>		1					ļ.,			1		
		::::	Ľ	JJ	32	<b>,∷∃</b> ;	:  <sup>201</sup>	E								1				
			1				<b>:</b>	Ē												
		· · ·					260	E												
9.8	SILTY SAND: ailt packata traca	1	$\vdash$			r:H:	:  <sup>200</sup>	Ė												
9.1	SILTY SAND: silt pockets, trace clay, grey, wet, dense		9	SS	43		:	F							0	,				
59.2 9.7	END OF BOREHOLE:	ار ان					+	<u> </u>		1								<del> </del>		
5.1	Notes:																			
	1) 50mm dia. monitoring well																			
	installed upon completion. 2) Water Level Readings:																			
	Date: Water Level(mbgl):																			
	Sept. 08, 2022 3.8																			
							1													
						1													1	
									1											



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

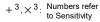
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-23-2022 ENCL NO.: 31

BH LOCATION: See Drawing 1 N 4857638.89 E 598267.27

	SOIL PROFILE		S	SAMPL	ES	<u>_</u>		DYNA RESIS	MIC CO TANCE	NE PE PLOT	NETR/	ATION		DI ASTI	C NATI	JRAL	LIOUID		Τ,	REMARKS
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	3ER		BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UI	R STI	RENG INED	TH (kl	Pa) FIELD V. & Sensiti	OO ANE vity	W <sub>P</sub>	CON	TENT v >	LIQUID LIMIT W <sub>L</sub> ——I	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND GRAIN SIZE DISTRIBUTION (%)
268.3	TODOOH - OFO	STRA	NUMBER	TYPE	ž	GROL	ELEV			RIAXIAI 0 6	LX	LAB V	ANE 00		TER CC 0 2		T (%) 30 <del> </del>		₹	GR SA SI C
26 <b>9.0</b> 0.3 267.5	TOPSOIL: 250mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay,		1	SS	10		268									0				
1 0.8	trace sand, trace rootlets, brown, noist, stiff		2	SS	35		267								0					
2	SILTY CLAY TILL: trace sand, trace gravel, occasional cobble, brown, moist, very stiff to hard		3	SS	28										0					
266.0	SANDY SILT: trace clay, brown to		4	SS	35		266								0					
: :3	grey, wet, dense grey below 2.6m					   	005													
-			5	SS	32		265								0					
-263.7							264													
4.6	SILT TO SANDY SILT: some sand, trace to some clay, grey, wet, compact		6	SS	23		263									0				
6							203													
- -			7	SS	25	-	262									0				
							261													
8			8	SS	21											0				
-							260											-		
259.2 9.1	SAND: some silt to silty, grey, wet, compact		9	SS	11		259									0				
10	Compact																			
-							258													
<u>11</u>			10	SS	29		257								0			-		
12																				
255.5			11	SS c	listurbe	ed	256								0					(disturbed sample)
255.5	END OF BOREHOLE: Notes: 1) Water at depth of 2.3m during drilling.																			







CLIENT: Caledon Community Partners
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

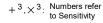
Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-23-2022 ENCL NO.: 32

	SOIL PROFILE		s	AMPL	ES	<u>ر</u>		RESIS	TANCE	NE PEN E PLOT		ATION		PLASTI	C .NAT	URAL TURE	LIQUID		Ļ	REMARK
1)		=				ATE		2	0 4	0 60	8	30 1	00	LIMIT	CON	TENT	LIMIT	BEN.	V TINI	AND GRAIN SIZ
EV PTH 8.8	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	O U ● Q	NCONF	RENGT INED RIAXIAL 0 60	+ ×	FIELD V & Sensiti LAB V		ı	TER CO		w <sub>L</sub> T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	DISTRIBUT (%)  GR SA SI
0.0 <b>9.0</b> 0.2	TOPSOIL: 200mm WEATHERED/DISTURBED	13.7. 14.1	1	ss	9			E								0				OK OA OI
8.0 0.8	NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace organics/rootlets, brown, moist, stiff		2	SS	24		268								0					
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	24		267													
6.5 2.3	SILT: some sand to sandy, trace to			SS	37															
	some clay, brown, wet, compact to dense		4			   	266	<u>-</u>							,	, 				
			5	SS	38		265								0					
	grey below 4.6m		6	SS	28		264									0				
					20															
			7	SS	33		263									0				
							262													
			8	SS	37		261									0				
							260													
			9	SS	35											0				
							259													
8.1 0.7 7.5	SAND: some silt to silty, trace clay, brown to greyish brown, wet, dense		10	SS	30		258									0				
1.3	END OF BOREHOLE: Notes: 1) Water at depth of 2.3m during drilling.																			
														l				1		







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

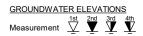
DRILLING DATA

Method: Hollow Stem Auger

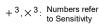
Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-23-2022 ENCL NO.: 33

	SOIL PROFILE		S	AMPL	ES			DYNA RESIS	MIC CO	NE PE PLOT	NETR/	ATION		DI ACT	NAT	URAL	HOUR		۲	REM	ARKS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	ER		BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE/	20 4	0 6	) 8 [H (k	30 1	OO	PLASTI LIMIT W <sub>P</sub>		TURE TENT W	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	OCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	Af GRAIf DISTRI	ND N SIZ BUTK
265.3			NUMBER	TYPE	<u></u>	GROU	ELEV			RIAXIAL 10 6	. ×	LAB V	ANE 00		TER C0		IT (%) 30		NA.	GR SA	%) SI
26 <b>9.0</b> 0.2	TOPSOIL: 200mm WEATHERED/DISTURBED		1	SS	9	$\nabla$	265 W. L.	E 265.0	 m							0					
0.8	NATIVE: clayey silt to silty clay,  trace sand, trace gravel, trace rootlets, brown mottled, moist, stiff		2	SS	19		Sep 08 264	Ē	2						0						
263.3	SILTY CLAY TILL: trace sand, trace gravel, brown mottled, moist, stiff to very stiff		3	SS	14		204								0						
2.0	SANDY SILT: trace clay, trace to some gravel, grey, very moist, compact to dense		4	SS	21		263	<u> </u>							0			-			
	wet below 2.3m		5	SS	27		262									>					
							261														
			6	SS	38		201									<b>,</b>					
							260	<u>-</u>										-			
			7	SS	27		259									•		-			
							258														
	with silty sand lenses below 7.6m		8	SS	33											o					
							257														
			9	SS	23		256	<u> </u>								o					
							255														
10.7	SAND: some silt, trace clay, grey, wet, compact		10	SS	24		254									o				0 82	15
253.1							254														
12.2 252.5	SANDY SILT: with clayey silt pockets, grey, wet, compact		11	SS	15		253									0					
12.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																				
	Date: Water Level(mbgl): Sept. 08, 2022 0.32																				









CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-25-2022 ENCL NO.: 34

	SOIL PROFILE		s	AMPL	ES	<u>_</u> ر			DYNA RESIS	MIC CO STANCE	ONE PEN E PLOT	NETR/	NOITA		PLASTI	C .NAT	URAL STURE	LIQUID		Ļ.	REMARKS
)		5			(0)	ATE	S		2	20 4	0 60	8	30 1	00	LIMIT	CON	TENT	LIMIT	PEN.	NIT V	AND GRAIN SIZE
V TH	DESCRIPTION	STRATA PLOT	NUMBER	읈	BLOWS 0.3 m	GROUND WATER	NDITION	ELEVATION	0 U	NCONF	RENGT INED RIAXIAL	÷	FIÉLD V. & Sensiti		W <sub>P</sub> ⊢ WA	TER CO	w ≎ ONTEN	w <sub>∟</sub> — 1 T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	DISTRIBUTIO
3.0			N	TYPE	ż	GR	ပ	H			0 60			00	1	0 2	20 ;	30			GR SA SI
).Ø ).3 7.2	TOPSOIL: 250mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay,		1	SS	10												0				
.8	trace rootlets, trace sand, trace gravel, brown, moist, stiff		2	SS	12			267								0			-		
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to very stiff		3	SS	29			266									0				
.7	SANDY SILT TILL: trace clay, trace gravel, occasional cobble,		4	SS	41											0					
	brown, moist, compact to very dense occasional wet sand seams@3.1m		5	SS	25	ı		265	<u> </u>							0					
	occasional wet sand scans go. iiii				25	ı		264													
					50/	<u> </u>	<u> </u>	W. L. : Sep 08	‡ 263.7 3, 2022	 m 2											
			6	SS	100mr	Y		263													
.9	SANDY GRAVEL: some silt,	٥						262													
	brown, wet, compact to dense	0	7	SS	25	ı		261							(	•					
		0.0						261													
		0.	8	SS	43			260													52 34 11
9		0						259													
1	SILTY SAND TO SANDY SILT: trace clay, grey, wet, compact to dense		9	SS	27												0				
	uerise						];;; 	258	<u> </u>												
.7			10	SS	35	:"   :	#::   ::	257									0				
.3	END OF BOREHOLE: Notes:	1				T															
	Somm dia. monitoring well installed upon completion.     Water Level Readings:																				
	Date: Water Level(mbgl): Sept. 08, 2022 4.29																				
	Обр.: 00, 2022 4.29																				
- 1			1			1			l						l				I	ı	



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-24-2022 ENCL NO.: 35

BH LO	CATION: See Drawing 1 N 4857838.4	5 E 5	9861	5.09																	
	SOIL PROFILE		s	AMPL	ES	œ		DYNA RESIS	MIC CC STANCE	NE PEI	NETR/	ATION		PLASTI	C NATI	URAL TURE	LIQUID		₽	REM	ARK
m)		<u>۲</u>				GROUND WATER CONDITIONS		2	20 4	0 60	3 (	30 1	00	LIMIT	CON	TENT	LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	A	ND N CIZ
_ÉV	DECODIDATION	STRATA PLOT	<b> </b> ~		BLOWS 0.3 m	NON NO	ELEVATION			RENGT	ΓΗ (kF	Pa)		W <sub>P</sub>	\ \	w >	W <sub>L</sub>	X (2)	SAL U	GRAI DISTR	
PTH	DESCRIPTION	ATA	NUMBER	ш	0.0	NUC	VAT		NCONF			FIELD V & Sensiti		WAT	ER CO	ONTEN	T (%)	80	ATM D	(	%)
.7.0		STR	3	TYPE	ž	3RC SON	E.E.			RIAXIAL 0 60			ANE 00	1			30		z	GR SA	SI
7.0 6.9	TOPSOIL: 250mm	31 1/2.					ш		Ĺ.				Ï		<u> </u>					GIV OA	- 01
0.3	WEATHERED/DISTURBED	12	1	SS	8										0	•					
0.8	NATIVE: silty clay to clayey silt,  \text{trace sand, trace gravel, trace} /																				
0.0	rootlets, brown, moist, stiff		2	SS	13		266									0		1			
	CLAYEY SILT TO SILTY CLAY							_													
5.2 1.8	TILL: trace to some sand, trace		3	SS	28		205									0					
	s\tiff /	10.10					265											1			
	<b>GRAVELLY SAND:</b> some silt, trace clay, brown, wet, compact to	0.0	4	SS	44			-							0						
	very dense		$\vdash$				264														
	moist, some cobbles at 3.1m	٠. ( <u>)</u>	5	SS	51									١ ,							
			Ľ		Ŭ.			-													
		0.0					263											-			
		6	1					-													
		  	6	SS	25										0					32 54	11
		Þ∵.	Ľ		23		262											l		32 34	
		.0.																			
		0.0					201														
			_		0.4		261	-							_			1			
		à.O.	7	SS	24			-							0						
		9. ()					260														
		.°.					200														
		0.0	Н																		
			8	SS	56		259								0						
		۰.O.																			
		0.00																			
		.0.	$\vdash$				258	-										ł			
		0.0	9	SS	43										o						
		a.O.					257														
56.3		0.0																			
10.7	CLAYEY SILT TILL: sandy, trace		10	SS	49		256								,						
55.7	gravel, sand pockets, grey, moist,	ИK	Ľ		73		256											_			
11.3	END OF BOREHOLE:																				
	Notes: 1) Water at depth of 1.8m during																				
	drilling.																				
																		I	l		
- 1												1			l .						



PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

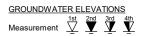
DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-104

Date: Aug-24-2022 ENCL NO.: 36

	SOIL PROFILE		s	AMPL	ES	<b> </b> ~		DYNA RESIS	MIC CO STANCI	ONE PE E PLOT	NETR/	ATION		рі деті	IC NAT	URAL	LIQUID		₽	REMARK
(m)		Ĕ				GROUND WATER		l				_	100	LIIVIII	CON	ITENT	LIMIT	Ιż	NATURAL UNIT WT (kN/m³)	AND
LEV		PLC	l		NS E	N N	l z	SHE/	R ST	RENG	TH (kl	- Ра)		W <sub>P</sub>	,	w	WL	Ä,	AL U	GRAIN SI DISTRIBUT
EPTH	DESCRIPTION	STRATA PLOT	NUMBER		BLOWS 0.3 m	1 N E	ELEVATION	0 U	NCONF	INED	÷	FIÉLD \ & Sensi	/ANE tivity	I		~ <del></del>	T (0.0)	POCKET PE (Cu) (kPa)	TUR.	(%)
		№	Ĭ	TYPE	Į.					RIAXIAI	LX	LAB \	/ANE		TER CO		. ,		₹	
266.1	TOPSOIL: 250mm	N / 1/2	z	<u> </u>	-	0 0	) Ш		20 4	10 6		80 ′	100	'	0 2	20	30	1		GR SA SI
0.3	WEATHERED/DISTURBED	<del>                                     </del>	1	SS	5			Ē								0				
265.3	NATIVE: clayey silt to silty clay,		$\vdash$					-												
0.8	trace sand, trace gravel, trace	19/	2	SS	21		265								0			1		
264.6	rootlets, brown, moist, firm _SILTY CLAY TILL: trace sand,							Ē							•					
1.5	trace gravel, brown, moist, very stiff		3	SS	18			-												
	SANDY SILT TO SILTY SAND:	$  \cdot  $	Ľ		10		264	Ē										1		
	trace clay, brown, wet, compact to dense					*	W. L.													
	46.165	$ \cdot \cdot $	4	SS	30		Sep 0	3, 2022 E	2							0				
							263	_												
			5	SS	32			Ē								0				
								E												
		$ \cdot \cdot $					262	-										1		
			1					Ē												
			6	SS	23			ŧ								0				
		[]]	لٽا				261	É								Ť	+	1		
		[][]						Ė												
260.0		[][[						É												
6.1	SAND: some silt, trace silt seams,						260	Ē									1	1		
	brown, wet, compact		7	SS	17			-								0				
							050													
			1				259													
7.6	SANDY SILT TO SILTY SAND:	7.17						Ē												
7.6	trace clay, grey, wet, compact to	먎	8	SS	37		258													
	very dense	ļ:i:					230	-												
		li¦i:					÷.	Ē												
		Hil				]: [ ]	257											1		
			9	SS	52			-												
								-												
			-				256	<u> </u>												
			.				;;; ;;;	-												
		ŀŀ					<u>:</u> ]	Ē												
			10	SS	37		∴ 255	-							-					
		帯				[]目		E												
		情情	]			::目:		ŧ												
			Ш			####	254	Ē-										1		
			11	SS	47			Ė												
						<u> </u> :	:													
252.5 13.6			12	SS	23		. 253									0		1		
252.5	END OF PODELIOLE:	발반	, ·-				:	<u> </u>						<u> </u>			+	ऻ_		
13.6	END OF BOREHOLE: Notes:					1														
	1) 50mm dia. monitoring well					1														
	installed upon completion. 2) Water Level Readings:																			
	,																			
	Date: Water Level(mbgl): Sept. 08, 2022 2.23																			
	COpt. 00, 2022 2.20					1														
						1														
						1														
						1														
						1														
						1														





CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

PROJECT LOCATION: The Gore Ro	i. & King St.,	Bolto	n, ON				Diam	eter: 1	oumm					K	EF. NC	).: 20	J-168	<i>)</i> -104	
DATUM: Geodetic							Date:	Sep-	07-202	2				El	NCL N	O.: 3	7		
BH LOCATION: See Drawing 1 N 48	358560.88 E	59845	55.25																
SOIL PROFILE		5	SAMPL	.ES	m m		DYNA RESIS	MIC CO STANCE	NE PE E PLOT	NETRA	ATION	PLASTI	C NAT	URAL STURE	LIQUID		₽	RE	MARKS
(m) ELEV DESCRIPTION 261.7	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UI	AR STI NCONF UICK T	RENG RENG FINED RIAXIAI	TH (kF + - ×	Pa) FIELD V & Sensiti LAB V	LIMIT  W <sub>P</sub> WA	CON TER CO	NTENT W O	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	≥	l	AND AIN SIZE RIBUTION (%) A SI C
269.9 TOPSOIL: 250mm 0.3 WEATHERED/DISTURBED NATIVE: silty sand, trace roc	otlets,	1	SS	7		261							0 0						
trace gravel, brown, moist, lo SANDY SILT: some clay, tra 260.2 gravel, brown, very moist, co	ce  -[ -	2	SS	12		20.							o						
1.5 SILTY CLAY TILL: some sar sandy, trace gravel, brown, n stiff to very stiff	nd to	3	SS	10		260							F	+		-		4 2	5 48 2
grey below 2.3m		4	SS	16		259							0			_			
	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	5	SS	16		258							0						
1																			
<u>i</u>	; ;	6	SS	18		257							0						
i						256													
		7	ss	19		255							0			-			
																		]	
		٩	SS	19	1	254	F						a		+	1		6 1	9 45 3

253

252

SS 9

SS 10

27

26

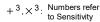
251.2	
10.5	END OF BOREHOLE: Notes:

<sup>1)</sup> Borehole wet at the bottom upon completion.



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0

0



CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

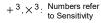
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

	JM: Geodetic DCATION: See Drawing 1 N 4858560	27 E 5	9845	52.63				Date:	Sep-0	07-202	.2				Εľ	NCL N	O.: 38	8	
(m) ELEV DEPTH	SOIL PROFILE  DESCRIPTION	STRATA PLOT		SAMPL	"N" BLOWS O.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAM RESIS 2 SHEA 0 UN • QL	R STI	0 6 RENG INED RIAXIA	TH (kF + L ×	Pa) FIELD V & Sensi	100 /ANE	TER CO		LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZI DISTRIBUTIO (%) GR SA SI
261.8	Straight drilled to 4m to installed well						261 260 W. L.: Sep 19	259.1 r	1										on on or
4.0	END OF BOREHOLE: Notes:  1) Straight drilled to 4m to install 50mm dia. monitoring well.  2) Water Level Readings:  Date: Water Level(mbgl): Sept. 19, 2022 2.7																		







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

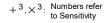
Date: Sep-07-2022 ENCL NO.: 39

BHLC	DCATION: See Drawing 1 N 4858497.3	E 59	8361	1.23																
	SOIL PROFILE		S	SAMPL	ES.	ا س		DYNAI RESIS	MIC CC TANCE	NE PE PLOT	NETRA	ATION		PI ASTI	C NATI	URAL	LIQUID		Ţ.	REMARKS
(m)		5				GROUND WATER CONDITIONS		2	0 4	0 6	0 8	0 1	00	PLASTI LIMIT	CON	TURE	LIQUID LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZE
ELEV DEPTH	DESCRIPTION	STRATA PLOT	۸ ا		BLOWS 0.3 m	D W,	ELEVATION			RENG	TH (kF	Pa)	ANIE	W <sub>P</sub>	V	v >	W <sub>L</sub>	Z F	SAL U	DISTRIBUTION
DEPTH	DESCRIPTION	ATA	1BE	ш	0.3	NOC	VAT		NCONF	INED RIAXIAI	+	FIELD V & Sensiti	ANE ivity	WAT	ER CC	ONTEN	T (%)	80	MTUF.	(%)
265.1		STR	NUMBER	TYPE	ż	GRC	ELE			0 6			OO				30		_	GR SA SI CL
260.0	TOPSOIL: 230mm	1/1/2	1	SS	5															
0.2	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay,		1	33	5										0	۰				
264.3 1 0.8	trace rootlets, trace sand, trace		1			ł	004													
	gravel, brown, moist, firm  SILTY CLAY TILL: trace sand,		2	SS	22		264								•					
F	trace gravel, brown, moist, stiff to		3	SS	27			Ė							0					
-2	very stiff			33	21		263													
			1																	
E.			4	SS	29										0					
= 3	grey below 3.1m		$\vdash$			-	262											1		
F	g ,		5	SS	22										0					
-4						1	004													
			1				261											1		
			├																	
<u>-5</u>		jø,	6	SS	14		260								0					
								Ė												
6		18/	1																	
			<del> </del>		44	-	259											l		
<u> </u>			7	SS	14										0					
7			1				258													
			1				200													
			-	SS	16	1														
- 256.9		1/2/	8	33	10		257								0					
8.2	END OF BOREHOLE: Notes:																			
	<ol> <li>Borehole wet at the bottom upon completion.</li> </ol>																			
	completion.																			
i <b> </b>																				
		1			<u> </u>									<u> </u>						



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CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DRILLING DATA

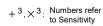
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

BH LOCATION: See Drawing SOIL PROFI			SAMPL	.ES			DYNAN RESIS	IIC CC	NE PE	NETRA	ATION			NATI	IDAI			DEMAND
m) _EV PTH DESCRIPT	гот	NUMBER	ТҮРЕ	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	20 SHEA O UN • QU	R STF ICONF	0 6 RENG <sup>*</sup> INED RIAXIAL	0 8 ΓΗ (kF + - ×	0 10 Pa) FIELD V. & Sensitr LAB V.	ANE vity	PLASTIC LIMIT W <sub>P</sub> 	CONT W ———C	IENT / > NTEN	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMAR AND GRAIN S DISTRIBU (%)
60.9 TOPSOIL: 250mm 0.3 WEATHERED/DISTU	IRBED silty clay,	1	SS	6										00				
0.8 NATIVE: clayey silt to trace rootlets, trace s gravel, brown to redd	and, trace / 🔣	2	SS	13		262								0		-		
moist, firm  SILTY CLAY TILL: tra  trace gravel, brown, r	ace sand,	3	SS	22		261								0				
very stiff	131 ( ) 131 (	4	SS	42		000								0				
grey below 3.1m		5	ss	24		260								0				
			55	24		259								0				
		6	SS	21		258								0				
						257												
		7	SS	25		201								0				
						256												
		8	SS	23		255								0				
8.2 <b>END OF BOREHOLE</b>	: '																	
Notes:  1) Borehole wet at the completion.	e bottom upon																	









CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

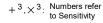
Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-07-2022 ENCL NO.: 41

	OCATION: See Drawing 1 N 4858595.5	3 E 5	59826	32.19				Date.	oop .	J1 <b>-</b> 202	_						NCL IN	O 1		
	SOIL PROFILE			SAMPL	.ES			DYNA	MIC CC	NE PE PLOT	NETRA	ATION			NATI	IDAL			l	DEMARKS
L						GROUND WATER CONDITIONS							00	PLASTI LIMIT	C MOIS	URAL TURE TENT	LIQUID LIMIT	z.	NATURAL UNIT WT (kN/m³)	REMARKS AND
(m)		STRATA PLOT			SIE	WA-	z			RENG		1	<u> </u>	W <sub>P</sub>		N N	$W_{L}$	POCKET PEN. (Cu) (kPa)	L UN	GRAIN SIZE
ELEV DEPTH	DESCRIPTION	ΙŁ	ER		BLOWS 0.3 m	P E	ELEVATION		NCONF		+ +	FIELD V & Sensiti	ANE	-	—— <u></u>		_	(CCK	RA RN	DISTRIBUTION
		₹	NUMBER	TYPE	1	30U	EV/		UICK T	RIAXIAI	L×	LAB V	ANE	WA	TER CC			۵	MA	(%)
266.5			ž	7	ż	20 00	П	2	0 4	0 6	0 8	30 1	00	1	0 2	20 3	30			GR SA SI CL
26 <b>8.9</b> 0.2	TOPSOIL: 200mm WEATHERED/DISTURBED	111	1	SS	5									l .	0					
265.7	NATIVE: clayey silt to silty clay,		1—				266							<b>†</b> '				1		
1 0.8	trace rootlets, brown, moist, firm /	19.	2	SS	9	1		Ė							0					
265.0	silty sand lens below 0.5m SILTY CLAY TILL: trace sand,		Ĺ	33	9															
1.5	trace gravel, trace rootlets, brown, /	191	3	SS	23		265	=							0			1		
-2	noist, stiff (disturbed)		டீ	33	23			E												
E I	SILTY CLAY TILL: trace sand, trace gravel, trace rootlets, brown,		1—			1	004													
	moist, very stiff to hard		4	SS	35		264								0			1		
<u>-3</u>			ot one in the property of t					-												
<u> </u>		199	5	SS	41		263								0					
			$\vdash$			1	200													
<u> </u>		14	1																	
F			_				262											ļ		
- -5	grey below 4.6m		6	SS	34										0	,				
			$\vdash$					Ē												
ŧ l			1				261	_										1		
<u>-6</u>			1																	
			7	SS	19	1														
F		18.	Ľ	- 00	13		260											1		
7			1																	
		işi	1																	
			$\downarrow$		00		259													
258.3		1	8	SS	26										0					
8.2	END OF BOREHOLE: Notes:																			
	Borehole wet at the bottom upon																			
	completion.																			
.																				
7																				
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PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

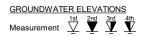
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-07-2022 ENCL NO.: 42

	SOIL PROFILE		S	AMPL	.ES	<u>_</u> ر		RESIS	STANCE	NE PE E PLOT	NETRA	ATION		ы убл	C NAT	URAL	ו וטו ווס		5	REMAR
(m)		Ĕ				GROUND WATER CONDITIONS		2	20 4	10 6	0 8	0 1		PLASTI LIMIT	MOIS CON	TURE TENT	LIQUID LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND
	DECORPTION	STRATA PLOT	_		BLOWS 0.3 m	W O	N O	SHEA	R ST	RENG INED	TH (kF	Pa)		W <sub>P</sub>	\ 	N 0	W <sub>L</sub>	KET P	AL U	GRAIN SI DISTRIBUT
EPTH	DESCRIPTION	ΔTA	BEF	111	0.3	N	T K	0 U	NCONF	INED	+	& Sensiti	ANE ivity	\\\\	TER CO		IT (%)	9 2 3	ATUR (x	(%)
266.6		STR	NUMBER	TYPE	ş	SRC	ELEVATION			RIAXIAI 10 6			ANE 00				30		Ž	GR SA SI
0.0	Straight drilled to 7.6m to install	+ "	F	'	-			-												OIT OA OI
	well.						266	<u> </u>												
							200	Ē												
								F												
							265	<u> </u>	-									1		
							W. L.	‡ 264.7	 m											
						<b> </b> : ∄:	Sep 1	9, 202	2											
							264	Ē										1		
						[:目:	:	E												
							263	Ē												
							203	Ē												
								Ē												
							262	<u> </u>										-		
								Ē												
								Ē												
							261	F-										1		
								F												
							260	Ē												
							200	Ē												
								Ē												
7.6	END OF BOREHOLE:						259	-												
7.0	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																			
	Date: Water Level(mbgl):																			
	Date: Water Level(mbgl): Sept. 19, 2022 1.92																			
		1	1		1	ı	ı	ı	1	1	I	l	1	ı	1	1	1	I .		



GRAPH NOTES  $+3, \times 3$ : Numbers refer to Sensitivity

O <sup>8=3%</sup> Strain at Failure



PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-07-2022 ENCL NO.: 43

BH LC	DCATION: See Drawing 1 N 4858703.05	5 E 5	9828	33.24					
	SOIL PROFILE		S	SAMPL	.ES			DYNAMIC CONE PENETRATION RESISTANCE PLOT PLASTIC NATURAL LIQUID   REMARKS	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	rype	N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	20 40 60 80 100	N
269.0	TOPSOIL: 230mm	<u> 1//.</u>						<del></del>	=

264.0		S	١ź	≿	Ž	tb S	🗇	20	40	60	80	100	10	20	3	0		GR SA	SI CL
26 <b>9.</b> Ø 0.2	WEATHERED/DISTURBED		1	SS	8								С	0					
263.2 1 0.8	trace rootlets, trace gravel, brown, noist, stiff		2	SS	27		263						0						
	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	27		262						0						
	trace rootlets above 1.0m		4	SS	37								c						
3	grey below 3.1m		5	SS	29	$\subseteq$		260.9 m 2, 2022					C						
4							260	É											
<u>-5</u>			6	SS	15		259							•					

					258								
		7	ss	20					0				
<u>-7</u>					257								
255.8		8	SS	17	256				0				
8.2	END OF BOREHOLE:										-	$\neg$	

0.2	END OF BUKERULE.
	Notes:
	1) 50mm dia. monitoring

well installed upon completion.
2) Water Level Readings:

Date: Water Level(mbgl): Oct 18, 2022 3.03



GRAPH NOTES







CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

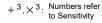
Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-07-2022 ENCL NO.: 44

1	M: Geodetic							Date:	Sep-	07-202	2					EN	ICL NO	D.: 4	4	
BH LC	OCATION: See Drawing 1 N 4858702.2	2 E 59	_					IDVA IA		NE DE	LIETO !	TION								
	SOIL PROFILE		S	AMPL	ES			RESIS	TANCE	NE PE PLOT	NETRA	ATION		PLASTI	_ NATI	JRAL	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————		F	REMARKS
(m)		Ŀ				GROUND WATER CONDITIONS		2	0 4	0 6	0 8	0 1	00	LIMIT	MOIS CON	TURE TENT	LIMIT	Ë Ë	NATURAL UNIT WT (kN/m³)	AND
ELEV		STRATA PLOT			BLOWS 0.3 m	W C	Z O			RENG	TH (kF	 Ра)	-	W <sub>P</sub>		V	$W_L$	(kPg	AL U	GRAIN SIZE DISTRIBUTION
DEPTH	DESCRIPTION	Ι¥	NUMBER		0.3		ELEVATION	0 U	NCONF	INED	÷	FIÉLD V. & Sensiti	ANE vity					000	J. J. S.	(%)
		№	Σ	TYPE	ž	NO NO	LEV	• QI		RIAXIAL 0 6	_ ×	LAB V	ANE 00		TER CC		I (%) 80		₹	
263.9	Straight drilled to 4.0m to install	S	z		-	0 0	Ш	- 4	0 4	0 0	0 0		1	'	0 2	0 3				GR SA SI CL
E 0.01	well.							Ē												
								Ė												
<u>-1</u>						:	263													
<u> </u>						l:目:	ł	Ė												
E,							262	<u> </u>												
-2							262 W. L. Sep 1	262.0 r	n											
F							Sep 1	5, 2022  -	Ī											
3							261													
								Ē												
4.0	END OF BOREHOLE:	-	$\vdash$				260						<del></del>	₩				$\vdash$	Н	
4.0	Notes:																			
	50mm dia. monitoring well installed upon completion.																			
	Water Level Readings:						1													
	Date: Water Level(mbgl):																			
	Sept. 19, 2022 1.92																			
							1													
						GRAPH				rs refer		<b>a</b> =3%								

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CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-06-2022 ENCL NO.: 45

BH LOCATION: See Drawing 1	N 4858790.18 E 598184.07
----------------------------	--------------------------

BH LC	OCATION: See Drawing 1 N 4858790.1	8 E 5						D)/AIA	410.00	NE DE	NETD/	TION									
	SOIL PROFILE	1	8	SAMPL	.ES	<u>~</u>		RESIS	TANCE	NE PE E PLOT	NETRA	ATION		PLASTI LIMIT	C NATI	URAL	LIQUID LIMIT		₩	REMA	
(m)		TO:			SI	GROUND WATER CONDITIONS	7	2	İ	0 6			00	LIMIT W <sub>P</sub>	CON	TENT V	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AN GRAIN	
ELEV	DESCRIPTION	STRATA PLOT	E.		BLOWS 0.3 m	스 턴	ELEVATION	SHEA	IR STI	RENG	TH (kF	Pa) FIELD V & Sensiti	'ANE	¨		·	——i	CL) (X	R A	DISTRIE	BUTION
DEPTH		RAT,	NUMBER	TYPE		ND IN	ΞVΑ.			RIAXIAI	L X	& Sensiti LAB V	ivity ANE	WA	ER CO	ONTEN	T (%)	88	N T	(%	b)
264.0			⊇ N	₹	ż	S O	ELI	2	0 4	0 6	0 8	0 1	00	1	0 2	20 3	30			GR SA	SI CL
268:9	TOPSOIL: 350mm	. <u>1 1//.</u>	1	SS	9											0					
0.4 263.2	WEATHERED/DISTURBED NATIVE: clavey silt to silty clay		$\vdash$																		
1 0.8	NATIVE: clayey silt to silty clay, trace gravel, trace sand, organic		2	SS	12	1	263	_							0						
E	staining, trace rootlets, brown, moist, stiff		Ŀ																		
E_2	SANDY SILT TO SILTY SAND:	$\ \cdot\ $	. 3	SS	12										0						
261.7	trace to some clay, trace gravel, brown, very moist, compact						262														
2.3	SILTY CLAY TILL: trace to some		4	SS	24										0						
3	sand, trace gravel, brown, moist, stiff to very stiff		├			ł	261														
F	grey below 3.1m		5	SS	21										0						
			$\vdash$																		
-		19.1	1				260	_													
F			_																		
<u>-</u> 5			6	SS	16		259								4—					1 11	51 37
E			├			1	200														
ĒΙ			1																		
<u>-6</u>			<u> </u>			-	258											ł			
-			7	SS	13										0						
7						1	257														
E			1				201														
			<del> </del>			1															
255.8			8	SS	20		256								0						
8.2	END OF BOREHOLE: Notes:																				
	1) Borehole wet at the bottom upon																				
	completion.																				
2																					
5																					
																		$ldsymbol{ldsymbol{ldsymbol{ldsymbol{ldsymbol{L}}}}$			

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21



PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

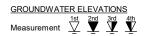
DRILLING DATA

Method: Solid Stem Auger

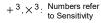
Diameter: 150mm REF. NO.: 20-169-104

Date: Sep-06-2022 ENCL NO.: 46

SOIL PROFILE		S	AMPL	ES	<u>ر</u>		DYNA RESIS	MIC CO TANCE	NE PE PLOT	NETRA	ATION		PLASTI	C NAT	URAL	TIÖI IID		ΤΛ	REMARK
DESCRIPTION	RATA PLOT	MBER	ЬE	BLOWS 0.3 m	OUND WATER	EVATION	SHEA O UI	AR STI	RENG INED	TH (kF	Pa) FIELD V & Sensit	'ANE	LIMIT W <sub>P</sub> ⊢—	CON	TENT W D	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT V (KN/m³)	AND GRAIN SIZ DISTRIBUTI (%)
TOPSOIL : 250mm		N	TYI	ż	9.00 0.00		2	0 4	0 6	0 8	80 1	00	1	0 2	20 3	30			GR SA SI
WEATHERED/DISTURBED		1	SS	13			Ē							٥٥					
trace sand, trace gravel, trace						266											ĺ		
SILTY CLAY TILL: trace sand,		$\models$				005	Ē							0					
trace gravel, brown, moist, very stiff		3	SS	21	-		Ė	m						0					
		4	SS	26		Oct 18	3, 2022							0					
		5	SS	27										0					
						263													
grey below 4.6m		6	SS	17		: 202 :								0					
						261													
SAND: silt pockets, grey, wet, compact		7	SS	18			-							0					
oompact.						260													
SANDY SILT TILL: trace clay	::::  ::::					259													
trace gravel, grey, very moist, dense		8	SS	32		:								0					
END OF BORHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Readings: Date: Water Level(mbgl): Oct. 18, 2022 2.05																			
						1													
					l		l												
	TOPSOIL: 250mm  WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace protelets, brown, moist, stiff SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff  SAND: silt pockets, grey, wet, compact  SAND: silt pockets, grey, wet, trace gravel, grey, very moist, dense END OF BORHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level (mbgl): Date: Water Level(mbgl):	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff  SAND: silt pockets, grey, wet, compact  SANDY SILT TILL: trace clay, trace gravel, grey, very moist, dense  END OF BORHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Readings: Date: Water Level(mbgl):	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff  SAND: silt pockets, grey, wet, compact  SAND: silt pockets, grey, wet, compact  SAND: silt pockets, grey, wet, compact  SAND: silt pockets, grey, wet, server,	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace sand, trace gravel, brown, moist, very stiff  SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff  5 SS  SAND: silt pockets, grey, wet, compact  SANDY SILT TILL: trace clay, trace gravel, grey, very moist, dense  END OF BORHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level (mbgl):  Date: Water Level(mbgl):	DESCRIPTION  TOPSOIL: 250mm  WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff  SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff  G SS 21  SAND: silt pockets, grey, wet, compact  SANDY SILT TILL: trace clay, trace gravel, grey, very moist, dense  END OF BORHOLE: Notes: 1) 50 mm dia. monitoring well installed upon completion. 2) Water level (mbgl):  Date: Water Level(mbgl):	DESCRIPTION    LO   VEX   S   E   S   O   O   O   O   O   O	DESCRIPTION    Variable   Variabl	DESCRIPTION    LO   LO   LO   LO   LO   LO   LO   L	DESCRIPTION    A   A   A   B   B   B   B   B   B   B	DESCRIPTION    TOPSOIL: 250mm   TOPSOIL:	DESCRIPTION	DESCRIPTION	DESCRIPTION    Topsoil: 250mm   Topsoil:	DESCRIPTION    DESCRIPTION   D	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION









DRILLING DATA

CLIENT: Caledon Community Partners

DATUM: Geodetic

Method: Hollow Stem Auger

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

Diameter: 200mm REF. NO.: 20-169-105 Date: Jun-26-2023 ENCL NO.: 2

BHLC	DCATION: See Drawing 1 N 4857235.34	4 E 5	9803	35.14				D) (A) (A)		NE DE	NETD!	TION						_				
L	SOIL PROFILE		S	AMPL	ES	~		RESIS	TANCE	NE PE E PLOT	NETRA	ATION		PLASTI	C NAT	URAL	LIQUID		¥	R	EMAF	
(m)		Б			ωI	GROUND WATER CONDITIONS	-		<u> </u>	0 6			00	LIMIT W <sub>P</sub>	CON	ITENT W	LIMIT W <sub>L</sub>	PEN.	NATURAL UNIT WT (KN/m³)	GF	ANE : RAIN	
ELEV	DESCRIPTION	STRATA PLOT	e.		BLOWS 0.3 m	M OF	ELEVATION		NR STI	RENG	TH (kF	Pa) FIELD V & Sensit	'ANE	₩ <sub>P</sub>		··		POCKET PE (Cu) (kPa)	JRAL (KN/m	DIS	TRIBL	JTION
DEPTH		RAT	NUMBER	TYPE		SOUR	EVA			RIAXIAI	_ ×	& Sensit LAB V	ivity ANE	WA	TER CO	ONTEN	T (%)	800	¥ I		(%)	
261.5			ž	ΤY	Þ	R C	ΠEΓ	2	0 4	0 6	8 0	80 1	00	1	0 2	20 3	80				SA S	SI CL
260.2 260.7	TOPSOIL: 250mm WEATHERED/DISTURBED		1	SS	5			_								0	42	•				
0.8	<b>NATIVE:</b> clayey silt to silty clay, /		2	SS	5																	
	trace rootlets, trace gravel, brown, /		$\vdash$				260								_			-				
2	SILTY CLAY TO CLAYEY SILT		3	SS	16										٥							
	<b>TILL:</b> trace sand, trace gravel, brown, moist, firm to very stiff		4	SS	50			-						c								
	hard below 2.3m some sand to sandy, grey below		5	SS	51		050	-						١.								
4	3.1m		l		01		258							T								
			1					Ė														
	wet sand seams below 4.5m		6	SS	40										•							
							256	-										-				
6			_					Ē														
			7	SS	40			F														
			1				054															
8		181	8	SS	27		254								∘	4		1		6	25 4	15 24
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								Ė														
			9	SS	42		252	-							0			-				
10								-														
			<u> </u>					-														
			10	SS	44		050								0							
12							250															
			11	SS	44										0							
			H												_							
							248											ł				
14			12	SS	50/ 30mn			-							О							
					(	8 8		-														
246.2 15.3	SANDY SILT TO SILTY SAND:		13	SS	50/		040	-							0							
15.3	trace clay, grey, wet, very dense				\30mn	<b> </b>	246											1				
								_														
			14	SS	77											0						
<u> </u>			H				244									-		ł				
18																						
			15	SS	72			Ė								0				0	22 7	74 4
						:  <b> </b> :	0.40	-														
20			40		0.1		242	-														
		[[:]]	16	SS	84			Ē							C	1						
		[]]].						-														
239.6			17	SS	75		240	_								0		1				
21.9	END OF BOREHOLE:	11.1																	П		_	
	Notes: 1) 50mm dia. monitoring well																					
	installed upon completion. 2) Water Level Readings:																					
	Date: Water Level(mbgl): July 7, 2023 -(above ground																					
ш	surface)					GRAPH		3 1						<u> </u>					Ш			

DS SOIL LOG-2021-DRAFT 20-169-105.GPJ DS.GDT 23-9-20

+  $^3$  , imes  $^3$  : Numbers refer to Sensitivity

O <sup>8=3%</sup> Strain at Failure



CLIENT: Caledon Community Partners

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 20-169-105

Date: Jul-04-2023 ENCL NO.: 3

	SOIL PROFILE		s	AMPL	ES			DYN/ RESI	AMIC CO STANCE	NE PE PLOT	NETR/	ATION		DI ACT	_ NATI	URAL			_	RE	MARKS
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE	20 4 AR STI INCONF QUICK T	RENG RENG INED RIAXIAI	TH (ki + L ×	Pa) FIELD V. & Sensiti	ANE vity ANE	W <sub>P</sub> ⊢ WA	TER CO	w OMTEN		POCKET PEN. (Cu) (kPa)	-	GRA DISTE	AND AIN SIZ RIBUTI (%)
261.5 0.0	Straight drilled to install well	S	ž		ž	<u>ο</u> δ	ш	-	20 4	0 6	50 E	30 10	00	1	0 2	20 :	30			GR S	A SI
2 2 2 2 2 2 2 2 2 2 3	END OF BOREHOLE:						261 260 259 258 257 256 255 254		m—————————————————————————————————————												
9.1	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): July 7, 2023 8.4																				



+  $^3$ ,  $\times$   $^3$ : Numbers refer to Sensitivity



### **LOG OF BOREHOLE BH23-2**

Method: Hollow Stem Auger

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners

restigation DRILLING DATA

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

Diameter: 200mm REF. NO.: 20-169-105

DATUM: Geodetic

Date: Jun-23-2023 ENCL NO.: 4

	M: Geodetic	۰ - ،	-070-	70.50				Date	Jun-2	23-2023	•					Εľ	NCL NO	O.: 4			
BH LO	CATION: See Drawing 1 N 4857600.6  SOIL PROFILE	8 E 5	$\overline{}$	9.52 SAMPL	ES.			DYNA	MIC CO	ONE PEN E PLOT	IETRA	ION								25144	
(m)		ТО				/ATER		:	20 4	40 60	80	10	0	PLAST LIMIT W <sub>P</sub>		URAL STURE ITENT W	LIQUID LIMIT W <sub>L</sub>	PEN. Pa)	UNIT WT	REMAR AND GRAIN S	)
ELEV EPTH 271.7	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	0 U	NCONF	RENGT FINED RIAXIAL 40 60	+ 8 × L	IÉLD VA Sensitivi AB VA	NE	WA <sup>*</sup>	TER CO	OMTEN	—	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	DISTRIBU' (%) GR SA S	ITI
7 <b>8.9</b> 270.9	TOPSOIL: 200mm WEATHERED/DISTURBED		1	SS	9			-							0						_
0.8	NATIVE: clayey silt to silty clay, trace rootlets, trace gravel, brown,		2	SS	17			-							0						
69.4	nyoist, stiff CLAYEY SILT TO SILTY CLAY		3	SS	28		270								0						
2.3	TILL: trace sand, trace gravel, brown, moist, very stiff		4	SS	31			Ē							0						
	SILT: trace clay, brown, moist to very moist, dense		5	SS	45	abla	W. L. :								0					0 0 94	4
							Jul 07	, 2023  -													
	grey below 4.6m		6	SS	38			-													
							266	_													
			7	SS	35			Ė								0					
64.1		Ш					004	-													
7.6	SANDY SILT TO SILTY SAND: trace clay, brown to grey, wet, compact to dense		. 8	SS	41		264	-								0					
	compact to defise		L				:	-													
			. 9	SS	37		262	<u> </u>								0					
								-													
	grey below 10.7m		10	SS	33			Ē								0					
			_				260														
258.9 12.8	END OF BOREHOLE:	<u>         </u> 	11	SS	21			_								0					_
	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																				
	Date: Water Level(mbgl): July 7, 2023 3.4																				
- 1		1	1	1	1	ı	1		1	1					I	1	1			1	

REF. NO.: 20-169-105



PROJECT: Geotechnical Investigation

DRILLING DATA

CLIENT: Caledon Community Partners

Method: Hollow Stem Auger

Diameter: 200mm

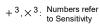
PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

DATUM: Geodetic

Date: Jun-23-2023 ENCL NO.: 5

	SOIL PROFILE		S	AMPL	ES			D R	OYNĀ RESIS	MIC CO STANCE	NE PE PLOT	NETR/	ATION		DI 40-	, NAT	URAL			F	REN	/ARKS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	ш	BLOWS 0.3 m	GROUND WATER	ELEVATION		SHE/		RENG	50 E TH (kl	Pa) FIELD V	OO ANE	W <sub>P</sub>		W O	LIQUID LIMIT W <sub>L</sub> IT (%)	POCKET PEN. (Cu) (kPa)	ATURAL UNIT W	GRA DISTE	AND IN SIZE RIBUTIC (%)
270.2			NON	TYPE	ż	GRC								00				30		_	GR S/	A SI
0.3	TOPSOIL: 250mm WEATHERED/DISTURBED	127. 217.	1	SS	12		2	70								0						
69.4	NATIVE: clayey silt to silty clay,	ИИ1						Ė														
0.8	trace rootlets, trace gravel, brown, noist, stiff  SILTY CLAY TO CLAYEY SILT  TILL: some sand to sandy, trace		2	SS	24		2	69								0						
	gravel, brown, moist, very stiff to hard		3	SS	23		2	68	,							0						
			4	SS	37		2	.00							c							
			5	SS	35		2	67							c	<b>)</b>						
							2	66														
	grey below 4.6m		6	SS	17											φ						
							2 ∵	65														
			7	SS	15		2	64								o.l	•		-		5 28	0 47
			,		13			ŀ								o <b>l</b> —					5 20	9 41
							∵ Wົ Jul	Ĺ. 26 07, 2														
			8	SS	16		2	62								0						
								61														
9.7	END OF BOREHOLE:		9	SS	16			01								0						
9.1	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																					
	Date: Water Level(mbgl): July 7, 2023 7.1																					
	odiy 1, 2020 1.1																					
						GRAP				Numbe					at Failu							







DRILLING DATA

CLIENT: Caledon Community Partners

DATUM: Geodetic

Method: Hollow Stem Auger

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

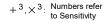
Diameter: 200mm REF. NO.: 20-169-105

Date: Jul-04-2023 ENCL NO.: 6

	JM: Geodetic		0400					Date:	Jui-0	4-2023	•					Er	NCL N	U.: 6				
BHTC	OCATION: See Drawing 1 N 4857474.3 SOIL PROFILE	E 59	1					DYNA	MIC CC	NE PE	NETR/	ATION		1				г	I -			_
	SOIL PROFILE	1		SAMPL	.ES	 		ı	MIC CC STANCE					PLAST	C NAT	URAL TURE	LIQUID		NATURAL UNIT WT (kN/m³)	REM	IARKS	
(m)		P.			SI	GROUND WATER CONDITIONS	_		í				00	LIMIT W <sub>P</sub>	CON	TENT V	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	TINU (°	GRA	.ND In Size	=
ELEV	DESCRIPTION	STRATA PLOT	Ľ.		BLOWS 0.3 m	201	EVATION		AR STI		TH (kF	Pa) FIELD V & Sensiti	ANE	"F		·	—-i	P S S	RAL KN/h	DISTR		
DEPTH		₹ ₹	NUMBER	TYPE		S G	EVA.		UICK T		L X	& Sensiti	vity ANE	WA <sup>-</sup>	TER CO	ONTEN	T (%)	88	¥	(	%)	
265.5			N	Ξ	ż	GR	ELE						00	1	0 2	20 3	30			GR SA	SI	CL
269:9		<u>11/4</u>	1	SS	7			E									0					
0.3 -264.9	WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay,		Ľ	00	,		265	<u> </u>	-							0	-	-				
0.6	trace rootlets, trace gravel, brown, /		}					-														
Ë	noist, firm  CLAYEY SILT TO SILTY CLAY		2	SS	14			-							0							
Ė	TILL: trace sand, trace gravel,						264											1				
	brown to grey, moist, stiff to very stiff		3	SS	18			-							0							
- 2								-														
E	grey below 2.3m		$\vdash$				263	-														
262.6			4	SS	11		203	-							0							
3 2.9		fifi						-														
<b>F</b>	grey, wet, compact		5	SS	18		000	-								0				0 48	49	3
F							262	-										1				
4								E														
Ē								E														
-260.9 - 4.6	SANDY SILT TO SILTY SAND:		-			<del> </del> ∷⊟∴	261	-										1				
5	with clayey silt pockets, trace	밥	6	SS	40			Ē								•						
F	gravel, grey, wet, dense		$\vdash$					-														
E							260	-										ł				
6			ł					E														
<u> </u>								-														
		Hil	7	SS	38		259	-								0		ł				
F,								Ė														
Ė			1					-														
E							258	Ē										1				
-		批	8	SS	38			-								0						
257.3			Ľ					-										_				
8.2	END OF BOREHOLE: Notes:																					
	50mm dia. monitoring well installed upon completion.																					
	Water Level Readings:																					
	Date: Water Level(mbgl):																					
	July 7, 2023 flowing artesian																					
	conditions																					
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DS SOIL LOG-2021-DRAFT 20-169-105.GPJ DS.GDT 23-9-20





REF. NO.: 20-169-105



### **LOG OF BOREHOLE BH23-6**

PROJECT: Geotechnical Investigation

DATUM: Geodetic

igation DRILLING DATA

CLIENT: Caledon Community Partners

Method: Solid Stem Auger/Hollow Stem Auger

Diameter: 150mm/200mm

Date: Jun-23-2023 ENCL NO.: 7

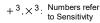
BH LOCATION: See Drawing 1 N 4857295.68 E 597922.46

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

	SOIL PROFILE		S	AMPL	.ES	<u>_</u>		RESIS	MIC CO STANCE	PLOT	NE I F	RATION >		PLASTI	C NAT	URAL	LIQUID		W	REMARKS
(m) ELEV	DESCRIPTION	A PLOT	2		BLOWS 0.3 m	GROUND WATER CONDITIONS	NOI	SHEA	AR ST		 ТН (k	 (Pa)	100 VANE	PLASTI LIMIT W <sub>P</sub>		STURE NTENT W	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	RAL UNIT M (kN/m³)	AND GRAIN SIZE DISTRIBUTIOI
263.3	BESSIAL FIGH	STRATA PLOT	NUMBER	TYPE	"N"	GROUN	ELEVATION	• Q	NCONF UICK T 20 4		_ ×		VANE 100			ONTEN	T (%)	OO)	NATC	(%) GR SA SI C
26 <b>9</b> : <b>9</b> 262.5	TOPSOIL: 200mm		1	SS	5			-								•				
262.5	WEATHERED/DISTURBED  NATIVE: clayey silt to silty clay, /							Ē												
8.0	trace rootlets, trace gravel, brown,	133	2	SS	20		262	<u> </u>							0					
	moist, firm		3	SS	26	1	-0-	ļ.							0					
	CLAYEY SILT TO SILTY CLAY		<u> </u>	33	20			ŀ							"					
	<b>TILL:</b> trace sand, trace gravel, brown to grey, moist, stiff to hard		4	SS	41	1		F						Ι,						
		1/1	1	-		1		E												
	sandy, grey below 3.1m		5	SS	28		260	-										ł		
			一			1		ļ.												
			1					F												
			6	SS	26	1		E												
			1–	- 00	20	ł	258	<u> </u>						ļ						
		183	1					ŀ												
	sandy silt pockets at 6.0m		1—			-		E												
	, .		7	SS	13			Ŀ							1					
			1					ļ.						1						
					<u> </u>		256	E						_						
		183	<u>8</u>	_SS_	50/ 75			E						٥	1					
			1		mm			-												
54.2		likir	1					ļ.												
9.1	SANDY SILT TO SILTY SAND:	ΠĤ	9	SS	isturb	i ∎d	254	<u> </u>				+		1		0				
	trace clay, grey, wet,		Ť	-	-	ľ		E												
	loose(disturbed) to very dense							Ŀ												
			1					ļ.												D
		$\left  \cdot \right  \left  \cdot \right $	10	SS	47		252	F							(	5				Borehole drilled 1m
						1	252													beside origii
		$\ \cdot\ $						ŀ												position/swi
			11	SS	39	1		F								0				to Hollow Stem
			$\vdash$			ł		Ė												0.0
							250	-				+								
			12	SS	24	•		-								0				
		$\ \cdot\ $	. 12	33	24			F								~				
		1:11						Ē												
	ailt naakata at 15 0m	. .				-	248													
	silt pockets at 15.2m	$ \cdot $	13	SS	26	]	0	ļ.							0	1				
		$  \cdot  $	14	SS	27	1		Ė												
		$[\cdot]$	14	33	21			E								ľ				
			1					ŀ												
			1				246	-												
								Ė												
		$ \cdot \cdot $	1-		F2	1		F						1		.]				
44.4	END OF BODENCY E	Ш	. 15	SS	53			<u> </u>				+			٥	<u>'</u>			_	
18.9	END OF BOREHOLE: Notes:							1												
	1) Water at the depth of 9.1m							1												
	during drilling.							1												
								1												
								1						1						
								1						1						
								1						1						
244.4 18.9								1						1						
								1						1						
								1						1						
								1						1						
			1			1	l	l		1				1		1	1			
- 1								ı				- 1			l .					









DRILLING DATA

CLIENT: Caledon Community Partners

Method: Hollow Stem Auger

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

Diameter: 200mm REF. NO.: 20-169-105 Date: Jul-05-2023

DATUM: Geodetic

ENCL NO.: 8

BH LO	CATION: See Drawing 1 N 4857543.2	8 E 5	9829	6.92			_	IDVAIA	MIC CC	NIE DE	NETD	ATION						_	_			
	SOIL PROFILE		S	AMPL	ES	<u>~</u>		RESIS	STANCE	NE PE E PLOT	NETR/	ATION		PLASTI	C NATI	JRAL TURE	LIQUID		¥	RE	EMAF	≀KS
(m)		10			ωı	GROUND WATER CONDITIONS	_						00	LIMIT W <sub>P</sub>	CON	TENT V	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GF	AND AIN S	
ELEV	DESCRIPTION	STRATA PLOT	e.		BLOWS 0.3 m	NOT NOT	EVATION		NR STI	RENG	TH (kl	Pa) FIELD V & Sensit	'ANE	₩ <sub>P</sub>		·		S S S S S	RAL ₩	DIST	RIBL	JTION
DEPTH		RAT	NUMBER	TYPE		<u> </u>	EVA			RIAXIA	L X	& Sensit LAB V	ivity ANE	WA	TER CC	NTEN	T (%)	800	₹		(%)	
265.3			ž	≽	ż	R-0	W. L. : Jul 07	265.6	m 4	0 6	3 0	30 1	00	1	0 2	0 3	80				SA S	SI CL
269:0	TOPSOIL: 250mm WEATHERED/DISTURBED	111/2 111/2	1	SS	5		265	L								•						
- 0.3	NATIVE: clayey silt to silty clay,							Ē							0							
264.3	trace sand, trace rootlets, brown, _moist, firm							-														
1.0	CLAYEY SILT TO SILTY CLAY		2	SS	7		264								0							
-	TILL: trace sand, trace gravel, brown, moist, firm							-														
2	grey below 1.5m		3	SS	6			Ē								•						
263.0							263															
2.3	SANDY SILT TO SILTY SAND: trace clay, grey, wet, compact to		4	SS	23		200	-														
-3	dense		Ŀ					Ė														
Ĕ		$\ \cdot\ $					262															
E			5	SS	15		202	-							0							
								-														
-							201	-														
-							261															
E			6	SS	30			-								0						
5		$  \cdot  $	L	33	30			Ė														
		$\ \cdot\ $					260	-														
								E														
259.2 6.1	SILT: trace clay, trace sand, grey,	44						-														
0.1	wet, compact		7	SS	21		259	-								0				0	3 9	3 4
								-														
7								Ē														
-257.7							258															
7.6	SANDY SILT TO SILTY SAND:	1111						Ė														
-8	trace clay, grey, wet, compact to dense		8	SS	13											0						
		朏					257	<u> </u>														
								Ė														
- <u>9</u>		掃				.:日.:		Ē														
			9	SS	37		256								0							
			<u> </u>					E														
<u>10</u> - -								Ė														
		Hili					255	-														
								Ē														
11			10	SS	20			E								0						
			-				254	-														
-								Ė														
12								F														
253.1	SAND: some silt, trace gravel,						253	-						-								
252.5	grey, wet, compact		11	SS	16			ŧ								0						
12.8	END OF BOREHOLE:	Ť																	Г			
	Notes: 1) 50mm dia. monitorng well																					
	installed upon completion. 2) Water Level Readings:																					
	,																					
	Date: Water Level(mbgl): July 7, 2023 -0.3																					
	. , ., ==== 0.0																					
																				$oxed{oxed}$		
						GRAPH	3	3 1				<b>2</b> − 30/										

DS SOIL LOG-2021-DRAFT 20-169-105.GPJ DS.GDT 23-9-20



DRILLING DATA

CLIENT: Caledon Community Partners

Method: Hollow Stem Auger

PROJECT LOCATION: Macville Secondary Plan and Argo King, Caledon, ON

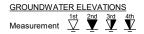
Diameter: 200mm REF. NO.: 20-169-105

ENCL NO.: 9

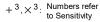
DATUM: Geodetic

Date: Jul-04-2023

,	SOIL PROFILE		S	AMPL	.ES	<u>_</u> ر			RESIS	MIC CO STANCI	NE PE E PLOT	NETR	ATION		PLASTI	IC NAT	URAL	LIQUID	1	Ţ.	R	EMA	\RK!
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m	GROUND WATER	SNOITIONS	ELEVATION	SHE/	20 4 AR ST NCONF	RENG INED	TH (kl	Pa) FIELD & Sens	VANE itivity	W <sub>P</sub>	CON	ITENT W O	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	GI	AN RAIN TRIB (%	I SIZ BUTI
274.2			ž	۲	Ž	ß	ၓ	ᆸ	:	20 4	0 6	3 0	30	100	1	0 2	20	30			GR	SA	SI
27 <b>4.0</b> 0.2	TOPSOIL: 230mm WEATHERED/DISTURBED	127	1	SS	12			274	_	-						0			1				
0.2	NATIVE: sandy silt, trace clay,								Ė														
273.2 1.0	trace rootlets, trace organics, brown, moist, compact		2	SS	14	ı										0							
	CLAYEY SILT TO SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, stiff to hard trace cobble fragments at 1.5m		3	SS	19	ı		273								0							
2	nace copple nagments at 1.5m				19	ı		272															
		#9/ #/ #/	4	SS	32											0							
			5	SS	50/ 130mr			271								0							
					1001111																		
						ı		270															
	grey below 4.6m		6	SS	30											<b>d</b> —	+				5	23	48
								269															
267.7			7	ss	33	ı		268								0							
6.5	<b>GRAVELLY SAND:</b> trace cobble, grey, wet, dense	8. C	1		00	ı									0	1							
266.6		å.Ö.						267															
7.6	SANDY SILT TO SILTY SAND: trace clay, grey, wet, dense		. 8	SS	37	<u></u>	7										0						
								W. L. 2 Jul 07,															
!			9	SS	35			265									0						
!																							
263.5								264															
10.7	<b>SAND:</b> some silt, trace clay, grey, wet, dense		10	SS	33			263									0				0	80	17
								_00															
			11	ss	40		‡:	262									0						
261.4	END OF BODEHOLE:	<u> </u>	$\vdash$							₩	1				₩				<u> </u>				_
263.5 10.7 2 261.4 12.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																						
	2) Water Level Readings:  Date: Water Level(mbgl): July 7, 2023 8.2																						







PROJECT: Hydrogeological Investigation DRILLING DATA CLIENT: Caledon Community Partners Method: Air Rotary

PROJECT LOCATION: Macville Community Diameter: 152mm REF. NO.: 20-169-105

	SOIL PROFILE		S	AMPL	.ES				Soil	Hea	d Sp	ace \	Vapo	rs			, IA	FI IDAI				DEMADICO
(m) LEV EPTH	DESCRIPTION	STRATA PLOT			BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION		PIE (ppr	) n)			CG (ppr	D n)		PLASTI LIMIT W <sub>P</sub>	COI	W O	W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTIO
67.2			NUMBER	TYPE	<u> </u>	GROU	ELEV		20			_	20		• •0			ONTEN 20	NT (%) 30	Δ.	NA.	(%) GR SA SI
0.0	SILTY SAND TO SANDY SILT:trace sand, clay and fill						າຂຂ -Bentor	nite														
1.5 64.1	SILTY CLAY: brown to grey moist																					
3.1	SILTY CLAY TO SANDY SILT: brown to grey moist						264 W. L. 2 Aug 11 262	63.8	masl 23													
6.1	SAND: fine, wet, dense, traces of silt						260															
							258													-		
							256															
							-Sand 254													-		
							-20 Slo	t PV	C Scre	en—										-		
							250													=		
							248													-		
45.9 21.3	END OF BOREHOLE					.·  <del>  </del> .·	246															
	NOTES: 1. 152 mm pumping well. 2. 20 ft of 20 slot-PVS screen (30-70 ft). 3. Soil description based on drillers' field observations. 4. Water level: 3.4 mbgs - August 11, 2023																					
		1				I	ıl									1				I		

REF. NO.: 20-169-105

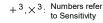


### **LOG OF BOREHOLE PW2B**

DRILLING DATA PROJECT: Hydrogeological Investigation CLIENT: Caledon Community Partners Method: Air Rotary PROJECT LOCATION: Macville Community Diameter: 152mm

	SOIL PROFILE		S	AMPL	.ES	] <sub>~</sub>		Soil Head			PI ASTIC N	ATURAL LIQU	ın	₽	REMARKS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	J" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	PID (ppm)	•	CGD (ppm)		CONTENT (%)	L		AND GRAIN SIZE DISTRIBUTIO (%)
0.0	CLAYEY SILT TILL: trace sand and fill, moist, hard	S	Z	F	"N.	<u> </u>		10 20 30 40 59.3 masl , 2023	10	20 30 40	10	20 30			GR SA SI
3.0	SILTY CLAY: grey						256 254 252 -Sand 250								
247.1 12.2 244.1 15.2	CLAYEY SILT TILL: trace sand, grey  END OF BOREHOLE						-20 Slo 248 246								
	NOTES: 1. 152 mm pumping well. 2.20 ft of 20 slot PVC screen (25-45 ft). 3. Soil description based on drillers' field observations. 4. Water level: above ground surface - August 24, 2023														







PROJECT: Hydrogeological Investigation DRILLING DATA

CLIENT: Argo Kennedy Limited Method: Air Rotary

PROJECT LOCATION: Caledon Community Partners Diameter: 152mm REF. NO.: 20-169-106

DATUM: Geodetic Date: Jun-07-2024 ENCL NO.: 2

BH LC	SOIL PROFILE		S	AMPL	.ES			DYNA	MIC CC	NE PE PLOT	NETR/	ATION			A1A-	I IDA:				DEMARKS
[						GROUND WATER CONDITIONS		1		0 6		30 10	20	PLASTI LIMIT	C MOIS	URAL STURE	LIQUID LIMIT	zi.	NATURAL UNIT WT (kN/m³)	REMARKS AND
(m)		STRATA PLOT			SIE	WA_ NS	l z	$\vdash$		RENG				W <sub>P</sub>		ITENT W	$\mathbf{W}_{L}$	POCKET PEN. (Cu) (kPa)	(m <sup>3</sup> )	GRAIN SIZ
ELEV EPTH	DESCRIPTION	TAF	NUMBER		BLOWS 0.3 m		EVATION		CONF		+	FIELD V. & Sensiti	ANE vity	-		·		ŠĆ.	TURA RN	DISTRIBUTION (%)
		TR/	UME	TYPE	į.	<u>\$₹</u>	Ä			RIAXIAL	. ×	LAB V	ANE		TER CO			_		
0.0	SILTY CLAY TO CLAYEY SILT	\sqrt{\sq}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}\sqrt{\sin}\exi\tinq}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}} \sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}} \sqrt{\sqrt{\sqrt{\sinq}}}}}}} \sqrt{\sqrt{\sqrt{\sinq}}}}}} \sqrt{\sqrt{\sqrt{\sinq}	z		-	0 0	W. L. ■.lul 2:	262.7 3, 2024	**	0 6		30 10	JU	<u> </u>	0 2	20	30			GR SA SI
0.0	TILL: trace sand and gravel,	PH	1				ou. 2	<u> </u>												
	brown to grey							E												
			1				26	1												
								Ė												
		131					25	,ŧ												
		KK					25	`E												
								Ē												
.		14	1				25	3												
								Ė												
			1					F												
			1				25	1												
		lill.						Ė.												
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•			1				24	1 -										ł		
242.6			1					ŧ												
19.5	SANDY SILT TO SILTY SAND :							F												
	trace till	$\ \cdot\ $					24	-										1		
		$  \cdot  $					:	F												
		: ] .					24	<u> </u>												0 45 51
								Ē												
238.1						[::H:::	Sand	E												1 43 44
24.0	CLAYEY SILT: trace till						720.5	ot PVC	Scree	en										
								F												
.							23	<u>.</u>												0 2 78
24.0																				0 2 70
27.0	END OF BOREHOLE						1	1												
	NOTES:																			
	1. 152 mm pumping well. 2 .20 ft of 20 slot PVC screen in																			
	deep well (70-90 ft) .  3. Soil description based on drillers'																			
	field observations.																			
	4. Water level: -0.55 m above ground surface - July 23, 2024						1	1												
	<b>,</b>						1	1												
							1	1												
		1	1		1	ı	1	1	1	1		1	1	1	I	1	1	1	i	



PROJECT: Hydrogeological Investigation DRILLING DATA CLIENT: Argo Kennedy Limited Method: Air Rotary

PROJECT LOCATION: Caledon Community Partners Diameter: 152mm REF. NO.: 20-169-106

	M: Geodetic CATION: N 4857164.202 E 598002.667	7						Date:	Jun-(	7-202	4					Εl	NCL N	0.: 1		
(m) ELEV DEPTH	SOIL PROFILE	ГОТ	NUMBER	AMPL	BLOWS SS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O U	20 4 AR STI	ONE PE PLOT 0 6 RENG INED	0 8 TH (kF +	0 1 Pa) FIELD V & Sensit	00 /ANE	PLAST LIMIT W <sub>P</sub>	IC NAT MOIS CON	URAL STURE ITENT W O	LIQUID LIMIT W <sub>L</sub> ——I	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTIO (%)
262.1		STE	NUN	ТУРЕ	Z.	GRC	-Bento	2		0 6							30	-		GR SA SI
<u>4</u>	; ; ,						258	E E 256.3	m									-		
253.1 9.0	END OF BOREHOLE						20 Slo	t PVC		en								-		
	NOTES: 1. 152 mm pumping well. 2. 10 ft of 20 slot PVC screen (20-30 ft). 3. Soil description based on drillers' field observations. 4. Water level: 5.8 mbgs (shallow) - July 23, 2024																			





# LOG OF BOREHOLE NO.: 1

FIGURE NO.:

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

		,	SAMPI	LES		10		ynam 30	50		70	90	A	tterb	erg L	imits		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	>	50 50 D	Shear :	Streng 00 L L ation F ows/3	th (kN 150 L Resista 0 cm)	I/m²) 20 I I I ance 70		Mo	PL 		LL 		WATER LEVEL
263.9	Ground Surface		'		_	+												
0.0	40 cm TOPSOIL			_	0								1	5			П	
	Stiff to hard weathered	1	DO	8		- 0							11					
		2	DO	54	1 -					5								
		3	DO	40	2 -			(					1/					
	SILTY CLAY TILL	4	DO	41	- -			(					1	5				u
	SILIT CLAT TILL	5	DO	30	3 -			0						17				Dry on completion
257.3 6.6	END OF BOREHOLE  Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing	7	DO	24	5 - 6 - 8 -									5				Dry on



# LOG OF BOREHOLE NO.: 2

FIGURE NO.:

2

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 28, 2021

		(	SAMP	LES		Dynamic Cone (blows/30 cm)     30    50    70    90    Atterberg Limits	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Type	N-Value	Depth Scale (m)	X Shear Strength (kN/m²)  50 100 150 200  Penetration Resistance (blows/30 cm)  10 30 50 70 90 10 20 30 40  Moisture Content (%)  Y  H  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y	
264.1	Ground Surface						
0.0	30 cm TOPSOIL  Stiff to hard  weathered	1	DO	9	0	0 19	
		2	DO	36	1 -	0 12	
		3	DO	45	2 -	14	
	SILTY CLAY TILL	4	DO	26	-	0 14	ion
		5	DO	44	3 -	16	Dry on completion
	some sand, a trace of gravel <u>brown</u> occasional cobbles and boulders grey				4 -		Dry or
		6	DO	25	5 -	0 12 • • • • • • • • • • • • • • • • • •	
					-		
257.5		7	DO	26	6 -	0 16	
6.6	END OF BOREHOLE				7 -		
					8 -		
					9 -		
					10		



# LOG OF BOREHOLE NO.: 3

METHOD OF BORING: Flight-Auger

FIGURE NO.:

3

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

PROJECT DESCRIPTION: Proposed Mixed-Use Development

DRILLING DATE: September 28, 2021

		Ç	SAMP	LES		10	3		70 90	Atte	erberg Limits	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)		She	ear Strength (kl 100 150 L L L L netration Resist (blows/30 cm) 0 50	N/m²) 200	PL  Mois	WATER LEVEL	
266.3	Ground Surface											
0.0	30 cm TOPSOIL  Firm to hard  weathered	1	DO	6	0 -	0				14		
		2	DO	46	1 -			0		12		
		3	DO	51	2 -			0		14		
	SILTY CLAY TILL	4	DO	44	-			0		12		etion
		5	DO	56	3 -			0		14		Dry on completion
	some sand, a trace of gravel <u>brown</u> occasional cobbles and boulders grey				4 -							Dry
		6	DO	28	5 -		C			12		
		7	DO	20	6 -	-				15		
259.7 6.6	END OF BOREHOLE	1	ВО	28	7 -							
					8 -							
					9 -							
					10	+						_



Soil Engineers Ltd.

Page: 1 of 1

# LOG OF BOREHOLE NO.: 4

FIGURE NO.:

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

			SAMP	LES		10	3	0	50	70	30 cm) 90		F	Atterb	erg Lir	nits	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	X Shear Strength (kN/m²)  50 100 150 200  Penetration Resistance (blows/30 cm)  10 30 50 70 90						• Moisture Content (%)				WATER LEVEL	
266.6	Ground Surface											L					
0.0	60 cm TOPSOIL	1	DO	8	0	0								20			l
	Very stiff to hard weathered	2	DO	33	1 -			0					1:				
		3	DO	48	2 -				0				12				
	SH TV OLAV THE	4	DO	32				0					1:				tion !
	SILTY CLAY TILL	5	DO	41	3 -			0						15			Dry on completion
	<u>brown</u> grey some sand, a trace of gravel occasional cobbles and boulders				4 -												
		6	DO	21	5 -		0							16			Drv on
					6 -									16			•
260.0		7	DO	20			Φ_										
6.6	END OF BOREHOLE  Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				7 - 8 - 9 -												

# LOG OF BOREHOLE NO.: 5

METHOD OF BORING: Flight-Auger

FIGURE NO.:

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

PROJECT DESCRIPTION: Proposed Mixed-Use Development

DRILLING DATE: October 4, 2021

		5	SAMP	LES		10			ic Cone			cm) 90	Atterl	oerg Li	mits		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	0)	N-Value	Depth Scale (m)	X Shear Strength (kN/m²)  50 100 150 200  Penetration Resistance (blows/30 cm)					PL 		WATER LEVEL				
		Nur	Туре	>- Z	Dep	10		30	50	7	0	90 		) 30			W
267.9 0.0	Ground Surface 20 cm TOPSOIL				0 -	L								<u> </u>			
0.0	Stiff to hard	1	DO	8		0							2				
	<u>w</u> ea <u>th</u> er <u>ed</u>	2	DO	35	1 -			0					14				
		3	DO	27				0					16				
	SILTY CLAY TILL	4	DO	38	2 -				<b>-</b>				16				
	SILTI CLAT TILL	5	DO	38	3 -								16			•	Dry on completion
		5	ВО	30													on cor
	some sand, a trace of gravel occasional cobbles and boulders — brown grey				4 -												Dry
		6	DO	16	5 -		0						2			-	
		7	DO	17	6 -		a						15				•
261.3 6.6	END OF BOREHOLE				-												
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen				7 -												
	Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				-												
	Provided with a mondifical steel casing				8 -												
					-												
					9 -												
					-												
					10		+				$\vdash$					+	



# LOG OF BOREHOLE NO.: 6

FIGURE NO.:

6

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

	SOIL DESCRIPTION	SAMPLES				• Dynamic Cone (blows/30 cm) 10 30 50 70 90						90	Atterberg Limits					Ì				
EI. (m) Depth (m)		Number	Туре	N-Value	Depth Scale (m)	X Shear Strength (kN/m²)  50 100 150 200  Penetration Resistance (blows/30 cm)  10 30 50 70 90					Moisture Content (%)				)	WATER LEVEL						
268.1	Ground Surface																					
0.0	30 cm TOPSOIL Firm to hard weathered	1	DO	7	0 _	0									24	1						
		2	DO	33	1 -			0						15								
		3	DO	26	2 -			0						16								
	SILTY CLAY TILL	4	DO	29	_			0						16						tion		
		5	DO	34	3 -			0						14						Dry on completion		
	some sand, a trace of gravel occasional cobbles and boulders   — brown grey				4 -															Dry or		
		6	DO	14	5 -		0							1								
					6 -																	
261.5		7	DO	15			0							11					ШΠ			
6.6	END OF BOREHOLE  Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				8 -																	
					9 -																	
						$\Box$	T															



## LOG OF BOREHOLE NO.: 7

FIGURE NO.:

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

		Š	SAMP	LES		10	30 50		0	Atterberg Limi	ts	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	O 10	Shear Stren 50 100 Penetration (blows/3	150 200 	•	PL LI Moisture Conter	nt (%)	WATER LEVEL
266.6	Ground Surface											
0.0	20 cm TOPSOIL Stiff to hard	1	DO	8	0 -	0				21		
	<u>w</u> ea <u>th</u> er <u>ed</u>	2	DO	21	1 -		0			17	1	
		3	DO	31	2 -		0			14		
	SILTY CLAY TILL	4	DO	46	_		0			13		ion
		5	DO	40	3 -		0			14		Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders — brown grey				4 -							Dry or
		6	DO	27	5 -		0			16		
					_							
260.0		7	DO	26	6 -		0			12		
6.6	END OF BOREHOLE				7 -							
					8 -							
					9 -							
					10							



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 8

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

PROJECT DESCRIPTION: Proposed Mixed-Use Development

DRILLING DATE: September 29, 2021

FIGURE NO.:

8

		(	SAMP	LES		10		namic	Cone 50	(blows	/30 cm) 90		Λ#6	rbora Li	imito		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	$\vdash$	50 Pe	near S	trength 0 1 ion Re	(kN/m 50	<sup>2</sup> )	+	PL  -		LL ntent (%)		WATER LEVEL
265.6 0.0	Ground Surface 25 cm TOPSOIL				0											١.,	
0.0	Stiff to hardweathered	1	DO	9	0	0								27			
		2	DO	30	1 -			0					15				
		3	DO	34	2 -			0					14				
	SILTY CLAY TILL	4	DO	54	-				0				15			•	ion
		5	DO	40	3 -			C	)				15			-	Dry on completion
	some sand, a trace of gravel <u>brown</u> occasional cobbles and boulders grey				4 -												Dry on
		6	DO	24	5 -		0	'					16			• -,  -  -	
					-											* -  -  -  -	
259.0		7	DO	12	6 -	C	)						15				J
6.6	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				7 - 8 - 9 -												



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 9

FIGURE NO.:

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

			SAMP	LES		10	Dynami	50	70	90	,	Atterbe	erg Limi	ts	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)		Shear S 50 10	00 1	(kN/m²) 50 2	00		PL <del> </del>	LI 	-	WATER LEVEL
267.7	Ground Surface					L									
0.0	50 cm TOPSOIL —Stiff to hard	1	DO	8	0 -	0						2	24 ●		
	<u>w</u> ea <u>th</u> er <u>ed</u>	2	DO	29	1 -	-	0					17			
		3	DO	36	2 -		0					16			
	SILTY CLAY TILL	4	DO	63					0		12				tion
		5	DO	44	3 -	-		0				15			Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders				4 -										Dry o
		6	DO	23	5 -		0					17			
					6 -	-					12				
261.1		7	DO	18			<b>-</b>								
6.6	END OF BOREHOLE				7 -										
					8 -										
					9 -										
					_										
					10	1									

Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 10

METHOD OF BORING: Flight-Auger

FIGURE NO.:

10

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

PROJECT DESCRIPTION: Proposed Mixed-Use Development

DRILLING DATE: October 5, 2021

		(	SAMP	LES			<ul> <li>Dynamic Cone</li> <li>30 50</li> </ul>	70 90	Atterberg Limits		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	e e	N-Value	Depth Scale (m)		X Shear Strengt 50 100  Penetration R (blows/30	th (kN/m²) 150 200	PL LL  Moisture Content		WATER LEVEL
		Nur	Туре	>-Z	Dep	1	10 30 50		10 20 30		M W
267.6 0.0	Ground Surface 20 cm TOPSOIL				0 -	+			21		
	Stiff to hard	1	DO	12	-	1	0		•		
	<u>w</u> ea <u>th</u> er <u>ed</u>	2	DO	15	1 -	1	0		16		
		3	DO	46	2	1	0		14		
	SILTY CLAY TILL	4	DO	42	-	1	0		14		uc
		5	DO	34	3 -	1	0		18	-	Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders — brown grey				4 -	1					Dry on
		6	DO	19	5 -	1	0		13		
					-	1					
		7	DO	26	6 -	1	0		14		
261.0 6.6	END OF BOREHOLE				7 -	1					
					-	1					
					8 -	1					
					9 -	1					
					10	1					



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 11

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FIGURE NO.:

11

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 5, 2021

		Ç	SAMP	LES		10	3	30		70	90		Atte	erberg	Limits	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	×	50 Per	100 100 11 netration (blows	ngth (kN 150 L L n Resist 5/30 cm)	N/m²) 200 L L ance			PL  -	ture Co	ontent (	WATER LEVEL
267.2	Ground Surface															
0.0	20 cm TOPSOIL Stiff to hard weathered	1	DO	10	0 -	- 0								24		
	<u></u>	2	DO	27	1 -		С						1			
		3	DO	50/15	2 -							>	13			
	SILTY CLAY TILL	4	DO	33	_			0					15			ion
		5	DO	35	3 -			0					16			Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders — brown grey				4 -	-										Dry or
		6	DO	16	5 -		)							8		
					_											
260.6		7	DO	22	6 -		0						13			
6.6	END OF BOREHOLE				7 -											
					8 -											
					_											
					9 -											
					10											



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 12

FIGURE NO.:

12

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021

			SAMP	LES		10			50	70	/30 cm			Atte	rber	g Lim	its		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	10	Sh 50 Pe	netratio (blow	ength 1!	(kN/m 50	200		• 10	PL 	ure (	L	L    ent (%)		WATER LEVEL
266.4	Ground Surface					Т						1							
0.0	— 100 mm ASPHALTIC CONCRETE — 200 mm GRANULAR FILL —	1	DO	7	0	0						1			22				
	Firm to hard weathered				_	$\blacksquare$													
		2	DO	22	1 -		0							15					
		3	DO	43	2 -			C						15					
		4	DO	36	_			0						15					-
	SILTY CLAY TILL				3 -									16					pletior
		5	DO	69	-					0				•					Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders				4 -														Dry o
		6	DO	25	5 -		С							17					
					-														
050.0		7	DO	16	6 -		0								21				
259.8 6.6	END OF BOREHOLE				7 -														
					8 -														
					9 -														
												$\frac{1}{2}$							
					10	1			+		+	+	+		+	+		$\vdash$	

Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 13

FIGURE NO.:

13

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

			SAMP	LES		10	3	namic Cone (k 0 50	70	90	Atterbe	erg Limi	ts	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)		She 50 Per	ear Strength ( 100 150 100 150 100 Resi 100 (blows/30 cr	kN/m²) ) 20	00 L L	PL 	LI 	L	WATER LEVEL
265.8	Ground Surface													
0.0	60 cm TOPSOIL	1	DO	13	0	0						32		-
	Very stiff to hard <u>weathered</u>	2	DO	18	1 -		5				14			
		3	DO	35	2 -			0			15			-
		4	DO	38	-			0			15			ion
	SILTY CLAY TILL	5	DO	40	3 -			0			15			Dry on completion
	<u>brown</u> grey some sand, a trace of gravel occasional cobbles and boulders				4 -						18			Dry or
		6	DO	16	5 -		)				•			
					6 -						13			-
259.2		7	DO	18	-		)							1
6.6	END OF BOREHOLE				7 -									
					8 -									
					9 -									
					10									-

Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 14

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FIGURE NO.:

14

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon DR

DRILLING DATE: October 4, 2021

		5	SAMP	LES		Τ	• 10		nami 30		ne (bl	ows/:	30 cm			Atte	erbero	g Lim	its	$\Box$		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)		X O 10	Sh 50 Pe	ear S 10 L netra (blo	Stren  00  ation ows/	gth (k 150 Resis 30 cm	N/m² stance n)	) !00 			PL <b>-</b> Mois	ture (		L   ent (%)			WAIER LEVEL
267.8	Ground Surface										·	·						·				
0.0	60 cm TOPSOIL	1	DO	8	0		)										23					
	Very stiff to hard <u>weathered</u>	2	DO	26	1 -			С	)							15						
		3	DO	29	2 -				>							15						
		4	DO	38	- -				С	)							8					ion
	SILTY CLAY TILL	5	DO	34	3 -				0						1	1					•	Dry on completion
	<u>brown</u> grey some sand, a trace of gravel occasional cobbles and boulders	6	DO	36	4 -				0						1	0				-		Dry or
261.2		7	DO	87/23	6 -									•			8				*	
6.6	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				7 - 8 - 9 -																	



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 15

FIGURE NO.:

15

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

		(	SAMP	LES		10	3	amic Cone (t	70	90	At	terberg I	_imits	
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)	10	She 50	ear Strength ( 100 15 1	kN/m²) 200 200 stance n)	90	P <b> </b>	sture Co	LL Intent (%)	WATER LEVEL
266.2	Ground Surface					L								
0.0	60 cm TOPSOIL	1	DO	7	0 -	0						23		
	Very stiff to hard <u>weath</u> er <u>ed</u>	2	DO	17	1 -		0					19		
		3	DO	41	2 -			0			14		4	
		4	DO	45	_			0			13			ion
	SILTY CLAY TILL	5	DO	42	3 -			0			14	ļ		Dry on completion
	brown grey  some sand, a trace of gravel occasional cobbles and boulders				4 -									Dry or
		6	DO	24	5 -		0				14			
					6 -									
259.6		7	DO	30							13			
6.6	END OF BOREHOLE				7 -									
					8 -									
					_									
					9 -									
					10									



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 16

FIGURE NO.:

16

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

		Ś	SAMP	LES		T	10	С	yna 30				ows/:	30 cm 90	- 1	At	terb	era I	_imits	· · · ·	T		
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Туре	N-Value	Depth Scale (m)		×	50 F	Pene	100 100 trati (blov	reng on R vs/30	th (ki 150 L Resis 0 cm	N/m², tance )	00		P ••••••••••••••••••••••••••••••••••••	L stur	e Co		t (%)	_		WAIEK LEVEL
266.0	Ground Surface					t									1						$\dagger$		
0.0	60 cm TOPSOIL	1	DO	7	0		0										2	2					
	Very stiff to hard <u>weathered</u>	2	DO	20	1 -			0									17						
		3	DO	30	2 -				0								6				_		
	<u>b</u> row <u>n</u>	4	DO	47	_						0					14							ion
	SILTY CLAY TILL grey	5	DO	40	3 -	1				0						13						• - - -	Dry on completion
	some sand, a trace of gravel occasional cobbles and boulders	6	DO	27	4 -				0							12							Dry o
259.4	END OF DODELIOLE	7	DO	29	6 -				0							11						-   -   -•	
6.6	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				7 - 8 - 9 -																		



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 17

METHOD OF BORING: Flight-Auger

FIGURE NO.:

17

PROJECT DESCRIPTION: Proposed Mixed-Use Development

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon DRILLING DATE: October 1, 2021

			SAMP	LES		● Dynamic Cone (blows/30 cm)  10 30 50 70 90 Atterberg Limits
EI. (m) Depth (m)	SOIL DESCRIPTION	Number	Type	N-Value	Depth Scale (m)	X Shear Strength (kN/m²)  50 100 150 200  □ Penetration Resistance (blows/30 cm)  ■ Moisture Content (%)  10 30 50 70 90 10 20 30 40
266.2	Ground Surface					
0.0	60 cm TOPSOIL	1	DO	9	0 -	Q 24
	Brown, stiff to hard <u>weath</u> er <u>ed</u>	2	DO	22	1 -	
	SILTY CLAY TILL	3	DO	40	-	
	some sand, a trace of gravel occasional cobbles and boulders				2 -	1 17
263.3 2.9	Dance to very dense	4	DO	36		
2.9	Dense to very dense	5	DO	50/13	3 -	aletion oletion
	— <u>brown</u> grey				4 -	W.L. @ El. 260.1 m on completion
		6	DO	93/28	5 -	© EI:
	traces of clay and gravel occasional cobbles and boulders				-	M.L.
		7	DO	37	6 -	
259.6 6.6	END OF BOREHOLE				7 -	
					8 -	
					- - -	
					9 -	
					10	



Soil Engineers Ltd.

## LOG OF BOREHOLE NO.: 18

FIGURE NO.:

18

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

		5	SAMP	LES			10		30	Ę	one ( 50	70	)	90		Att	erbe	era I	Limit	S			
EI. (m) Depth	SOIL DESCRIPTION	)er		ne	Depth Scale (m)		×	Sh 50	near 1	Strei 00	ngth 15	(kN/i 50	m²) 200			PL  -	-		<b> </b>				WATER LEVEL
(m)		Number	Туре	N-Value	Depth		10		30	Ę	Res /30 c	70	)	90 					nter 30	nt (% 40	) 		WAT
265.8	Ground Surface					ļ		_		_					L	_		_		_	_	_	
0.0	20 cm TOPSOIL Firm to hardweathered	1	DO	7	0	-	)										20						
	SILTY CLAY TILL	2	DO	27	1 -	1		(								15							
		3	DO	37	2 -				C							10	5						
	some sand, a trace of gravel occasional cobbles and boulders	4	DO	52		1					0						18						
262.9 2.9	Dense				3 -	ŧ											1.0					<b>•</b> _	
		5	DO	33	-	1			0								18						
	SANDY SILT <u>brown</u> grey				4 -																	•-	
	a trace of clay wet	6	DO	35	5 -	1			С	)							18						
260.2						Ŧ																•	₩
5.6	Grey, dense SAND				6 -	1											200						tion
259.2	fine-grained, silty wet	7	DO	41		ŧ				þ							20						omple
6.6	END OF BOREHOLE					ŧ																	on c
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m				7 -	1									Ė								262.5 m
	Bentonite seal from 0.0 m to 2.4 m Provided with a monument steel casing				8 -	1																	Cave-in @ El. 262.5 m on completion
					-	1																	Cave
					9 -	1																	
					10	1																	

Soil Engineers Ltd.



## Appendix B-2 Argo King I & II



CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DRILLING DATA

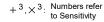
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

	JM: Geodetic							Date:	Jun-2	21-201	9					ΕN	NCL NO	O.: 2			
BHLO	OCATION: See Drawing 1 N 4857122.7 SOIL PROFILE	4 E 5		91.68 SAMPL	FS.	Π		DYNA	MIC CC	NE PE E PLOT	NETRA	ATION									
(222)	OOIL I NOT ILL	  -		, uvii E		GROUND WATER CONDITIONS		2		0 6		_	00	PLAST LIMIT	IC NAT	URAL STURE ITENT	LIQUID LIMIT	EN.	NATURAL UNIT WT (kN/m³)	A	MARKS AND
(m) ELEV	DECODIDATION	STRATA PLOT	<u>_</u>		BLOWS 0.3 m	D WA	NO O	SHEA	R STI	RENG	LLL TH (kF	∟—— Pa)	-	W <sub>P</sub>		w 0	WL	POCKET PEN. (Cu) (kPa)	RAL UN		IN SIZE
DEPTH	DESCRIPTION	ZATA	NUMBER	TYPE		NDO	ELEVATION		NCONF	INED RIAXIAI	+ _ ×	FIELD V & Sensit LAB V	ANE ivity ANE	WA	TER CO	ONTEN	T (%)	90 0	NATUF ()		(%)
257.2	<b>T0000</b> 11 005	S S			þ	A O		2		0 6			00	1	10 2	20 3	30			GR S/	A SI CL
25 <b>0.0</b> 0.2	<b>FILL.</b> Clayey Sill, trace		1	SS	5		257										1				
-1	topsoil/rootlets, greyish brown, very moist, firm	$\otimes$	2	SS	6	abla		<b>⊦</b> 256.4 r								0					
255.7 1.5	possibly weathered/ disturbed qative below 0.8m						Nov 2	1, 2022 E	<u></u>												
1.5	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist,		3	SS	30		055								0			225			
	very stiff to hard		4	SS	31		255								Ю		-	225		0 4	57 39
<u>-3</u>	silty clay at 2.3m						254														
-			5	SS	28		254								0			225			
4			1			: ::	253														
252.4	200     -      -		_				255														
5 4.8	CLAYEY SILT TILL: sandy, trace		6	SS	16	<b> :  :</b>	252								0						
-	gravel, occasional seams/ layers of sand, grey, moist, very stiff		1				202	Ė													
<u>-6</u>			7	00	00		251														
250.7 6.5		<u> </u>	/	SS	23	<u> </u>									φ						
	Notes: 1) 50 mm diameter monitoring well																				
	installed in borehole. 2) Water Level Readings:																				
	Date: Water Level (mbgl)																				
	Oct. 7, 2019 0.8 Sep. 22, 2022 0.6																				
	Oct. 26, 2022 0.6 Nov. 21, 2022 0.8																				
	1100. 21, 2022 0.0																				
						CDADU															

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Solid Stem Auger

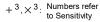
Diameter: 150mm REF. NO.: 19-093-100

ENCL NO.: 3

Date: Jun-21-2019

	SOIL PROFILE		s	AMPL	ES			DYN/ RESI	AMIC CO STANCE	NE PE PLOT	NETRA	ATION		PLASTI	C NATI	URAL	רוטו ווח	_	۲۸	REMARKS
m)		LOT			S) L	WATE			20 4	0 6	0 8	30 10	00	LIMIT W <sub>P</sub>	C NATI MOIS CON	TURE TENT V	LIQUID LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	L UNIT V	AND GRAIN SIZ
EV PTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	οι	AR STI INCONF QUICK T	INED	+ - ×	FIELD VA & Sensitiv LAB VA	NE	WA	TER CC	ONTEN	—	POCKE (Cu)	NATURAL UNIT WT (KN/m³)	DISTRIBUT (%)
59.0		<u> </u>			þ	<u> </u>	ш		20 4	0 6	0 8	80 10	00	1	0 2		30			GR SA SI
5 <b>9.9</b>	TOPSOIL: 200mm	XX	1	SS	6	ł		E								0				
	FILL: clayey silt, some sand, trace gravel, trace cobble, brown, very moist, firm to stiff		2	SS	8		258	_							-					
57.5 1.5	SILTY CLAY TILL: some sand to		3	SS	14										0					
	sandy, trace gravel, occasional sand seams, brown, moist, stiff to very stiff						257	_												
	trace cobble below 2.3 m		4	SS	23		256	_							0					
			5	SS	26										0					
							255	_												
	grey below 4.6 m.		6	SS	17		254								o					
							254													
			7	SS	16		253								0					
52.5 6.5	END OF BOREHOLE:	1	<u> </u>	33	10			_							0					
	Notes: 1) Borehole was wet at bottom upon																			
	completion.																			
																		1		
																		1		
		1	1			1	l										1	1		







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

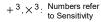
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

	SOIL PROFILE		S	AMPL	ES			DYN/ RFSI	AMIC CO STANCE	NE PEI	NETRA	TION			NIA TI	יוסאי				DEMARK
m) _EV PTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE	20 4 AR STI INCONF QUICK T	0 60 RENGT	0 8 ΓΗ (kF +	0 10 Pa) FIELD VA & Sensitiv	ANE rity ANE		CON' V ER CC	v > ONTEN	LIQUID LIMIT W <sub>L</sub> IT (%) 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZ DISTRIBUTIO (%) GR SA SI
59.8 5 <b>0.8</b>	TOPSOIL: 200 mm	31 1/2.	1	SS	4			-	Ť	Ĥ			-			0	Ť			GIT SA SI
9.0 0.2	FILL: clayey silt, some sand, trace	$\bowtie$	⊢	-00	-			F												
59.0 0.8	topsoil, brown, very moist, firm	<del> </del>			40	$\underline{\vee}$	W. L. 2	F 250.0							_					
58.3	CLAYEY SILT TILL: sandy, trace gravel, brown, moist, stiff		2	SS	10		Nov 21	239.0 I, 202	22						0					
1.5	SANDY SILT: trace to some clay, occasional sand seams, brown, moist, loose		3	SS	9		258								0			-		
2.3	SILTY CLAY TILL: sandy, trace		4	SS	31			Ē							0					
	gravel, brown, moist, very stiff to						257	₽										1		
	hard grey below 3.1 m		5	SS	25			Ē							0					
							256	<u> </u>												
55.5							200	Ė												
4.3	CLAYEY SILT TILL: sandy, trace																			
	gravel/ cobble, occasional wet sand seams, grey, moist, hard	KK	6	SS	36		255	<u> </u>							0					14 24 45
	coamo, groy, moiot, nara							Ė												
54.1	SANDY SILT TILL: some clay,						254	<u> </u>												
	trace gravel, grey, very moist, dense		<u> </u>	-00	00		254	Ē												
6.5	END OF BOREHOLE:		7	SS	36			-						(	)			ļ		
	Notes: 1) 50 mm diameter monitoring well installed in borehole. 2) Water Level Readings:																			
	Date: Water Level (mbgl) Oct. 7, 2019 1.6 Sep. 22, 2022 0.3 Oct. 26, 2022 0.7 Nov. 21, 2022 0.8																			
			1			l	I	l	1	1						1	1	1	I	







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

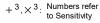
DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

BH LO	M: Geodetic CATION: See Drawing 1 N 4857475.29	9 E 5	9836	60.25				Date.	ouii i	21-201	•						NCL N	0 0			
	SOIL PROFILE			SAMPL	ES			DYNA RESIS	MIC CO	ONE PE E PLOT	NETR	ATION		DI 10-	_ NAT	URAL	1.10: ::-		F	REMA	4RKS
m)		_				HE		l				30 1	00	LIMIT	C MOIS	TURE	LIQUID LIMIT	a) BEN	W TIN	1A	ND
LEV		STRATA PLOT	~		BLOWS 0.3 m	GROUND WATER CONDITIONS	/ATION			RENG	∟ TH (kl	⊥ Pa)	-	W <sub>P</sub>		N	WL	POCKET PEI (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRAIN DISTRII	
PTH	DESCRIPTION	ATA	NUMBER	ш	0.3	猛	AT	O U	NCON	INED	+	FIELD V & Sensit	ANE ivity	'	TER CO	ONTEN	T (%)	90 20	ATUR (		6)
62.7		STR	NON	TYPE	þ	GRC	₩. L. 2 Nov 21	263.3 I 202	m <sup>UK I</sup>	RIAXIAI 10 6	L X 0 8	130 1	ANE 00				30		z	GR SA	SI
0.0 0.2	TOPSOIL: 200 mm	11//.	1	SS	4		1407 2	<u> </u>								0					
61.9	FILL: clayey silt, trace topsoil/ organics, trace gravel, brown, wet,	$\otimes$					262	<u> </u>										]			
0.8	firm	79.7	2	SS	13		202	ŧ							0						
	SILTY CLAY TILL: some sand to							Ē													
60.6	sandy, trace gravel, brown, moist, firm to very stiff		3	SS	17		261	₣							-			1			
2.1	grey below 1.5 m.	141						E													
	SANDY SILT TILL: some clay, some gravel, grey, very moist, loose		4	SS	7		260	<u> </u>				-			<b>-</b>			-		12 30	45
59.4	to compact		_					Ė													
3.3	SILTY SAND: trace clay,	111	5	SS	12		050	Ē							0						
	occasional gravel, grey, wet, compact	밥					259	F										1			
	·						:	Ē													
		ilii	6	SS	14		258	-								0		ł		0 64	34
							;	Ė													
						::  ::	257	Ē													
		[[:				:     :		E													
56.2 6.5	END OF BOREHOLE:	, I <sub>1</sub>	7	SS	17		<u> </u>	<u> </u>								0					
0.5	Notes:																				
	50 mm diameter monitoring well installed in borehole.																				
	2) Water Level Readings:																				
	Date: Water Level (mbgl)																				
	Oct. 7, 2019 Artesian (above																				
	ground surface) Sep. 22, 2022 Artesian (above																				
	ground surface)																				
	Oct. 26, 2022 Artesian (above ground surface)																				
	Nov. 21, 2022 Artesian (-0.6m																				
	plus)																				
							1														
							1														
- 1				1	1	l		l						1				1	1		







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

	M: Geodetic CATION: See Drawing 1 N 4857351.8	38 E 5	59834	14.17				Date	: Jun-2	24-201	9					ΕN	ICL N	O.: 6		
(m) ELEV	SOIL PROFILE  DESCRIPTION		S	SAMPL	BLOWS 0.3 m	GROUND WATER CONDITIONS	NO	SHE	AR ST	E PLOT 40 6 RENG	50 8	0 1	00 'ANE	PLASTIC LIMIT W <sub>P</sub>	NATU MOIS CONT	TENT	LIQUID LIMIT W <sub>L</sub>	OKET PEN. tu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARK AND GRAIN SIZ DISTRIBUTI
260.7		STRATA PLOT	NUMBER	TYPE	ż	GROUN	Nov 2	1, 202	mconf 2/ICK T 20 4	RIAXIA	L X	LAB V	ANE 00	10		ONTEN	T (%)	80	NATU	(%) GR SA SI
0.0 259.9 0.8	FILL:clayey silt, sandy, trace topsoil, trace gravel & brick fragments, brown, moist, stiff SILTY CLAY TILL: some sand to		2	SS	15		260							0	0					
	sandy, trace gravel, brown, moist, stiff to very stiff		3	SS	14		259								0					
			4	SS	25		258								0					
	brown to grey below 3.1 m		5	SS	25		257								0					
56.1	SANDY SILT TILL: some clay,			00	24		256													
4.0	trace gravel, grey, moist, dense		6	SS	34		255							•						
54.6 54.2 6.5	CLAYEY SILT TILL: sandy, trace gravel, occasional sand seams, grey, moist, very stiff		7	SS	23		200							•						
0.5	END OF BOREHOLE: Notes: 1) 50 mm diameter monitoring well installed in borehole.																			
	2) Water Level Readings:  Date: Water Level (mbgl): Oct. 7, 2019 Artesian (above ground surface) Sep. 22, 2022 Artesian (above ground surface)																			
	Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Artesian (-1.0m)																			



CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

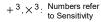
Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

Date: Jun-24-2019 ENCL NO.: 7

	SOIL PROFILE		S	SAMPL	.ES			DYNA RESIS	MIC CO	NE PE PLOT	NETR/	ATION			ΝΔΤΙ	IRAI			L	REMARK
		T_				GROUND WATER CONDITIONS		l		0 6			00	PLASTIC LIMIT	MOIS CON	TURE	LIQUID LIMIT	Ë	NATURAL UNIT WT (kN/m³)	AND
m)		STRATA PLOT			NS E	WA	Z		1	RENG	TH (kF	 Ра)		W <sub>P</sub>	V	/	$W_{\text{L}}$	POCKET PEN. (Cu) (kPa)	AL UN	GRAIN SIZ
EV PTH	DESCRIPTION	IA	NUMBER		BLOWS 0.3 m		ELEVATION	οu	NCONF	INED	÷	FIÉLD VA & Sensitiv	ANE vity	'				(Cu)	TUR/	DISTRIBUT (%)
		₹	N N	TYPE	ż	NO IN	LEV			RIAXIAL 0 6	- ×	LAB V	ANE 00		ER CC			_	₹	
59.4	_TOPSOIL: 200 mm	2/11/V.	1	SS	5	0 0	Ш	<u> </u>	1 4	0 6	0 6	+		1	0 2		0			GR SA SI
9.0 0.2	FILL: clavey silt_some topsoil	$\bowtie$	├	33	3		259	<u> </u>												
0.8	_trace rootlets, brown, very moist,	1	2	SS	7	$\perp$	W. L. :	‡ 258.6	 m						0					
57.9	firm  CLAYEY SILT TILL: trace sand,		<u> </u>	33	<i>'</i>		Nov 2	į, 202	2											
1.5	\brown, moist, firm (weathered/ /	141	3	SS	17			Ē							0					
	disturbed)  CLAYEY SILT TILL: sandy, trace							E												
	gravel, brown, moist, very stiff to		4	SS	31		257	E							0					
	hard sand seams, brown to grey below	1						Ė												
	2.3 m		5	SS	23		256	<u> </u>							0					
	grey below 3.1 m							Ē												
							255	Ē												
4.8 4.6	SANDY SILT TILL: some clay,	##		-00	04		255													
4.0	trace gravel/ cobble, grey, moist,		6	SS	24			Ē						0						
	compact						254	<u> </u>												
			1					E												
2.9	seams of sand below 6.1 m  END OF BOREHOLE:	[[]]	7	SS	17		253	<u> </u>	<u>L</u>			<u>L</u>			)					
	Notes: 1) 50 mm diameter monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Oct. 7, 2019 1.2																			
	Sep. 22, 2022 0.9 Oct. 26, 2022 0.6 Nov. 21, 2022 0.8																			







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm REF. NO.: 19-093-100

	SOIL PROFILE		259.87 SAMP	LES			DYNA	MIC CO	ONE PE E PLOT	NETRA	ATION								
(m) LEV EPTH		STRATA PLOT		"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UI	0 4 AR ST NCONF JICK T	10 6 RENG INED RIAXIA	TH (kF	0 Pa) FIELD V & Sensi LAB V	100 /ANE tivity	W <sub>P</sub> WA	TER C	TENT W DMTEN	LIQUID LIMIT W <sub>L</sub> ——I T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMAR AND GRAIN S DISTRIBU (%)
60.4 6 <b>0.2</b>		2 2 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	_	5				<u> </u>		Ť					0				GIV SA S
59.6	FILL: clayey silt, trace topsoil, trace	X	+	+ -		260	-								_		1		
0.8	rootlets, trace sand, brown, very	<u> </u>	SS	17			-							0					
	CLAYEY SILT TILL: sandy, trace					259													
	gravel, occasional sand seams, brown, moist, stiff to very stiff	3	SS	18			E							0			225		
					$oxed{oxed}$	\\/ I	‡ 258.2 i	 n											
	wet sand seams/ layers below 2.3 m	4	SS	23		Nov 2	1, 2022	!'I						٥			225		
		<u> "</u>					-												
	sandy, wet sand seams/ layers below 3.1 m	5	SS	11		257	-							O			75		
56.4							E												
4.0	SANDY SILT TO SILTY SAND: trace clay, grey, wet, loose	1.11				256													
55.7 4.7		6	SS	7	1:1:	230								0					
7.7	trace gravel/ cobble, grey, very	ĬI				:	-												
	moist to wet, loose to compact	]]]				255													
54.1	ļ.	ĬIL			_!:   H:		Ė												
6.3	SILTY SAND: trace clay, trace	7	SS	17	<b>.</b> ∶	254								0					
	gravel, grey, wet, compact					:	Ē												
-	[:]					253	Ē												
52.8 52.4	SANDY SILT TILL: some clay to	8	SS	27	<b> </b>	253	[												
8.0	clayey, trace gravel/ cobble, grey, /	1.11 0	00	+	1	1	_												
	moist, compact END OF BOREHOLE:																		
	Notes: 1) 50 mm diameter monitoring well installed in borehole. 2) Water Level Readings:																		
	Date: Water Level (mbgl): Oct. 7, 2019 1.7 Sep. 22, 2022 1.3 Oct. 26, 2022 3.1 Nov. 21, 2022 2.2																		
					1														
					1														
					1														
					1														
					1														
													1						
					1														
													1						





CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

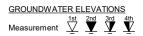
DRILLING DATA

Method: Solid Stem Auger

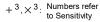
Diameter: 150mm REF. NO.: 19-093-100

Date: Jun-24-2019 ENCL NO.: 9

	SOIL PROFILE	_	S	SAMPL	ES	۳ ا		RESI	AMIC CC STANCE	PLOT	NE IRA	ATION		PLASTIC	NATI	URAL	LIQUID		TW	REMARKS
n)		TC			(0)	GROUND WATER CONDITIONS	l _	L	20 4	0 60	8	0 10	0		CON	TENT	LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZE
EV	DESCRIPTION	STRATA PLOT	r		BLOWS 0.3 m	N O	ELEVATION		AR ST		H (k	Pa)	NE	W <sub>P</sub>		v >	W <sub>L</sub>	                 	ZAL I kN/m	DISTRIBUTION
TH	DESCRIPTION	₽¥	NUMBER	ш	0.0		¥		INCONF		+	FIELD VA & Sensitivi	ity	WAT	ER CC	NTEN	T (%)	<u>§</u> О	ATU!	(%)
1.1		I K	∫	TYPE	ž	1 N N	Ë		QUICK TI 20 4	O 60		10 10		1			30		z	GR SA SI
6	TOPSOIL: 230 mm		1	SS	5	-	261					Ĥ								GIV SA SI
<b>0</b>	FILL: clavey silt, trace topsoil, trace	× 1,	╁					E									1			
3 8	rootlets, trace sand, brown, very			00	40	ł		Ē												
1	moist, firm CLAYEY SILT TILL: sandy, trace		2	SS	16		260	ŧ—							0			1		
	gravel, occasional sand seams,	HH	3	SS	28	ł		Ė							0			225		
	brown, moist, very stiff to hard		Ť	- 00	20	ł	250	Ė										223		
	trace cobble below 1.5 m	H!	_	00	20	-	259								_			205		
			4	SS	29	ł		Ē							0			225		
	brown to grow bolow 2.1 m	KII	1—			ł	258	<u> </u>	-											
	brown to grey below 3.1 m	1111	5	SS	33			E						О				225		
								Ē												
		1111	1				257	-										l		
		11/2/	6	SS	24	-		Ė						0				225		
			10	33	24	ł	256	Ė						0				225		
		KK	]				256	Ē												
		\ <u> </u>						É												
		Klit	7	SS	51	1	255	Ĕ-						0			-	225		
.6 .5	END OF BOREHOLE:	1199	′	33	31			-						U				225		
	Notes:																			
	1) Borehole was wet at bottom upon																			
	completion.																			
					1	1			1	1 1		I I		1		1	1			1









CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-14-2022 ENCL NO.: 10

	M: Geodetic							Date	: Oct-	14-202	2					ΕN	NCL N	0.: 1	0	
BH LC	OCATION: See Drawing 1 N 4857417.44  SOIL PROFILE	E 59		6.16 AMPL	ES		T	DYN/	AMIC CO STANCI	ONE PE	NETRA	ATION			NAT	IDAI		<u> </u>	l.	DEMARKO
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	BER		BLOWS 0.3 m	GROUND WATER	ELEVATION	SHE o L	20 4 AR ST INCONF	RENG	0 8 TH (kF +	0 1 Pa) FIELD V & Sensit	OO ANE ivity	W <sub>P</sub> ⊢	\	TENT W	LIQUID LIMIT W <sub>L</sub> ————————————————————————————————————	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZI DISTRIBUTIO (%)
262.1			NUMBER	TYPE	į	GRO	ELEV		QUICK T 20 4				ANE 00		TER CC		1 (%) 30		₹	GR SA SI
269:9 0.4 261:3	REWORKED CLAYEY SILT TO	<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	1	SS	11											0				
0.8	SILTY CLAY: trace sand, trace tootlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		2	SS	30		26	E							-			$\mid$		
	SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff		3	SS	26		260	<u> </u>							∘⊩		1			5 13 48
	to hard		4	SS	33		200	<u></u>							o					
	grey below 3.0m		5	SS	14		259	) <u> </u>							0			1		
							258	3										1		
			6	SS	8		. 05.	<u></u>							0					
							25													
6.1	SANDY SILT: trace clay, grey, wet, compact to dense		7	SS	13		250	<b>:</b>								0				Water @6
	Sompast to denice							<u> </u>												
		-	8	SS	26			Ė								0				0 42 55
							∴ 254 ∵													
		-	9	SS	19		253	<b>E</b>								0		$\left\{ \right.$		
							252													
			10	SS	41			Ē								0				
50.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Well damaged						25													



CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

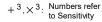
Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-13-2022 ENCL NO.: 11

	JM: Geodetic	7 F <i>E</i>	.000	70 02				Date.	Oct-1	3-202	_					EN	ICL NO	J.: 1	1	
BHIL	OCATION: See Drawing 1 N 4857405.77 SOIL PROFILE	/ E 5		8.83 SAMPL	FS			DYNA	MIC CC	NE PE	NETRA	ATION								
	SOILTROTILL			/AIVII L		GROUND WATER CONDITIONS								PLASTI LIMIT	C NATI	JRAL TURE	LIQUID LIMIT	ż	NATURAL UNIT WT (KN/m³)	REMARKS AND
(m)		STRATA PLOT			SNu	WAT	z	2		0 6 RENG			00	W <sub>P</sub>	CON	TENT V	WL	POCKET PEN. (Cu) (kPa)	L UNF	GRAIN SIZE
ELEV DEPTH	DESCRIPTION	TA P	Ä		BLOWS 0.3 m	ON OF	ELEVATION		NCONF		1 H (KF +	FIELD V. & Sensiti	ANE	-				(CU)	(KN)	DISTRIBUTION
		Æ	NUMBER	TYPE		JON D	EV,			RIAXIAI	L×	LAB V	ANE		TER CC			Δ.	¥	(%)
262.0	TOPOOU - 200	. <sup>7</sup> / 1 <sup>λ</sup> .	ž	F	ż	ōŏ	ш	2	0 4	0 6	0 8	0 10	00	1	0 2	0 3	30			GR SA SI CL
26 <b>0</b> . <b>0</b>			1	SS	8			Ē								0				
261.1	SILTY CLAY: trace sand, trace					1														
0.9	rootlets, trace organics, brown, moist, stiff to very		2	SS	15		261								0					
	stiff(Weathered/Disturbed)		3	SS	22			-							0					
-2	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist,		Ľ			-	260											1		
-	very stiff grey below 2.3m		4	SS	22										0					
3	grey below 2.3m	19.1					259													
			5	SS	19										0					
4			$\vdash$			1	050													
E I							258											1		
-257.4 4.6	SILTY FINE SAND: trace clay,																			
<u>-5</u>	grey, wet, compact to dense		6	SS	42		257								0					
F																				
6							256													
			7	SS	33											0				
7						1	255													
							255													
Ē.			8	SS	10	1										0				
253.8 8.2	END OF BOREHOLE:	141	Ů	00	10		254									Ŭ				
0.2	Notes:																			
	Water at depth of 4.8m during drilling.																			
i																				
i																				
<u> </u>																				
Ш							<u> </u>							<u> </u>						

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27







CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

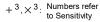
Date: Oct-13-2022 ENCL NO.: 12

BH LOCATION: See Drawing 1	N 4857409.48 E 598409.77

	SOIL PROFILE		s	AMPL	ES	<u>~</u>		DYNA RESI	AMIC CO STANCE	ONE PE E PLOT	NETR/	ATION		PLASTI LIMIT	C NATI	URAL	LIQUID LIMIT		₩	RI	EMARK	۲S
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE.	AR STI	RENG INED RIAXIA	TH (kF + L ×	L———Pa) FIELD V & Sensit LAB V	ANE	W <sub>P</sub> ⊢ WA1	TER CO	w DNTEN	w <sub>∟</sub> — I T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GR DIST	AND RAIN SI TRIBUT (%)	
260.8	TORONI - 200	2/ 1/V	ž		þ	9 2	iii		20 4	10 6	8 08	0 1	00	1	0 2	0 :	30				SA SI	_
26 <b>0.9</b> 0.3 260.0	TOPSOIL: 300mm REWORKED CLAYEY SILT TO		1	SS	8			E								0						
200.0	SILTY CLAY: trace sand, trace cotlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		2	SS	22	-	260								0							
	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, very stiff to hard		3	SS	29		259															
			4	SS	33		258							0								
	grey below 3.1m		5	SS	23		257								•							
<u>i</u>			6	SS	30	_	256							0								
		****	7	SS	59	_	255	<u> </u>							) <b> </b>					   4 ·	24 48	2
253.5			Ė		00	<u> </u>	254									d					- 10	
7.3	SILTY SAND: trace clay, grey, wet, dense to very dense		8	SS	34		253									o						
	1) Water at the depth of 6.4m during drilling.																					









CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

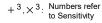
Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-13-2022 ENCL NO.: 13

SOIL PRO	FILE	5	SAMPL	ES.	<u>د</u>		DYNA RESIS	MIC CC TANCE	NE PE PLOT	NETRA	TION		PLASTI LIMIT	C NATI	URAL	LIQUID LIMIT		₩		ARKS
m) _EV PTH DESCRII	NOITC NOITC	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHEA O UI	R STE	0 6 RENGTINED RIAXIAL 0 6	TH (kF + - ×	Pa) FIELD V & Sensiti LAB V	ANE ivity ANE O0	W <sub>P</sub> ⊢ WA1	TER CO	w DNTEN	W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	GRAI DISTRI	ibutio %)
5 <b>9</b> . <b>0 TOPSOIL</b> : 300mm	- <u>x</u> -1		SS	9		259														
0.3 REWORKED CLAY: trace organioist, stiff (Weath	e sand, trace nics, brown, ered/Disturbed)	2	SS	21		258								۰⊩		-1			3 12	49
SILTY CLAY TILL: sandy, trace grave very stiff to hard		3	SS	21		200								0						
very sun to nard		4	SS	41		257								0						
		5	SS	35		256								0			-			
	// // //					255														
grey below 4.6m		6	SS	26		254								o						
						254														
		7	SS	19		253							٥							
						252														
51.1 8.2 <b>END OF BOREHO</b> I		8	SS	28									0							
Borehole dry at completion.	ne bottom upon																			









CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-14-2022 ENCL NO.: 14

	BH LC	OCATION: See Drawing 1 N 4857255.2	4 E 5	9850	00.76					
		SOIL PROFILE		S	SAMPL	.ES	_		DYNAMIC CONE PENETRATION RESISTANCE PLOT PLASTIC NATURAL LIQUID \( \xi \) REMAR	RKS
	(m) ELEV DEPTH 259.1	DESCRIPTION	STRATA PLOT	NUMBER	ТҮРЕ	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATI	20	SIZE UTION )
- 1	-	TODOOIL . OCO	1.4 7					250		

	(m)		5			(0)	GROUND WATE CONDITIONS			20 4	10 6	SO 8	30 1	00	LIMIT		TENT	LIMIT  W <sub>L</sub> T (%)	PEN	NATURAL UNIT (KN/m³)	AND GRAIN SIZE
- 1	ELEV	DECODIDEION	STRATA PLOT	ا <sub>~</sub> ا		BLOWS 0.3 m	N O	ELEVATION	SHE	AR ST		TH (k	Pa)		W <sub>P</sub>	\ (	v >	W <sub>L</sub>	Ä. (2)	SAL C	DISTRIBUTION
D	EPTH	DESCRIPTION	Ι¥	NUMBER		0.3 0.3		\{		JNCONF		+	FIELD V. & Sensiti	ANE vity	١,,,,	ren oo	SAITEAL	T (0/ )	9 0 0	lip e	(%)
				Σ	TYPE	ż	S S	l e		QUICK T					ı	rer cc		(70)		≥	
	259.1	TOPSOIL: 350mm	2/1/V	z	-	-	0 0	ш 259		20 4	10 6	80 8	30 1	00	<u>'</u>	0 2	20 3	30			GR SA SI C
₽	25 <b>9</b> : <b>9</b>	REWORKED CLAYEY SILT TO		1	SS	7		258	' <b> </b>								0				
E:	258.2	SILTY CLAY: trace sand, trace	$\otimes$				$\underline{V}$	W. L.	F												
F	0.9	rootlets, trace organics, brown.	1/2/	2	SS	11		Nov 1									•		1		
E		moist, firm (Weathered/Disturbed)		$\blacksquare$				1101	Ĕ	Ī											
ŧ.		CLAYEY SILT TO SILTY CLAY		3	SS	12			F								0				
-2	•	TILL: sandy, trace gravel, brown, moist, stiff to hard	134	1—				257	<u>'</u>										1		
E		interbedded wet silty sand at 2.3m		4	SS	14			ŧ							l <b>⊢</b> ⊶l					1 33 46 20
E <sub>3</sub>	.		1	<u></u>	33	14			E												1 33 40 20
Ĕ	·	sand seams @3.1m		1—				256	\$ <b>=</b>										ł		
F				5	SS	29			E							0					
F <sub>4</sub>	.		18						ŧ												
ŧ								255	iE—										1		
E		grey below 4.6m	1	1—			l:∐:	i	Ē												
-5	<u>.</u>	grey below 4.0111		6	SS	29			Ė							0					
E				一			目:	254	E												
Ē			18	1				1	F										1		
<u>-6</u>	1			<u> </u>			ŀ∙.⊟÷	253	£										1		
Ē				7	SS	46		1 200	E						0				l		
ŧ.				$\vdash$					F												
-7	:			1				252	<u>:</u> [										1		
E	251.5		191	1				:	Ē												
-8	7.6	CLAYEY SILT TILL: sandy, trace		8	SS	30			E												
F		gravel, trace cobbles, grey, moist, hard	1111	<del> </del>				251	F										ł		
Ē									Ė.												
-9	2			1				050	Ę												
E		sand seams at 9.1m	111	9	SS	40		250	<u>'</u>							0			1		
F			119.	ڀّ	- 00	40			F							[					
<u>10</u>	1			1				249	<u>.                                    </u>												
E			r/d	1				240	Έ												
ŧ				<del>                                     </del>		50/			F												
<u> </u>	247.9		N	10	SS ,	130mn		248	<u> </u>						٥						
	11.2	END OF BOREHOLE: Notes:																			
-27		1) 50mm dia. monitoring well																			
5.		installed upon completion.																			
<u>⊢</u>		2) Water Level Readings:																			
E.GPJ DS.GDT 23-1-27		Date: Water Level(mbgl):																			
S		Oct. 26, 2022 0.7																			
3		Nov. 15, 2022 0.7																			
Щ																					
밁																					
E E																					
Ś																					
Ö																					
B																					
100									1										l		
093-									1										l		
19-									1										l		
귛									1										l		
Ξ									1										1		
721-									1										l		
3-2(									1										1		
DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FIL									1										l		
딍									1										l		
SS									1										l		
							Ь								Ь	<u> </u>		<u> </u>			

11.2	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:
	Date: Water Level(mbgl): Oct. 26, 2022 0.7 Nov. 15, 2022 0.7









CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

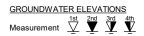
DRILLING DATA

Method: Hollow Stem Auger

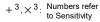
Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-13-2022 ENCL NO.: 15

	SOIL PROFILE		s	AMPL	ES	<u>~</u>		DYNA RESI	MIC CO STANCE	NE PE E PLOT	NETRA	ATION		PLASTI	C NATI	URAL	LIQUID		₩	REM	
(m) ELEV DEPTH 258.3	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE.	AR ST NCONF UICK T	RENG INED RIAXIA	TH (kF + L ×	Pa) FIELD V & Sensiti LAB V	ANE wity ANE	w <sub>P</sub> ⊢ WA¹	CON V TER CO	TENT W DOMTEN	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	Al GRAII DISTRII (9 GR SA	BUTIC %)
258:0	TOPSOIL: 350mm REWORKED CLAYEY SILT TO	<u> </u>	1	SS	10		258									•					
0.4 257.5 0.8	SILTY CLAY: trace sand, trace cotlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		2	SS	10		257								0			-			
	SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard		3	SS	19		256								0						
			4	SS	30										0						
<u>.</u>			5	SS	31	-	255								<b>ા</b>	-		-		3 18	47
253.7 4.6	CLAYEY SILT: trace sand, wet silt		_		45		254											-			
	seams, grey, moist, hard		6	SS	45	_	253								0						
252.0 6.3	CLAYEY SILT TILL: some sand,		7	SS	22	=	252								0			-			
	trace gravel, grey, moist, very stiff					-	251														
250.1		#	8	SS	25	-		Ē													
	1) Water at the depth of 6.3m during drilling.																				









PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DATUM: Geodetic

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

Date: Oct-17-2022 ENCL NO.: 16

M: Geodetic		500.45	- 4 00				Date:	Oct-	17-202	2					ΕN	ICL N	0.: 1	6	
SOIL PROFILE	33 E :	$\overline{}$		.ES			DYNA	MIC CO	ONE PE	NETRA	ATION			NAT	I IDAI				REMARKS
DESCRIPTION	STRATA PLOT	NUMBER	TYPE	'N" BLOWS 0.3 m	GROUND WATER	ELEVATION	SHE/	20 4 AR ST NCONI UICK T	40 6 RENG FINED RIAXIA	TH (ki	Pa) FIELD V & Sensit LAB V	ANE ivity	W <sub>P</sub> 	CON TER CO	ITENT W O ONTEN	LIQUID LIMIT  W <sub>L</sub> T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	AND GRAIN SIZ DISTRIBUTIO (%) GR SA SI
TOPSOIL: 350mm	: <u>1,1,1</u>		SS	10			E				Ť				•				GIT OF OI
SILTY CLAY: trace sand, trace rootlets, trace organics, brown.	X   X   X   X   X   X   X   X   X   X	2	SS	14		257	' <u>-</u>							0					
SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to		3	SS	16	Ξ ⊻	W. L. Nov 1	‡ 256.1 5, 202	 m 2						0			1		
hard		4	SS	31		255	<u> </u>							•			-		
sand seams, grey below 3.1m		5	SS	32		254	E 							0					
CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard		6	SS	22		253								0					
						252	<u></u>												
		7	SS	62		251								0					
			99	33		250													
			33	33		249	Ē												
		9	SS	32										<b>↓</b> <b>←</b>	1				7 26 45
						248													
SILTY FINE SAND: trace clay		10	SS	50/		∷ 247	<u>'</u>												
SILTY FINE SAND: trace clay, Sirey, wet, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Oct. 26, 2022 1.4 Nov.15, 2022 1.5	12.73	. 10	33																
	SILTY FINE SAND: trace clay, grey, wet, very dense END OF BOREHOLE:  Notes:  1) Somm and ia. monitoring well installed upon completion. 2) Water Level (mbgl): Oct. 26, 2022 1.4	CATION: See Drawing 1 N 4857082.33 E  SOIL PROFILE  DESCRIPTION  TOPSOIL: 350mm  REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace vootlets, trace organics, brown, noist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  SILTY FINE SAND: trace clay, grey, wet, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl): Oct. 26, 2022 1.4	SOIL PROFILE  DESCRIPTION  TOPSOIL: 350mm  REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, noist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  SILTY FINE SAND: trace clay, grey, wet, very dense END OF BOREHOLE: Notes:  1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl): Oct. 26, 2022 1.4	SOIL PROFILE  DESCRIPTION  TOPSOIL: 350mm  REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace (cotlets, trace organics, brown, moist, stiff (Weathered/Disturbed)) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  SILTY FINE SAND: trace clay, grey, wet, very dense END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl): Oct. 26, 2022 1.4	SOIL PROFILE  DESCRIPTION  DESCRIPTION  TOPSOIL: 350mm  REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace cotlets, trace organics, brown, noist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  SILTY FINE SAND: trace clay, S	SOIL PROFILE  DESCRIPTION  DESCRIPTION  TOPSOIL: 350mm  REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace vootlets, trace organics, brown, moist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  SILTY FINE SAND: trace clay, step, wet, very dense END OF BOREHOLE: Notes:  1) 50mm dia. monitoring well installed upon completion. 2) Water Level (mbgl): Oct. 26, 2022 1.4	SOIL PROFILE  SAMPLES  SOIL PROFILE  DESCRIPTION  SOIL PROFILE  DESCRIPTION  SUBJECT OF SOUTH STAND ST	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE  SAMPLES  SOIL PROFILE  SAMPLES  SHEAR ST  O UNCONI SHEAR ST  O UNCONI QUICK T  OSLITY CLAY: trace sand, trace cootlets, trace organics, brown, moist, stiff to hard  sand seams, grey below 3.1m  SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard  CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard  SILTY FINE SAND: trace clay, sirey, wet, very dense send or sire	Description   Description	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SAMPLES   SOIL PROFILE   SAMPLES   SAMP	SOIL PROFILE   SAMPLES   SAMPLES	SOIL PROFILE  SAMPLES  SOIL PROFILE  SAMPLES  DESCRIPTION  SET OF SOIL 350mm  REWORKED CLAYEY SILT TO SILTY FINE SAND: trace clay.  7 SS 62  SILTY FINE SAND: trace clay.  SILTY FINE SAND	SOIL PROFILE   SAMPLES   SAMPLES



CLIENT: Caledon Community Partners

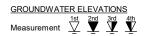
PROJECT LOCATION: 7675 King St., Bolton, ON

DRILLING DATA

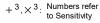
Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

	SOIL PROFILE		SAMPI	ES			DYN/ RESI	AMIC C STANC	ONE PI E PLO	NETR	ATION			_ NAT	URAI			_	REMARKS
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	Ш	BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	SHE	20 AR ST INCON	40 RENG	60 GTH (k	Pa) FIELD \ & Sensit	ivity	PLASTI LIMIT W <sub>P</sub>	CON	TURAL STURE NTENT W O	LIQUID LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND GRAIN SIZE DISTRIBUTION (%)
259.4		STR NUN	TYPE	ş	GRO SON	ELE					LAB V 80 1	OO				30		z	GR SA SI CL
259.2	TOPSOIL: 280mm REWORKED CLAYEY SILT TO	1	SS	9		259	E							0					
0.3 258.6 0.8	_SILTY CLAY: trace sand, trace ∠	2	SS	27	: ⊻		-							0					
	SILTY CLAY TO CLAYEY SILT TILL: some sand to sandy, trace	3	SS	27		W. L. Nov 1	258.2 5, 202 <b>L</b>	m 2 						0					
	gravel, brown, moist, very stiff to hard	4	SS	27		257	<u></u>							0			-		
		5	SS	33		256													
	grey below 4.0m																		
		6	SS	35		255								c	,				
						254	-												
	,	7	SS	13		253													5 32 45 18
						252													
		8	SS	22		252							c						
	;					251													
		9	SS	31	l::□::	250	Ē							<u> </u>			-		
2	,					249													
<u>.</u> 248.1		10	SS	68		210							0						
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Oct. 26, 2022 1.35 Nov.15, 2022 1.2																		









CLIENT: Caledon Community Partners

PROJECT LOCATION: 7675 King St., Bolton, ON

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm REF. NO.: 19-093-100

DATUN	M: Geodetic							Date	Oct-	17-202	2					ΕN	NCL N	0.: 1	8	
	CATION: See Drawing 1 N 4857331.7	6 E 5	9820	05.26													.02	· · ·	•	
	SOIL PROFILE			SAMPL	.ES			DYNA RESI	MIC CO	NE PE PLOT	NETR.	ATION			NAT	I IRAI			L	REMARKS
(m) ELEV EPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	NOIL W. L. Nov 2	SHE. 0 U 262.3	AR ST NCONF	0 6 RENG	0 { TH (k + - ×	Pa) FIELD V & Sensiti	ANE vity ANE	1	CON V TER CO	ITENT W O ONTEN	LIQUID LIMIT  W <sub>L</sub> T (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	AND GRAIN SIZI DISTRIBUTIO (%) GR SA SI
69.9	TOPSOIL: 280mm	7/1/V.	1	SS	11			E								0				OIT OIT
0.3 60.8 0.8	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace cotlets, trace organics, brown,						261								0					
	noist, stiff (Weathered/Disturbed)/		3	SS	23		260								0					
	TILL: trace sand, trace gravel, brown, moist, stiff to hard trace cobble/boulder at 2.3m		4	SS	27		259	<u> </u>												
	grey below 3.1m		5	ss	22		203								0					
			Ļ	00	22		258	<u> </u>												
			6	SS	10		257	_						0						
							256													
			7	SS	18		055							0						
							255													
			8	SS	33		254							0						
							253													
2.5 9.1	SANDY SILT: trace clay, trace gravel, grey, wet, compact		9	SS	21		252								0					1 33 64
							254													
0.3			10	SS	24	i H	251									•				
1.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:																			
	Date: Water Level(mbgl): Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Artesian (-0.71m above ground surface)																			

 $\frac{\text{GROUNDWATER ELEVATIONS}}{\text{Measurement}} \ \ \frac{\overset{1\text{st}}{\sqrt{2}}}{\overset{2\text{nd}}{\sqrt{2}}} \ \ \frac{\overset{3\text{rd}}{\sqrt{2}}}{\overset{4\text{th}}{\sqrt{2}}}$ 

GRAPH NOTES + <sup>3</sup>, × <sup>3</sup>: Numbers refer to Sensitivity

O <sup>8=3%</sup> Strain at Failure



#### **LOG OF BOREHOLE PW2**

PROJECT: Hydrogeological Investigation DRILLING DATA

CLIENT: Caledon Community Partners Method: Air Rotary

PROJI	ECT LOCATION: Macville Community							Dia	meter: 152mm						REF	F. NO	.: 20	-169	-105
	M: Geodetic							Dat	te: Jul-06-2023						ENG	CL NO	D.: 1		
BH LO	CATION: N 4857268.375 E 598529.1	14																	
	SOIL PROFILE		S	AMPL	.ES	<u>~</u>			Soil Head S	Spac			PLAS	TIC NAT	URAL	LIQUID		₩	REMARK
(m)		01			(OI	GROUND WATER CONDITIONS	_		PID (ppm)		CGD (ppm)		LIMIT W <sub>P</sub>	CON	TENT W	LIMIT W <sub>L</sub>	POCKET PEN. (Cu) (kPa)	UNIT)	AND GRAIN SIZ
ELEV EPTH	DESCRIPTION	A PL	e.		BLOWS 0.3 m	N OF	101		(ppm)		(ppiii)		₩ <sub>P</sub>		vv О	I	OCKET Ou) (k	JRAL (KN/m	DISTRIBUT
EPIH		STRATA PLOT	NUMBER	TYPE	<u> </u>	S OU	ELEVATION					•		ATER C		T (%)	S S	M¥ T	(%)
259.3	CLAYEY SILT TILL: trace sand		ž	₹	ż	تْحِکِن	山山		10 20 30 40	<u> </u>	10 20 30	40	-	10 2	20 3	30			GR SA SI
0.0	and fill, moist, hard		1				Aug 24	4, 20	3 masl )23										
							-Bento	nite <sup>:</sup> F											
256.3								Ē											
3.0	SILTY CLAY: grey		1				256	_		1									
			1					Ē											
			1				254	<u> </u>		+			+						
								Ē											
			1				252	_		-			-						
			1				Sand	Ē											
			1				250	Ė		$\perp$			$\perp$						
			1					Ė											
							20 Slc 248	г	/C Screen										
47.1							240												
12.2	CLAYEY SILT TILL: trace sand, grey		1																
	3 ,		1				246												
244.1			1					Ē											
15.2	END OF BOREHOLE																		
	NOTES: 1. 152 mm pumping well. 2. 20 ft of 20 slot PVC screen (25-45 ft). 3. Soil description based on drillers' field observations. 4. Water level: above ground surface - August 24, 2023																		



# **Appendix C**

#### Table: MECP Water Wells Records (500 m Radius)

Project: 20-169-104 Location: Caledon Station and Argo I & Argo II, Bolton, ON

MECP WWR	Easting	Northing	De	pth	Thick	ness		Stration	graphy	_	Water	Found	Static	Level	Water	Date	C4=4	Wets: II:
ID T	UTM N17	UTM N17	(ft)	(m)	(ft)	(m)	Color	Primary	Secondary	Tertiary	(ft)	(m)	(ft)	(m)	Kind	Completed	Status	Water Use
			2	0.6	2	0.6	Brown	Loam	-	-	(1.1/	(1117	(1.1)	(/		0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
			12	3.7	10	3.0	Brown	Sand	Clay	_	1							
4908650	597296	4857460	68	20.7	56	17.1	Grey	Clay	Silt	-	74	22.6	19	5.8	Fresh	6-Oct-00	Water	Domestic
								Medium			1						Supply	
			74	22.6	6	1.8	Grey	Sand	-	-								
			1	0.3	1	0.3	Brown	Loam	-	-								
			10	3.0	9	2.7	Brown	Clay	_	-	1						Water	
4904998	597281	4857522	34	10.4	24	7.3	Grey	Sand	-	-	34	10.4	25	7.6	not stated	4-Dec-75	Supply	Domestic
			40	12.2	6	1.8	Grey	Sand	_	_	1						Сарріу	
			15	4.6	15	4.6	Brown	Loam	-	_	1							
			63	19.2	48	14.6	Grey	Clay	-	-	1						Water	
4900215	597688	4857323						Medium			65	19.8	15	4.6	Fresh	9-Sep-67	Supply	Domestic
			65	19.8	2	0.6	-	Sand	-	-							Oupply	
			22	6.7	22	6.7	Brown	Clay	-	_				l				
			35	10.7	13	4.0	Blue	Clay	_		1							
			78	23.8	78	23.8	-	Hard Pan	-	_	1							
4903995	597764	4857063	120	36.6	42	12.8	Blue	Clay	-	-	120	36.6	Flov	wina	Fresh	24-Nov-72	Water	Domestic
1000000	001101	1007 000	140	42.7	140	42.7	-	Sand	Silt	-	1.20	00.0	1 10	·····g	1 10011	21110172	Supply	Domodio
			146	44.5	6	1.8	-	Sand	-	_	1							
			150	45.7	4	1.2	-	Fine Sand	-	_	1							
			20	6.1	20	6.1	Brown	Clay	Stones	-								
			67	20.4	47	14.3	Blue	Clay	Gravel	-	1							
			78	23.8	11	3.4	Blue	Clay	Gravel	Sand							Water	1
4904238	598060	4858628	120	36.6	42	12.8	Blue	Clay	-	-	177	54.0	23	7.0	Fresh	30-Nov-73	Supply	Domestic
			177	54.0	57	17.4	Blue	Clay	_	-	1						Сарріу	
			190	57.9	13	4.0	-		Medium Sand	Clay	1							
			1	0.3	1	0.3	Brown	Loam	Hard	-								
4904994	597064	4857323	20	6.1	19	5.8	Brown	Clay	Hard	-	30	9.1	25	7.6	not stated	30-Oct-76	Water	Domestic
			45	13.7	25	7.6	Grey	Clay	Sand	Loose	1						Supply	
7285847	598658	4858218	-	-	-	-	-	-	-	-	-	_	_	-	_	25-Jan-17	-	_
			19	5.8	19	5.8	Brown	Clay	Stones	Gravel								
			39	11.9	20	6.1	Blue	Clay	Soft	-	1							
			55	16.8	16	4.9	Blue	Clay	Soft	Hard	1							
			62	18.9	7	2.1	-	Hard Pan	-	-	1						Water	
4907399	598634	4858225	82	25.0	20	6.1	Blue	Clay	Hard	-	88	26.8	22	6.7	Fresh	28-Oct-90	Supply	Commerica
			88	26.8	6	1.8	Blue	Clay	Stones	Gravel	1						G 0, PP.	
			93	28.4	5	1.5	Blue	Coarse Sand	Gravel	-	1							
			118	36.0	25	7.6	Blue	Shale	-	-	1							
			12	3.7	12	3.7	Brown	Clay	Medium Sand	-								
4000: :-		40== ::::	40	12.2	28	8.5	White	Clay	-	-	۱	46 -				00.4	Water	Domestic/L
4900143	597301	4857436	64	19.5	24	7.3	-	Clay	Medium Sand	Hard Pan	64	19.5	31	9.5	Fresh	20-Aug-65	Supply	ivestock
			66	20.1	2	0.6	-	Fine Sand	-	-	1						Cuppiy	170010010
l l			48	14.6	48	14.6	-	Topsoil	-	-								
				1 1.0	.0						-1	1	i	I				1
			76	23.2	28	8.5	Brown	Sand	Clav	Silt								
4905615	597364	4857723	76 92	23.2 28.0	28 16	8.5 4.9	Brown Blue	Sand Clay	Clay Silt	Silt Gravel	100	30.5	26	7.9	Fresh	27-Apr-79	Water	Livestock

Ī	l	1	103	31.4	3	0.9	Blue	Gravel	Sand	Clay	1	1 1			i i		ĺ	ĺ
			106	32.3	3	0.9	Blue	Shale	Sand	Clay -								
					25				Medium Sand								Water	
4908534	597428	4857420	25 66	7.6 20.1	<u> 25</u> 41	7.6 12.5	Brown	Sand Sand	Medium Sand	-	34	10.4	34	10.4	Fresh	27-Jan-00		Domesti
			1	0.3	1	0.3	Grey Brown	Loam	iviedium Sand								Supply	
			10	3.0	9	2.7		Clay	<u> </u>	-							Water	
4904393	597637	4857116	38	11.6	28	8.5	Brown Grey	Clay		-	38	11.6	20	6.1	Not stated	01-Aug-74		Domesti
			42		<u> </u>			Sand	-	-							Supply	
			16	12.8	16	1.2 4.9	Grey		-	-								
				4.9 11.6	22		Brown	Clay										
			38	_		6.7	Grey	Clay	Stones	-								
			98 110	29.9 33.5	60 12	18.3 3.7	Grey	Silt Silt	Sand -	-							Motor	
7275497	597641	4857180		34.5	3	0.9	Grey	Clay	Silt		-	-	-	-	-	6-May-16	Water	Domesti
			113 125				Grey			-						•	Supply	
				38.1	12	3.7	Grey	Sand	Clay	-								
			133	40.5	8	2.4	Grey	Sand	Gravel									
			143	43.6	10	3.0	Grey	Shale	-	-								
			1	0.3	1	0.3	Brown	Loam	-	-								
			10	3.0	9	2.7	Brown	Clay	-	-								
4000004	=00111	40===0=	12	3.7	2	0.6	Blue	Clay	-	-			_			40.14 00	Water	
4908694	598144	4857707	75	22.9	63	19.2	Grey	Fine Sand	-	-	75	22.9	7	2.1	Fresh	18-May-00	Supply	Domestic
			84	25.6	9	2.7	Grey	Medium Sand	-	-							0.014.0	
			91	27.7	7	2.1	Grey	Fine Sand	-	-								
			93	28.4	2	0.6	Grey	Sand	Silt	Clay								
			2	0.6	2	0.6	Black	Topsoil	-	-							Water	
4905640	598114	4857523	14	4.3	12	3.7	Blue	Clay	-	Hard	14	4.3	8	2.4	not tested	30-Apr-80	Supply	Domestic
			25	7.6	11	3.4	Brown	Sand	Pebbles	Coarse								
4910378	597322	4857684	-	-	-	-	-	-	-	-	-	-	-	-	-	30-Sep-06	Abandoned	-
			1	0.3	1	0.3	Brown	Loam	Hard	-								
4905851	597414	4857323	20	6.1	19	5.8	Brown	Clay	Hard	-	30	9.1	15	4.6	not stated	15-Dec-81	Water	Domestic
+303031	337414	4007 020	30	9.1	10	3.0	Grey	Clay	Hard	-	30	3.1	10	7.0	not stated	10-060-01	Supply	Domestic
			35	10.7	5	1.5	Grey	Sand	Loose	-								
			1	0.3	1	0.3	Brown	Loam	-	-								
			10	3.0	9	2.7	Brown	Clay	Stones	-								
4905839	597964	4859273	29	8.8	19	5.8	Grey	Clay	Stones	Sand	22	6.7	17.0	5.2	Fresh	20-May-81	Water	Domestic
4903039	337304	4039213	35	10.7	6	1.8	Grey	Stones	Clay	-		0.7	17.0	5.2	1 16311	20-iviay-0 i	Supply	Domestic
			36	11.0	1	0.3	Grey	Clay	Shale	-								
			38	11.6	2	0.6	Grey	Shale	Very Hard	-								
			12	3.7	12	3.7	Brown	Loam	-	1							Water	
4905116	597054	4857923	42	12.8	30	9.1	Grey	Clay	-	-	42	13	35	10.7	Fresh	10-May-77		Domestic
			48	14.6	6	1.8	-	Sand	Gravel	Water Bearing							supply	
			2	0.6	2	0.6	Brown	Loam	-	Soft								
			13	4.0	11	3.4	Brown	Clay	-	Hard								
			27	8.2	14	4.3	Grey	Clay	Stones	Hard								
			29	8.8	2	0.6	Brown	Sand	-	Loose							14/040*	Livestant
7267796	596880	4858246	65	19.8	36	11.0	Grey	Clay	-	Hard	8	2.4	13	4.0	Fresh	13-Jun-16	Water	Livestock
		1	75	22.9	10	3.0	Brown	Sand	Gravel	Layered	1						Supply	Domestic
			85	25.9	10	3.0	Grey	Gravel	Sand	Loose	1							
		1	98	29.9	13	4.0	Gray	Sand	Silt	Dirty	1							
		1	98	29.9	0	0.0	Grey	Shale	-	Hard	1							
			25	7.6	25	7.6	Brown	Clay	Stones	Dense	İ							1
		1	28	8.5	3	0.9	Blue	Coarse Sand	Loose	-	1							
											1	1	l	l	1		1	1
			33	10.1	5	1.5	Blue	Fine Sand	Silt	Soft								
4908369	598459	4857745	33 48	10.1 14.6	5 15	1.5 4.6	Blue Blue	Fine Sand Clay	Silt Soft	Soft -	99	30.2	36	11.0	Fresh	25-Aug-97	Water	Domestic

İ	İ	I	86	26.2	33	10.1	Blue	Fine Sand	Silt	Loose	1	I	I		l l		I	I
			97	29.6	11	3.4	Blue	Clay	Stones	Packed								
			107	32.6	10	3.0	Blue		Water Bearing	Loose								
			1	0.3	1	0.3	Black	Loam	-	Soft			25					
7181645 59828			17	5.2	16	4.9	Brown	Clay	-	Hard		35.7						Domestic
	500000	4050400	92	28.0	75	22.9	Grev	Clay	Silt	Layered	117			7.0	F	20-Feb-12	Water Supply	
	598283	4858462	98	29.9	6	1.8	Grey	Gravel	-	Loose				7.6	Fresh			
			113	34.5	15	4.6	Grey	Clay	-	Hard								
			117	35.7	4	1.2	Grey	Sand	-	Loose								
			7	2.1	7	2.1	-	Clay	-	-								
4904720 5978			10	3.0	3	0.9	-	Clay	Stones	-								
	507070	4057044	12	3.7	2	0.6	-	Sand	-	-		8.5	4	1.2	Fresh	00 4 74	Water	Domestic
	597876	4857244	16	4.9	4	1.2	-	Stones	-	-	28					26-Aug-74	Supply	
			18	5.5	2	0.6	-	Clay	-	-								
			30	9.1	12	3.7	-	Sand	Stones	-								
4904007			2	0.6	2	0.6	Brown	Loam	-	-					Fresh	15-Jun-72	Water Supply	Domestic
	597556	4857470	9	2.7	7	2.1	Brown	Clay	-	-	23	7.0	Fla.					
	597556	4037470	23	7.0	14	4.3	Blue	Clay	Stones	-	23		FIO	ving				
			25	7.6	2	0.6	Blue	Gravel	-	-				Ų				
			32	9.8	32	9.8	-	Topsoil	-	-	90	27.4	22	6.7	Fresh	4-Feb-76	Water Supply	
4904847	596987	4858136	35	10.7	3	0.9	Blue	Clay	-	-								Livestock /
	390907	4000100	90	27.4	55	16.8	-	Fine Sand	-	-								Domestic
			95	29.0	5	1.5	-	Gravel	-	-								
			1	0.3	1	0.3	Brown	Loam	Hard	-	60	18.3	5	1.5	not stated	10-Sep-94	Water Supply	Domestic
4907932	597435	4857461	30	9.1	29	8.8	Brown	Clay	Hard	-								
4907932			60	18.3	30	9.1	Grey	Clay	Hard	-								
			72	22.0	12	3.7	Grey	Sand	Loose	-								
4904395	597189	4858347	1	0.3	1	0.3	Brown	Loam	-	-	20	6.1	15	4.6	not stated	1-Aug-74	Water Supply	Domestic
			15	4.6	14	4.3	Brown	Clay	-	-								
			34	10.4	19	5.8	Brown	Sand	Gravel	-								
4900216		4858130	2	0.6	2	0.6	-	Loam	-	-	132	40.2	25	7.6		13-Nov-64	Water Supply	Domestic
	596886		15	4.6	13	4.0	-	Clay	-	-					Fresh			
			45	13.7	30	9.1	-	Hard Pan	-	-								
	330000		110	33.5	65	19.8	-	Clay	Medium Sand	-					1 10311			
			130	39.6	20	6.1	-	QSND	-	-								
			132	40.2	2	0.6	-	GRVL	-	-								
4904146		4858691	2	0.6	2	0.6	Black	Loam	-	-	33	10.1	57	17.4				Domestic
	598039		35	10.7	33	10.1	Brown	Clay	Stones	-							Water	
			57	17.4	22	6.7	Blue	Clay	Stones	-					Fresh	6-Jul-73	Supply	
			67	20.4	10	3.0	Grey	Sand	-	-								
			75	22.9	8	2.4	Blue	Clay	-	-								
			23	7.0	23	7.0	Brown	Clay	-	-		]						
			100	30.5	77	23.5	Blue	Clay	Stones	-							Water	
4904437	598238	4858479	112	34.1	12	3.7	Blue	Sand	Gravel	Clay	100	30.5	23	7.0	Fresh	30-Jul-73	Supply	Domestic

	1	ı	407	00.7	1 45	1.0	D.	1 01 1		1	7	ĺ	Ī	ı			Juppiy	İ
			127	38.7	15	4.6	Blue	Shale	Clay	-	4							
			180	54.9	53	16.2	Blue	Shale	-	-								
			12	3.7	12	3.7	Brown	Clay	-	-	1	53.4		10.7			Water	
4903300 59821	598214	4858623	122	37.2	110	33.5	Blue	Clay	-	-	175		35		Fresh	11-Aug-69	Supply	Domestic
			175	53.4	53	16.2	Grey	Silt	-	-							Supply	
4907094 597			22	6.7	22	6.7	Brown	Clay	Stones	-		60.7						Livestock / Domestic
			65	19.8	43	13.1	Blue	Clay	Stones	-								
			72	22.0	7	2.1	Blue	Clay	Soft	-							Water Supply	
	597663	4858835	85	25.9	13	4.0	Blue	Clay	Gravel	Sand	199		26	7.9	Fresh	20-Jan-89		
		!	190	57.9	105	32.0	Blue	Clay	Silt	-						1		
			199	60.7	9	2.7	Blue	Clay	Silt	Sand								
			214	65.2	15	4.6	-	Fine Sand	-	-						1		
4909556			15	4.6	15	4.6	Brown	Clay	-	Hard								
			25	7.6	10	3.0	Grey	Clay	-	Hard	Ī	22.9					10/	
	598425	4858349	64	19.5	39	11.9	Grey	Clay	Stones	Hard	75		17	5.2	Fresh	24-Oct-04	Water	Domestic
			70	21.3	6	1.8	Grey	Clay	-	Loose	1		·   · · ·	0.2			Supply	
			77	23.5	7	2.2	Grev	Gravel	-	Loose								
			2	0.6	2	0.6	Brown	Loam	-	-			+-	+	+	<u> </u>	+	<del>                                     </del>
4904761			24	7.3	22	6.7	Brown	Sand	Clay	-		7.3			not stated	23-Sep-75	Water	Domestic
	597397	4857685	38	11.6	14	4.3	Grey	Sand	-	-	24		23	7.0			Supply	
			43	13.1	5	1.5	Brown	Sand	-									
			100		100													
4905784		4858823		30.5		30.5	- Divi-	Previously Dug		-	4	208 63.4	1 22	6.7	Fresh	12-Dec-80	Water	
	598114		160	48.8	60	18.3	Blue	Clay	-	-	208							Domestic
			208	63.4	48	14.6	Blue	Clay	Silt	Fine Sand	1						Supply	1
			212	64.6	4	1.2	-	Gravel	Coarse Sand	Clay								
															_			
7320567	598596	4858298												not stated	23-Jul-18	not stated	not stated	
. 02000.	000000														- Hot stated	20 001 10	not otatou	not stated
7366579		4857850														İ		
	598709													not stated	27-Jun-20	not stated	not stated	
	390709													Tiol State	Tiot stated	27-3011-20	noi sialeu	noi stated
7345658 598259	1957256	1	0.3	1	0.3	Brown	Loam	loose						mat stated	07 Jun 00	Water	Monitoring	
	598259	4857256	20	6.1	20	6.1	Brown	Silt Till	dry						not stated	27-Jun-20	supply	Monitoring
			20	6.1	20	6.1	Brown	Fill	-	-							225.7	
4909415		4858056	38	11.6	38	11.6	Grev	Clay	-	_	-	-	-	-	-	1		1
	599081		41	12.5	41	12.5	Brown	Sand	_	-	_	_	-	not stated	27-Jun-20	Water supply	Monitoring	
			50	15.2	50	15.2	Grey	Sand	Soft	-	_	-	-					
			60	18.3	60	18.3	Grey	Clay	Hard	-	-	-	-	-	1	1	Ĭ	
7172137	1		0	0.0	0	0.0	Black	-	-	-	-	-	_	-		ated 24-Nov-11		Monitoring
	1	4857883	1	0.3	1	0.3	Brown	Sand	Gravel	Loose	-	-	_	-	1		Water	
	599023		12	3.7	12	3.7	Brown	Silt	Sand	Loose	_		_	_	not stated		supply	
			20	6.1	20	6.1	Grey	Silt	Clay		_	<u> </u>		_			Supply	
			0	0.0	0					Dense		-		-				<del></del>
						0.0	Brown	Loam	-	Loose Loose	-	-	-	<del>-</del>	not stated	24-Nov-11	Water supply	Monitoring
7470400	500004	4057000				2.7	Drawn	Cond			-	-	-	-				
7172136	598984	4857838	12	3.7	12	3.7	Brown	Sand	Silt								Supply	<del></del>
7172136	598984	4857838	12 20	3.7 6.1	12 20	6.1	Grey	Sand	Silt	Dense	-	-	-	-			Supply	
			12 20 0	3.7 6.1 0.0	12 20 0	6.1 0.0	Grey Brown	Sand Loam	Silt -	Dense Loose	-	-	-	-			Water	
7172136 7172135	598984 599026	4857838 4857798	12 20 0 12	3.7 6.1 0.0 3.7	12 20 0 12	6.1 0.0 3.7	Grey Brown Brown	Sand Loam Sand	Silt - Silt	Dense Loose Loose	-		-	-	not stated	24-Nov-11	Water	Monitorin
			12 20 0	3.7 6.1 0.0	12 20 0	6.1 0.0	Grey Brown	Sand Loam	Silt -	Dense Loose	-	-	-	-		24-Nov-11		Monitorin
			12 20 0 12	3.7 6.1 0.0 3.7	12 20 0 12	6.1 0.0 3.7	Grey Brown Brown	Sand Loam Sand	Silt - Silt	Dense Loose Loose	-	-	-	-		24-Nov-11 9-Mar-15	Water	Monitoring
7172135	599026	4857798	12 20 0 12 20	3.7 6.1 0.0 3.7	12 20 0 12	6.1 0.0 3.7	Grey Brown Brown Grey	Sand Loam Sand Sand	Silt - Silt Silt	Dense Loose Loose		-	-	-	not stated		Water supply	Monitorino

7000570	500.400	1050045	1	1 1		1		1	1	ı	1	1	1		1	04 1 1 00	1	
7366576	598402	4858345	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366575	597077	4857818	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7633574	597309	4857666	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366573	597907	4857026	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366572	598317	4857523	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366571	597334	4857649	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366570	597518	4857496	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
			1	0.3	1	0.3	Brown	Loam	-	Loose	not	not	not	not			Water	
7345660	598349	4857355	10	3.0	10	3.0	Brown	Silt	Till	Dry	stated	stated	stated	stated	not stated	7-Jun-19	supply	Monitoring
			20	6.1	20	6.1	Grey	Sand	Silt	Water Bearing	Stated	Stated	Stated	Stated			Зарріу	
7366568	597844	4858742	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366567	598817	4858787	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
			1	0.3	1	0.3	Brown	Loam	-	Loose	not	not	not	not			Water	
7345661	598347	4857475	10	3.0	10	3.0	Brown	Silt	Till	Dry	stated	stated	stated	stated	not stated	7-Jun-19	supply	Monitoring
			20	6.1	20	6.1	Grey	Sand	Silt	Water Bearing	Stateu	Stateu	Stateu	Stateu				
7345662	598561	4857285	1	0.3	1	0.3	Brown	Loam	-	Loose	not	not	not	not	not stated	7-Jun-19	Water	Monitoring
7343002	330301	4037203	20	6.1	20	6.1	Brown	Silt	Till	Dry	stated	stated	stated	stated	not stated	7-5411-13	supply	Widilitoring
7345663	598561	4857285	1	0.3	1	0.3	Brown	Loam	-	Loose	not	not	not	not	not stated	7-Jun-19	Water	Monitoring
7343003	390301	4037203	20	6.1	20	6.1	Brown	Silt	Till	Dry	stated	stated	stated	stated	not stated	7-5411-19	supply	wormoring
7355128	598088	4857215	-	-	-	-	ı	-	-	-	-	-	-	-	-	23-Oct-18	-	-
7366565	597432	4858372	-	-	-	-	ı	-	-	-	-	-	-	-	-	24-Jul-20	-	-
			1	0.3	1	0.3	Brown	Loam	-	Hard								
4906292	597825	4856771	20	6.1	20	6.1	Brown	Clay	-	Hard	60	18.3	20	6.1	not stated	10 Λυα 94	Water	Domestic
4900292	397623	4030771	60	18.3	60	18.3	Grey	Clay	-	Hard	00	16.5	20	0.1	noi sialeu	19-Aug-84	supply	Domestic
			80	24.4	80	24.4	Grey	Sand	-	Loose								
			2	0.6	2	0.6	1	Loam	-	-								
			12	3.7	12	3.7	Brown	Clay	-	-								
4908027	597914	4856940	27	8.2	27	8.2	Blue	Clay	-	-	124	37.8	1	0.3	Fresh	31-Aug-95	Water	Domestic
4500027	007014	4000040	78	23.8	78	23.8	Blue	Clay	Gravel	-	12-	07.0	'	0.0	1 10011	or riag so	supply	Domestic
			124	37.8	124	37.8	Blue	Clay	-	Soft								
			130	39.6	130	39.6	Brown	Sand	-	-								
			12	3.7	12	3.7	Brown	Clay	-	-								
1010010		4050000	93	28.3	93	28.3	Grey	Clay	-	-	4-0					45.4 00	Water	
4910318	597792	4856990	123	37.5	123	37.5	Grey	Silt	Clay	-	170	51.8	Flov	ving	Fresh	15-Aug-06	supply	Domestic
			167	50.9	167	50.9	Grey	Clay	Stones	-	4							
			180	54.9	180	54.9	Grey	Fine Sand	-	-								
4000054	507045	4057005	12	3.7	12	3.7	Brown	Clay	-	-	0.5	05.0	00	07.4	Farab	00 1 70	Water	D
4903854	597815	4857025	81	24.7	81	24.7	Grey	Clay	-	-	85	25.9	90	27.4	Fresh	26-Jun-72	supply	Domestic
			120	36.6	120	36.6	Grey	Shale	Maralliana Cara	-								
4908534	597428	4857420	25 66	7.6	25	7.6	Brown	Sand	Medium Sand	-	34	10.4	34	10.4	Fresh	13-Jan-00	Water	Domestic
4007040	FOOFFC	4050005	- 00	20.1	66 -	20.1	Grey	Sand	Medium Sand	-						11 Mar 02	supply	
4907840	598556	4856805		-		-	-	-	-	-	-	-	-	-	-	11-Mar-93	-	-
4907844	599080	4857704	-		-	-	-		-	-	-	-	-		-	-	-	-
			2	0.6	2	0.6	-	Loam	-	-	1							
			37	11.3	37	11.3	-	Clay	- Crovel	-	1							
4007005	E00007	1057050	39	11.9	39	11.9	- Plus	Sand	Gravel	-	104	40.0	105	11 1	Ercah	1000 04 34	Water	Domostic
4907295	598207	4857250	95 98	29.0 29.9	95 98	29.0 29.9	Blue -	Clay Sand	Gravel Gravel	-	134	40.9	135	41.1	Fresh	1990-04-31	supply	Domestic
			134	40.8	134	40.8	Blue	Clay		-	1							
			140	40.8	140	40.8	Blue	Sand	Gravel	-	1							
			18	5.5	18	5.5	Brown	Clay	-	-	1							
			23	7.0	23	7.0	Blue	Clay	-	-	1						Water	
4906516	598227	4857340	35	10.7	35	10.7	Brown	Medium Sand		-	23	7.0	22	6.1	Fresh	18-Oct-86		Domestic
I I	l	I	JU	10.7	JU	10.7	DIOMII	Internation Salic	4	L -	J	1	l		l l	Ī	supply	ı l

İ	I	I	45	13.7	45	13.7	Blue	Clay	_	_	7	ı		i	l l		1 1	I
			9	2.7	9	2.7	- Diue	Clay	-	-		1						
			12	3.7	12	3.7	-	Sand		-	-						Water	
4904719	598524	4857402	18	5.5	18	5.5	-	Sand	-	-	10	3.0	6	6.1	Fresh	25-Aug-74		Domestic
			28	8.5	28	8.5	-	Clay	-	-	1						supply	
			20	6.1	20	0.6		Clay	-	-	1						+	
			45	13.7	37	11.3	Brown Blue	Clay	-	-	-							
			55	16.8	39	11.9	- Diue	Medium Sand	Clay	-	1						Water	
4900213	598213	4856795	115	35.1	95	29.0	Blue	Clay	- Clay	-	45	13.7	Flov	wing	Fresh	12-Jun-66	supply	Domestic
			136	41.5	98	29.9	-	Fine Sand	-	-	1						Supply	
			138	42.1	134	40.8	Blue	Clay	-	-	-							
			1	0.3	1	0.3	Black	Loam		-								
			6	1.8	6	1.8	Brown	Clay	Gravel	-	1							
			11	3.4	11	3.4	Blue	Clay	- Graver	-	1							
4906470	598854	4857932	83	25.3	83	25.3	Brown	Medium Sand	-	-	80	24.4	4	1.2	Fresh	16-Nov-85	Water	Domestic
4300470	330034	4037332	92	28.0	92	28.0	Grey	Medium Sand	-	_	- 00	27.7	7	1.2	1 10311	10-1101-03	supply	Domestic
			107	32.6	107	32.6	Blue	Clay	Gravel	-	1							
			135	41.1	135	41.1	Grey	Shale	Clay	_	1							
4907878	598918	4857265	-	-	-	-	- City	-	-	_	-	-	-	_	_		_	-
			1	0.3	1	0.3	Brown	Loam	loose		not	not	not	not			Water	
7345659	598366	4857259	20	6.1	20	6.1	Brown	Silt Till	dry		stated		stated	stated	not stated	24-Jun-19	supply	Monitoring
7292795	598776	4857763	-	-	-	-	- BIOWII	-	- ury	_	-	Stated	Stated	Jiaicu	-	23-Aug-17		Monitoring
4907881	598405	4857436	-	-		<del>-</del>	-	-		-	-	-	-	-	-	25-Aug-17	Warer Supply	WOULDING
7292729	598776	4857763	-	-			-	-	-	-	-	-	-	_	-	7-Aug-17	-	Monitoring
7292728	598935	4857759				1					-		-	-			+	
1292120	390933	4657759	9	2.7	-	2.7	- Drawn	- Fill	-	-	-	-	-	-	-	7-Aug-17	-	Monitoring
			28	8.5	9 28	8.5	Brown Blue	Clay	- Silt	-	-							
			41	12.5	41	12.5	Blue	Clay	Silt	Gravel	1							
			54	16.5	54	16.5	Grey	Clay	-	- Graver	1							
			57	17.4	57	17.4	Grey	Silt	Gravel	-	1							
4908440	598399	4856652	69	21.0	69	21.0	Grey	Silt	Gravel	-	133	40.5	3	0.9	Fresh	7-Apr-94	Water	Domestic
4300440	390399	4030032	81	24.7	81	24.7	Grey	Silt	- Graver	-	133	40.5	3	0.9	1 16311	7-Apr-94	supply	Domestic
			121	36.9	121	36.9	Grey	Clay	Silt	_	1							
			133	40.5	133	40.5	Grey	Silt	Fine Sand	_	1							
			139	42.4	139	42.4	Grey	Fine Sand	-	-	1							
			145	44.2	145	44.2	Grey	Silt	-	_	1							
4907849	598780	4857872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1007010	000700	1007072	2	0.6	2	0.6	Brown	Peat	-	Loose								
			40	12.2	40	12.2	Grey	Silt	Clay	Till	1							
			108	32.9	108	32.9	Grey	Silt	Stones	Layered	1							
			130	39.6	130	39.6	Grey	Clay	Sand	Layered	1							
			164	50.0	164	50.0	Grey	Clay	Sand	Silt	1						Water	
	597907	4857031	184	56.1	184	56.1	Grey	Sand	Silt	Stones	Not s	stated	Not s	stated	Not stated	9-Jan-97	supply	Monitoring
4908193	391901		1 104								╡				1		- Cabbil	l
4908193	397907					61.3	Grev	Fine Sand	Silt	Dense					]			
4908193	391901		201	61.3	201	61.3 66.4	Grey Grev	Fine Sand Sand	Silt Gravel	Dense Lavered	1							
4908193	397907		201 218	61.3 66.4	201 218	66.4	Grey	Sand	Gravel	Layered	1							
4908193	397907		201	61.3	201	66.4 75.0	Grey Grey	Sand Sand	Gravel Silt	Layered Layered								
4908193	391901		201 218 246	61.3 66.4 75.0	201 218 246	66.4	Grey	Sand	Gravel	Layered	- - -	Ι		Ι				

\$490545   \$598515   \$4857723   \$16   \$4.9   \$16   \$4.9   \$16   \$4.9   \$16   \$4.9   \$16   \$4.9   \$16   \$4.9   \$16   \$4.9   \$15   \$4.6   \$4.9   \$4.5   \$4.5   \$4.6   \$4.9   \$4.5   \$4.5   \$4.6   \$4.9   \$4.5	3-Apr-66	Water supply  Water supply  Water supply	Domestic  Monitoring  Domestic
Second   S	3-Apr-66	Water supply  Water supply	Domestic
1	3-Apr-66	Water supply	Domestic
A908194	3-Apr-66	Water supply	Domestic
4908194	3-Apr-66	Water supply	Domestic
Age	3-Apr-66	Water supply	Domestic
4908194	3-Apr-66	Water supply	Domestic
4908194   597904   4857037   164   50.0   164   50.0   Grey   Clay   Sand   Silt   Dense   184   56.1   184   56.1   Grey   Sand   Silt   Dense   201   61.3   201   61.3   Grey   Fine Sand   Silt   Dense   Layered	3-Apr-66	Water supply	Domestic
184   56.1   184   56.1   184   56.1   Grey   Sand   Silt   Stones   Not stated   Not stated   201   61.3   201   61.3   201   61.3   Grey   Fine Sand   Silt   Dense   Layered   Layered   Layered   Sand   Silt   Layered   Sand   Silt   Layered   Sand   Silt   Layered   Sand   Silt   Layered   Sand   Silt   Stones   Sand   Silt   Layered   Sand   Silt   Stones   Sand	3-Apr-66	Water supply	Domestic
Page	-	Water supply	
218	-	supply	
Part	-	supply	Domestic -
Part	-	supply	
4900214   598727	-	supply	
A900214   S98727	-	supply	
4900214   598727	-	supply	
21   6.4   21   6.4   Blue   Clay   -   -   -	-	-	
1			-
Total   Tota			-
T241065   F38679			
Total   Tota	ed 27-Mar-15		
T241065   F98679	ed 27-Mar-15		
10	27-10141-13	Water	Monitoring
Agomatical Region   Signature   Signatur		supply	IVIOIIIIOIIII
4908422   599026   4857876   48578			
A908422   S99026			+
4908422     599026     4857876     34     10.4     34     10.4     Brown Clay Gravel     -     -     -     71     21.6     0     0.0     Fresh       7278360     599062     4857830     -			
Total   Tota		Water	Commerc
114   34.7   114   34.7   Grey   Fine Sand   -   -	16-Oct-98	supply	al
Text		Supply	aı
7278360         599062         4857830         -			
7220334 598903 4858000 4858000 4858000 3 0.9 Brown Sand Fill Loose 14 4.3 14 4.3 Bown Silt Clay Hard 18 5.5 18 5.5 Grey Silt Clay Hard 26 7.9 26 7.9 Grey Sand Silt Dense 4 1.2 4 1.2 Black	7-Jun-16	-	-
7220334 598903 4858000 4858000 14 4.3 14 4.3 Bown Silt Clay Hard 18 5.5 18 5.5 Grey Silt Clay Hard 26 7.9 26 7.9 Grey Sand Silt Dense 4 1.2 4 1.2 Black	7-Juli-16	<del>-</del>	<del>+</del> -
7220334 598903 4858000 18 5.5 18 5.5 Grey Silt Clay Hard 26 7.9 26 7.9 Grey Sand Silt Dense 4 1.2 4 1.2 Black			
26         7.9         26         7.9         Grey         Sand         Silt         Dense           4         1.2         4         1.2         Black         -         -         -	7-May-14	-	Monitoring
4 1.2 4 1.2 Black			
	+		+
I I I I I I I I I I I I I I I I I I I			
		Water	commeric
	ed 11-Jul-11	supply	al
		_	+
4 1.2 4 1.2 Brown Clay			
16 4.9 16 4.9 Brown Clay Gravel - 34 10.4 34 10.4 Brown Sand - Fine Sand National State of Sand Sand Sand Sand Sand Sand Sand Sand		Motor	Commoro
	5-Oct-99	Water	Commerci
4500515 350514 4057550 42 12.8 Blue Clay Not stated Not stated 116511		supply	al
68 20.7 68 20.7 - Sand			
71 21.6 71 21.6 Blue Clay			+
1 E.I I E.I BIOWII CIRC CIRCY CORE	7 Jun 10		Took I lolo
	7-Jun-19	-	Test Hole
25   7.6   25   7.6   Grey   Clay   Silt   -		+	+
			1
4904011 598756 4858099 65 19.8 65 19.8 Blue Clay Sand - 110 106.7 Flowing Fresh		-	Domestic
4904011 398730 4038099 110 33.5 110 33.5 Blue Fine Sand Clay -	5-Aug-72		1
114 34.7 114 34.7 Grey Fine Sand	5-Aug-72	1	+
5 1.5 5 1.5 Brown Clay	5-Aug-72		
4900273 598847 4858021 <u>8 2.4 8 2.4 - Clay</u> 6 1.7 Fresh		Water	I D
18 5.5 18 5.5 - Medium Sand	5-Aug-72 13-Nov-60		Domestic
1 0.3 1 0.3 - Loam -		Water supply	Domestic
8 2.4 8 2.4 Brown Clay			Domestic
4908538 598806 4858096 22 6.7 22 6.7 Brown Sand 40 12 2 12 3.7 Fresh			Domestic

4800030	ეფიიიი	4000090	61	18.6	61	18.6	Brown	Clay	-	-	4∪	14.4	14	3.1	LIGOII	บ-บบเ-ฮฮ	supply	al
			80	24.4	80	24.4	Blue	Clay	-	-								
			93	28.3	93	28.3	Blue	Fine Sand	-	-								
			12	3.7	5	1.5	Brown	Clay	-	-							Water	
4900282	597482	4859341	59	18.0	8	2.4	Grey	Clay	Medium Sand	Stones	59	18.4	-	-	Fresh	13-Jan-57	_	Domestic
			60	18.3	18	5.5	-	Medium Sand	-	-							supply	
4906797	598651	4857730	•	-		-	-	-	-	-	Not s	stated	Not s	stated	Not stated	4-Nov-87	Water supply	Domestic



## Well Survey



Project ID: 20-169-106 June 12<sup>th</sup>, 2024

Dear Resident/ Property Owner:

RE: PRIVATE WELL INVENTORY

The Gore Road & Humber Station Road, Caledon, ON

**HYDROGEOLOGICAL INVESTIGATION** 

DS Consultants Ltd. (DS) was retained by Caledon Community Partners to undertake a private well inventory for properties within the vicinity of the proposed future development at the Site, located The Gore Road and Humber Station Road, and land situated south of King Street, approximately 400 m east from the Gore Road in Caledon, Ontario. The proposed well inventory is being conducted to identify private wells within the vicinity of the proposed future development.

Your property is located within the study area. If you are serviced by a private supply well, we would appreciate your assistance with this survey. However, **participation is voluntary.** 

The purpose of our visit is to conduct interviews with local residents and land owners in regard to water supply wells in operation surrounding the development project. The information we hope to obtain will include:

- The location of the well(s) and septic bed (if known);
- The depth, diameter and construction details of the well(s);
- The pump type and depth, and any water treatment system in use;
- Information regarding the past performance of the well(s);
- A water quality sample

A copy of the completed survey will be provided upon request. We anticipate that the survey can be answered in a few minutes. If there is access to your well, and with your permission, our representatives will measure the depth and water level in your well.

If you would like to participate in the survey, and there is a particular time that suits your schedules, please contact Dorothy Santos of DS at (905) 264-9393 or by e-mail at <a href="mailto:dsantos@dsconsultants.ca">dsantos@dsconsultants.ca</a>, any questions you have regarding the survey can also be answered at the time. Thank you in advance for your helpful assistance

Yours Truly,

DS Consultants Ltd.

Dorothy Santos, M.Sc.

**Project Manager** 



## WATER WELL SURVEY

Telephone: 416-795-1796  Davemon 43 (Dayman) Common Verla Information  Drilled: Dug or Bored: Verlag Combination:  Date Completed: Depth: 30 m or completed: Seal:	Project #: 70~16q~106~36  Well #: 4908538  PUMP INFORMATION  Make: Age: HP:  Type: Jet Submersible  Shallow Well Deep Well Other  Depth to intake:  Centre of pump (mbgs):  Pump Capacity:  Condition: Good Fair Poor
WELL INFORMATION  Drilled: Dug or Bored: Combination:  Date Completed: Depth: 30 m 7  Casing Diameter: Seal:	PUMP INFORMATION  Make: Age: HP: Type: Jet Submersible  Shallow Well Deep Well Other  Depth to intake:  Centre of pump (mbgs):  Pump Capacity:
WELL INFORMATION  Drilled: Dug or Bored: Combination:  Date Completed: Depth: So Testing Diameter: Seal:	PUMP INFORMATION  Make: Age: HP: Type:
Date Completed:  Casing Diameter:  Depth: 30 m 1  Seal:	Type: Jet Submersible  Shallow Well Deep Well Other  Depth to intake:  Centre of pump (mbgs):  Pump Capacity:
Casing Diameter: Seal:	Shallow Well Deep Well Other  Depth to intake:  Centre of pump (mbgs):  Pump Capacity:
Casing Diameter: Seal:	Depth to intake:  Centre of pump (mbgs):  Pump Capacity:
Aquifer: Overburden:Bedrock:I	Centre of pump (mbgs):  Pump Capacity:
	Pump Capacity:
Static Level: Origional: Present: 0.44m	
Has the well ever been dry?	Condition: Good Fair Poor
Owner when drilled:	
WATER QUALITY	WATER CONSUMPTION
pii	Domestic:
	(# of persons) Livestock: (Specify)
Hardness: Alkanity: (	Other Uses:
Bacterial:	Estimated Daily Requirement:
Clear: Y/(N) Sand Free: Y/(N)	
Sulfurous: Y / M Odour: Y / N	LOCATION SKETCH
Any water treatment: Soffmer.	
ANNUAL SAMPLING PROGRAM	
Is well water supplemented? Y (N)	
Is the well accessible for water level mesurments?	
Permission to obtain water levels and samples?  Y  N  OWNERS ACKNOWLEDGEMENT:	
The above information is correct to the best of my knowledge.	
Signed: Date:	Ture 12, 17024

DS Consultants 6221 HWY 7, Unit 16, Vaughan, ON www.dsconsultants.ca



## WATER WELL SURVEY

Location: 14389 The Gate Rd	Date:June 12, 2024
Owner: Carolyon Zalewski	Project #: 20 - (69 - 106 - 36
Telephone: 905 - 657 - 2009	Well #: 44905116
Gente keeper 7777 @hotmail	·(om
WELL INFORMATION	PUMP INFORMATION
Drilled: Dug or Bored: Combination:	Make: Age: HP:
Date Completed: Depth: 3 m	Type: Jet Submersible
Casing Diameter: Seal:	Shallow Well Deep Well Other
Aquifer: Overburden: Bedrock:	Depth to intake:
Static Level: Origional: Present: 4-67 m	Centre of pump (mbgs):
Has the well ever been dry?	Pump Capacity:
Owner when drilled: Nore 30 years	Condition: Good Fair Poor
WATER QUALITY	WATER CONSUMPTION
pHConductivity: Temperature:	Domestic:
Chloride: No Iron: N	(# of persons) Livestock:
Hardness: N Alkanity: /V	(Specify) Other Uses:
Bacterial:	Estimated Daily Requirement:
Clear: Y/N Sand Free: YN	
Sulfurous: Y (N) Odour: Y (N)	LOCATION SKETCH
Any water treatment: Softmer, VU light	, Sediment filter.
ANNUAL SAMPLING PROGRAM	
Is well water supplemented? Y / (N)	
Is the well accessible for water level mesurments? (Y) N	
Permission to obtain water levels and samples?	
OWNERS ACKNOWLEDGEMENT:	
The above information is correct to the best of my knowledge.	+ 1-2
Signed. (Owner Tenant)	: June 12, 2024.
OS Consultants	

DS Consultants 6221 HWY 7, Unit 16, Vaughan, ON www.dsconsultants.ca



## WATER WELL SURVEY

Location: 14001 Humber staten ed	Date: True 19, 2024
Owner: Tim	Project #: 70-169-106
Telephone: 905-857-6981 Tharkness @ Cavalier. Ca	Well #:
WELL INFORMATION	PUMP INFORMATION
Drilled: Dug or Bored: Combination:	Make: Age: Loyetts 3 and
Date Completed: 40 Wears Depth: 29 M	Type: Jet Submersible
Casing Diameter: Seal:	Shallow Well Deep Well Other
Aquifer: Overburden:Bedrock:	Depth to intake: 15ft abten Dode
Static Level: Origional: Present: 4,50 m	Centre of pump (mbgs):
Has the well ever been dry?	Pump Capacity: 7
Owner when drilled:	Condition: Good Fair Poor
WATER QUALITY	WATER CONSUMPTION
pHConductivity: Temperature:	Domestic:
Chloride: V Iron: V	(# of persons) Livestock:
Hardness: U Alkanity:	(Specify) Other Uses:
Bacterial:	Estimated Daily Requirement:
Clear: Y/N Sand Free: Y/N	
Sulfurous: Y/N Odour: Y/N	LOCATION SKETCH
Any water treatment:	watertape got stuck some w
ANNUAL SAMPLING PROGRAM	8m below ground surface. In +1
s well water supplemented? Y / N	The growing survage, in the
s the well accessible for water level mesurments? (Y) / N	Tred it tight on the wiring
Permission to obtain water levels and samples?	not going to fall down into
	7 70
DWNERS ACKNOWLEDGEMENT:	

DS Consultants 6221 HWY 7, Unit 16, Vaughan, ON www.dsconsultants.ca



# **Appendix D-1 Caledon Station**



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-1

Test Conducted by:

Analysis Performed by: AS

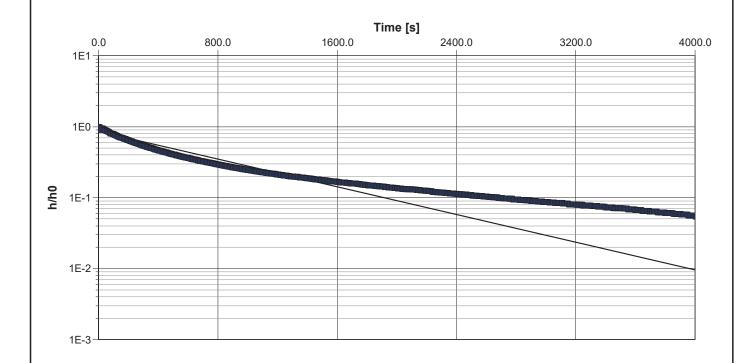
BH2-01

Test Well: BH20-1

Test Date: 7/6/2020

Analysis Date: 12/7/2020

Aquifer Thickness: 3.80 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-1	7.34 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-5

Test Well: BH20-5

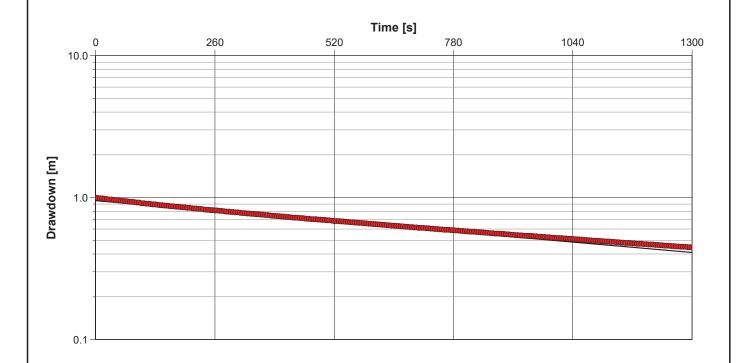
Test Date: 12/7/2020

Analysis Performed by: AS

BH20-5

Analysis Date: 12/7/2020

Aquifer Thickness: 7.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-5	5.34 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-6

Test Conducted by:

Analysis Performed by: AS

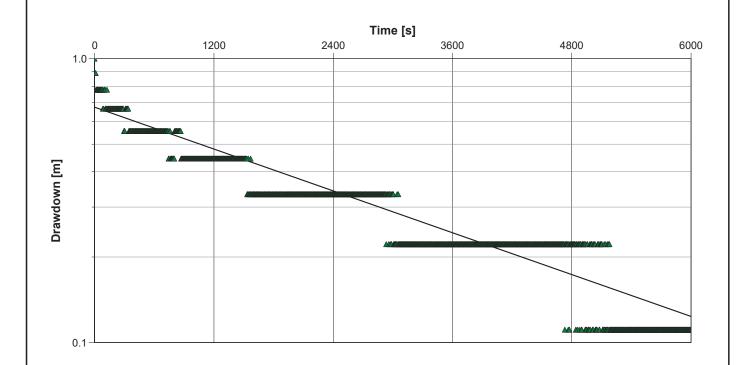
BH20-6

Test Well: BH20-6

Test Date: 12/7/2020

Analysis Date: 12/7/2020

Aquifer Thickness: 1.08 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-6	1.42 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-9

Test Well: BH20-9

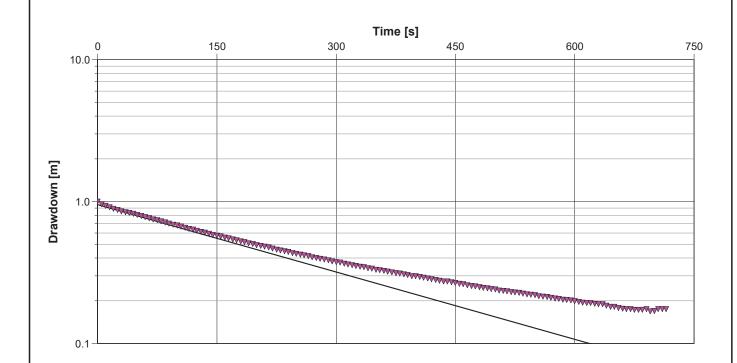
Test Date: 12/8/2020

Analysis Performed by: AS

BH20-9

Analysis Date: 12/8/2020

Aquifer Thickness: 3.08 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-9	3.21 × 10 <sup>-6</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-11

Test Well: BH20-11

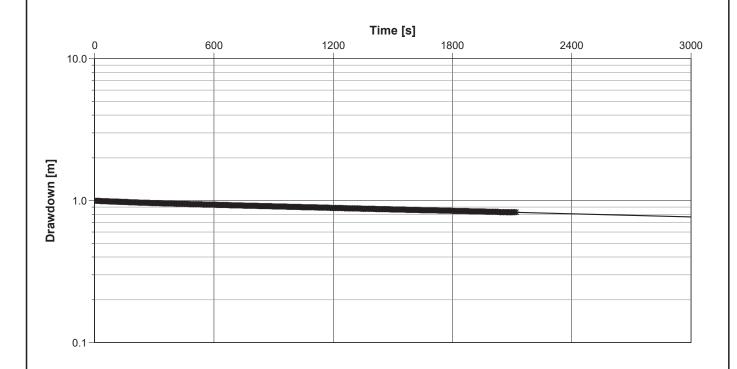
Test Date: 12/8/2020

Analysis Performed by: AS

BH20-11

Analysis Date: 12/8/2020

Aquifer Thickness: 2.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-11	5.22 × 10 <sup>-8</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-12

Test Well: BH20-12

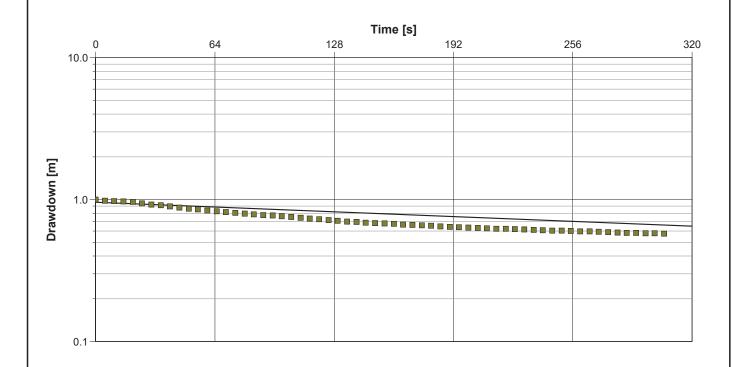
Test Date: 12/8/2020

Analysis Performed by: AS

BH20-12

Analysis Date: 12/8/2020

Aquifer Thickness: 2.20 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-12	7.33 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-14

Test Conducted by:

Analysis Performed by: AS

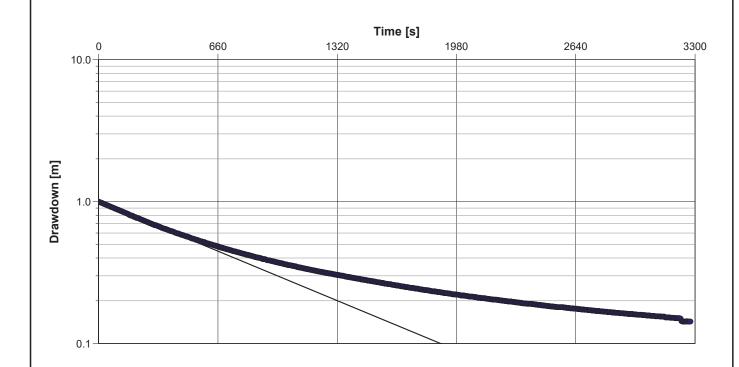
Slug Test: BH20-14

Test Well: BH20-14

Test Date: 12/8/2020

Analysis Date: 12/8/2020

Aquifer Thickness: 0.80 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-14	6.01 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands

Slug Test: BH20-15

Test Well: Well 9

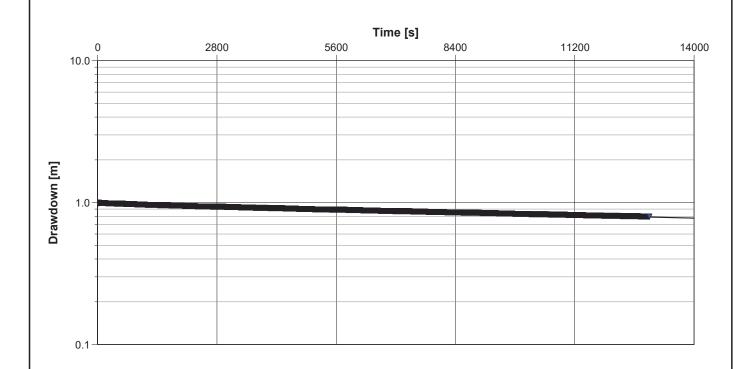
Test Date: 12/8/2020

Analysis Performed by: AS

BH20-15

Analysis Date: 12/8/2020

Aquifer Thickness: 0.70 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
Well 9	7.38 × 10 <sup>-9</sup>	



Project: Hydrogeological Investigation

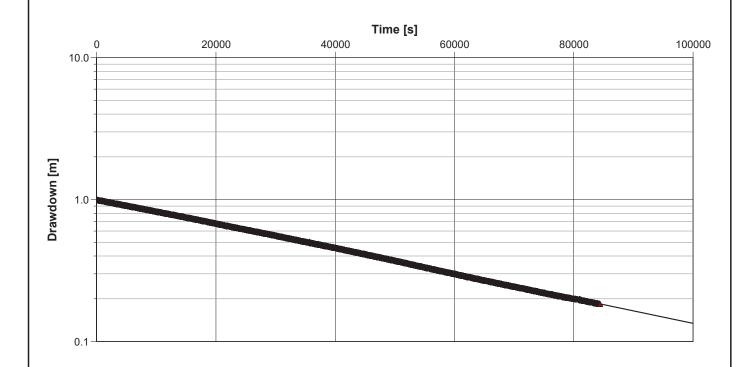
С

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 LandsSlug Test: BH20-16Test Well: BH20-16Test Conducted by:Test Date: 12/8/2020Analysis Performed by: ASBH20-16Analysis Date: 12/8/2020

Aquifer Thickness: 6.12 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH20-16	1.50 × 10 <sup>-8</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

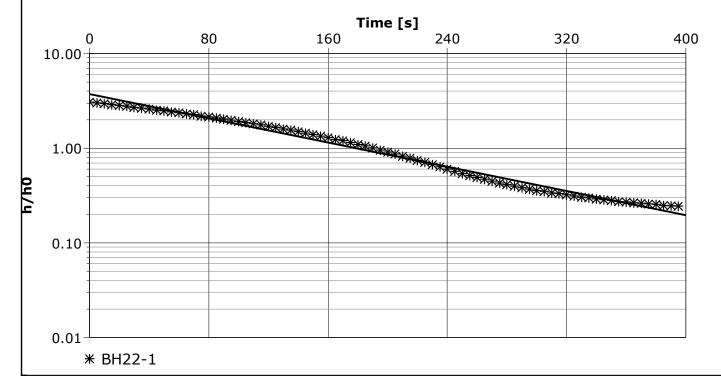
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-1
 Test Well: BH22-1

 Test Conducted by: HS
 Test Date: 11/1/2022

 Analysis Performed by: DS
 BH22-1
 Analysis Date: 11/17/2022

Aquifer Thickness: 12.00 m



Calculation	ueina	Rouwer	& Rice
Calculation	usiiiu	Douwei	a Rice

Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-1	2.95 × 10 <sup>-6</sup>	



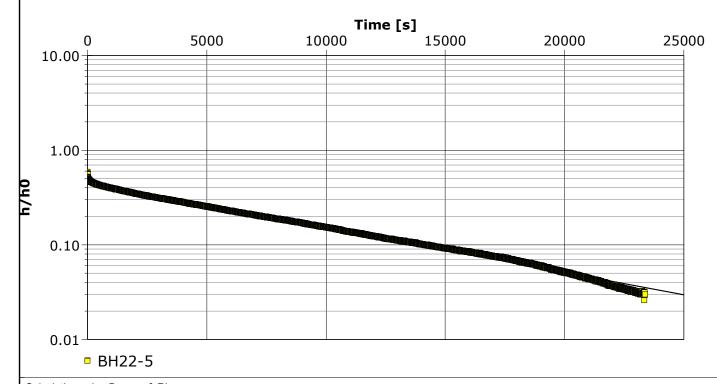
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-5Test Well: BH22-5Test Conducted by: HSTest Date: 11/1/2022Analysis Performed by: DSBH22-5Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-5	4.34 × 10 <sup>-8</sup>	



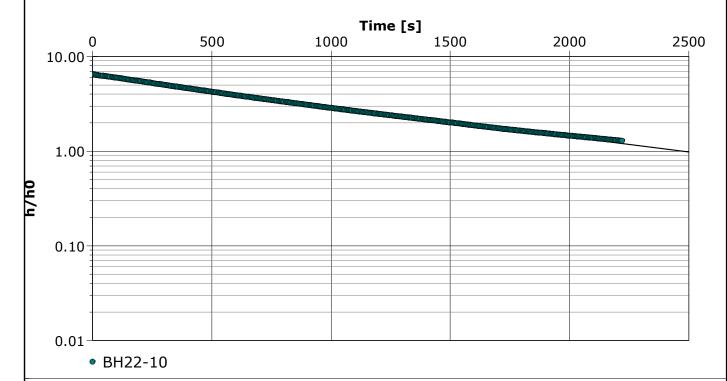
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-10Test Well: BH22-10Test Conducted by: HSTest Date: 11/1/2022Analysis Performed by:BH22-10Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-10	2.95 × 10 <sup>-7</sup>	



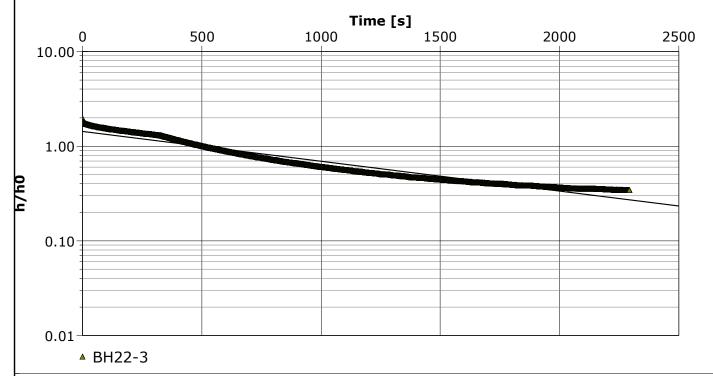
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-3Test Well: BH22-3Test Conducted by: HSTest Date: 11/1/2022Analysis Performed by: DSBH22-3Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-3	2.76 × 10 <sup>-7</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

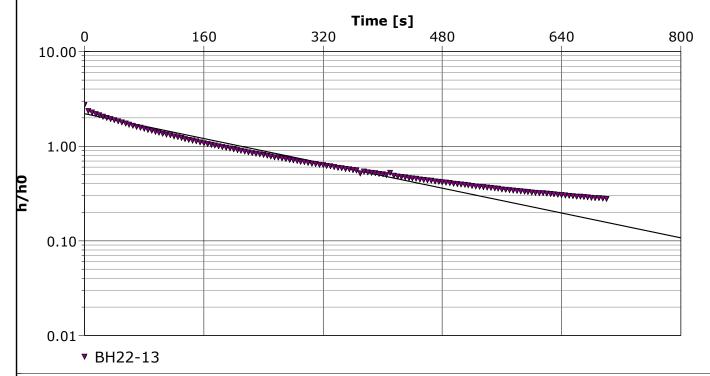
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-13
 Test Well: BH22-13

 Test Conducted by: HS
 Test Date: 11/1/2022

 Analysis Performed by: DS
 BH22-13
 Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Calculation	ueina	Rouwer	& Rice
Calculation	usiliy	Douwei	a nice

Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-13	1.55 × 10 <sup>-6</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

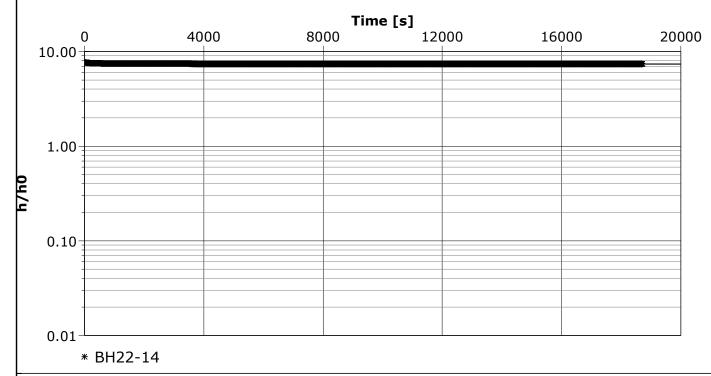
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-14
 Test Well: BH22-14

 Test Conducted by:
 Test Date: 11/1/2022

 Analysis Performed by: DS
 BH22-14
 Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Calculation	ueina	Rouwer	& Rice
Calculation	usiiiu	Douwei	a Rice

Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-14	2.94 × 10 <sup>-10</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

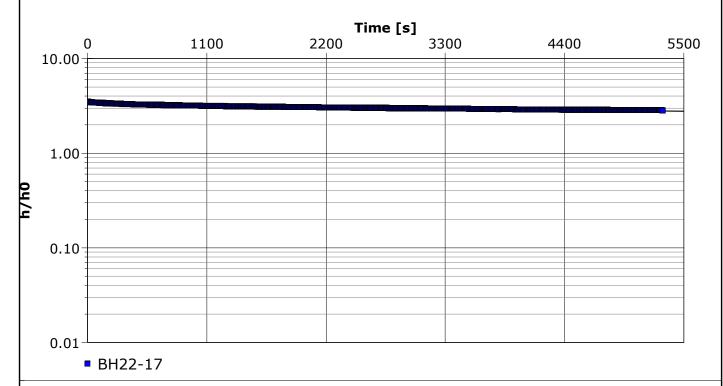
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-17
 Test Well: BH22-17

 Test Conducted by: HS
 Test Date: 11/3/2022

 Analysis Performed by: DS
 BH22-17
 Analysis Date: 11/17/2022

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-17	1.21 × 10 <sup>-8</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

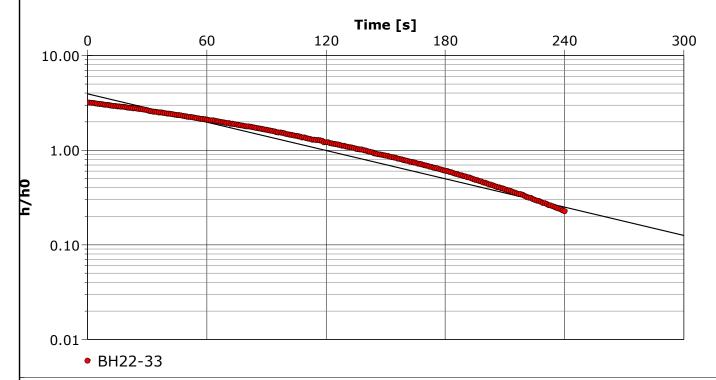
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-33
 Test Well: BH22-33

 Test Conducted by: HS
 Test Date: 11/3/2022

 Analysis Performed by: DS
 BH22-33
 Analysis Date: 11/23/2022

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-33	4.63 × 10 <sup>-6</sup>	



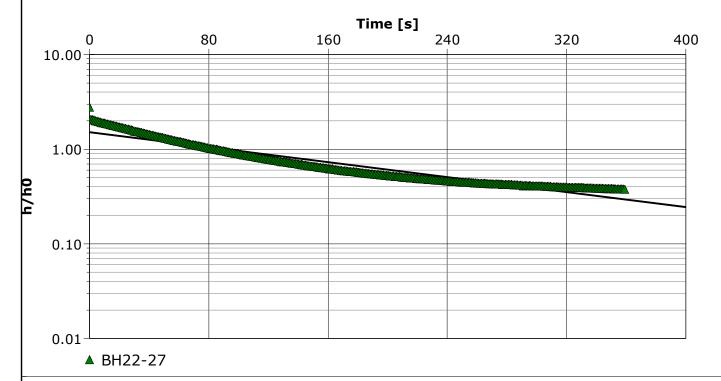
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-27Test Well: BH22-27Test Conducted by:Test Date: 11/1/2022Analysis Performed by: DSBH22-27Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-27	1.87 × 10 <sup>-6</sup>	



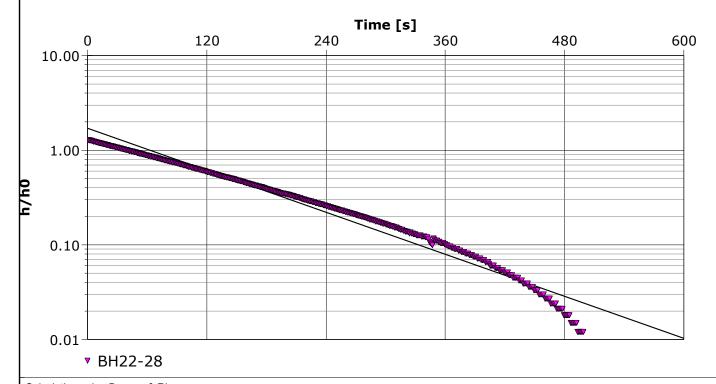
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-28Test Well: BH22-28Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-28Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-28	3.44 × 10 <sup>-6</sup>	



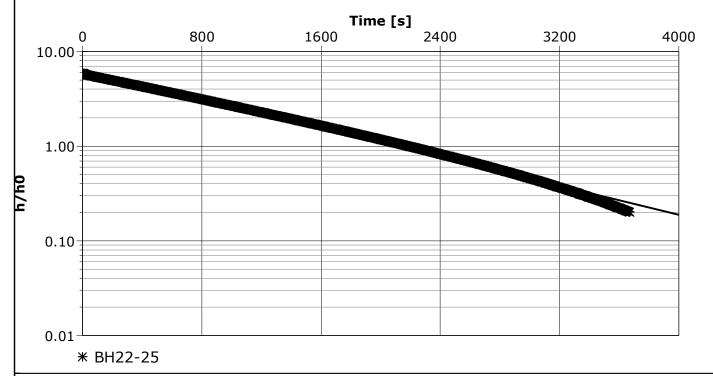
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-25Test Well: BH22-25Test Conducted by: HSTest Date: 2/10/2023Analysis Performed by: DSBH22-25Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Calculation	usina	Rouwer	& Rice
Calculation	usiliu	Douwei	C I VICE

Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-25	3.56 × 10 <sup>-7</sup>	



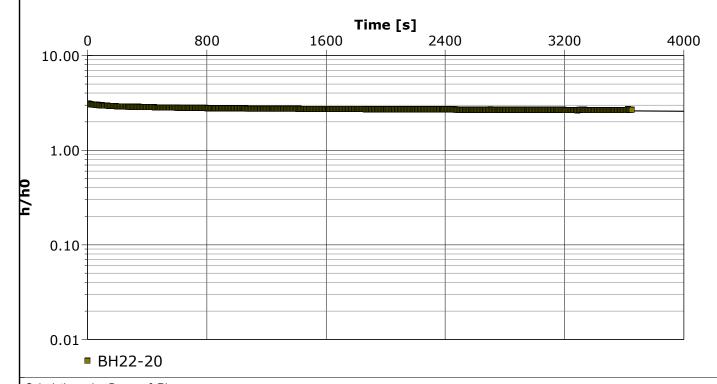
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-20Test Well: BH22-20Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-20Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-20	1.00 × 10 <sup>-8</sup>	



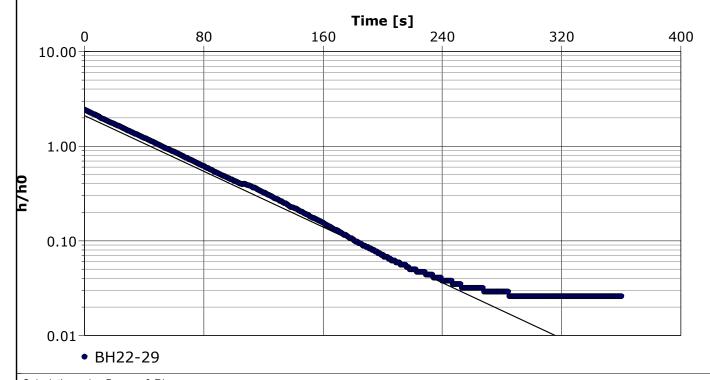
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-29Test Well: BH22-29Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-29Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-29	6.71 × 10 <sup>-6</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

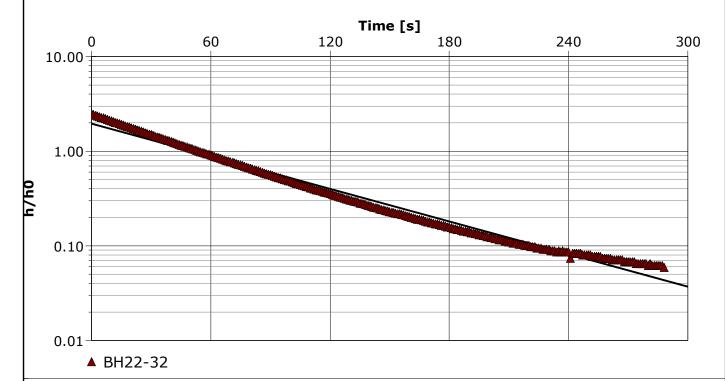
Client: Caledon Community Partners

 Location: Caledon Station
 Slug Test: BH22-32
 Test Well: BH22-32

 Test Conducted by: HS
 Test Date: 11/2/2022

 Analysis Performed by: DS
 BH22-32
 Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-32	5.42 × 10 <sup>-6</sup>	



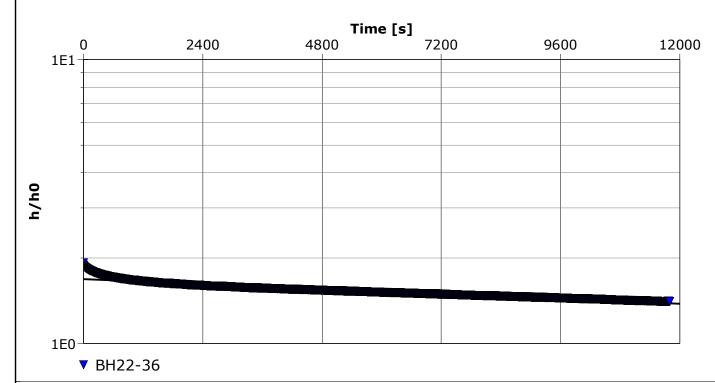
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-36Test Well: BH22-36Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-36Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-36	5.28 × 10 <sup>-9</sup>	



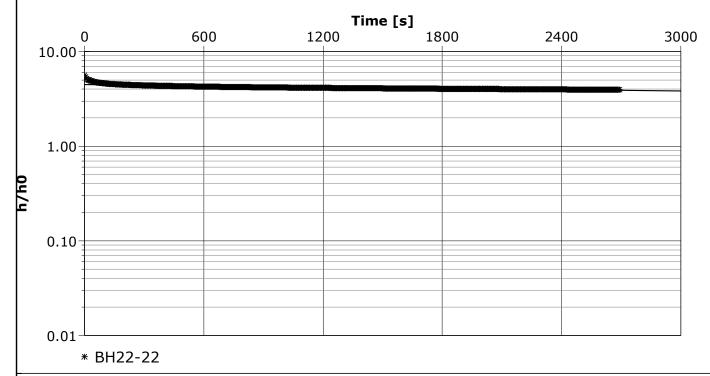
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-22Test Well: BH22-22Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-22Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Calculation	usina	Rouwer	& Rice
Calculation	using	Douwei	a rice

Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-22	1.84 × 10 <sup>-8</sup>	



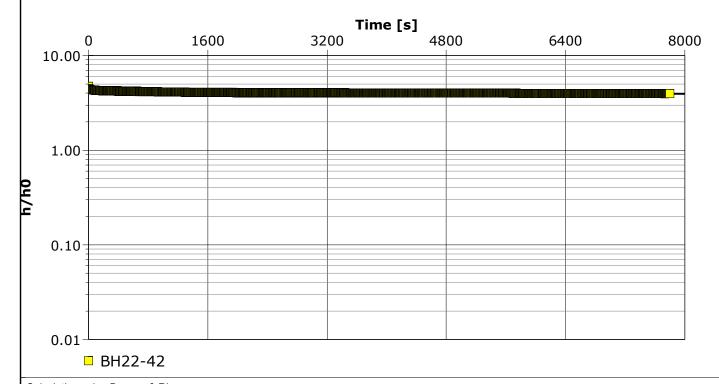
Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon StationSlug Test: BH22-42Test Well: BH22-42Test Conducted by: HSTest Date: 11/2/2022Analysis Performed by: DSBH22-42Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-42	2.54 × 10 <sup>-9</sup>	



Project: Hydrogeological Investigation

Number: 20-169-104

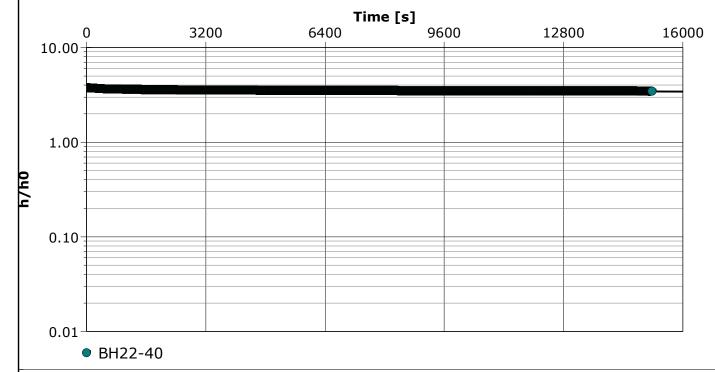
Client: Caledon Community Partners

Location: Caledon Station Slug Test: BH22-40 Test Well: BH22-40

Test Conducted by: HS Test Date: 11/2/2022

Analysis Performed by: DS BH22-40 Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-40	1.06 × 10 <sup>-9</sup>	



## Appendix D-2 Argo King I & II



Project: 7675 King St

Number: 19-093-100

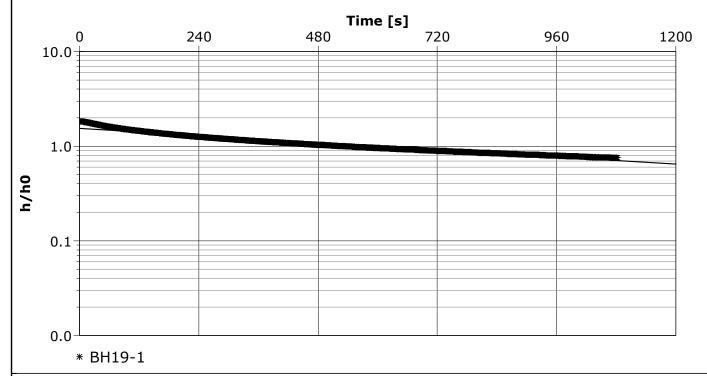
Client: Argo Development Corp.

 Location: Bolton, ON
 Slug Test: BH19-1
 Test Well: BH19-1

 Test Conducted by: DG
 Test Date: 6/27/2019

 Analysis Performed by: DG
 BH19-1
 Analysis Date: 6/28/2019

Aquifer Thickness: 36.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-1	4.94 × 10 <sup>-7</sup>	



Project: 7675 King St

Number: 19-093-100

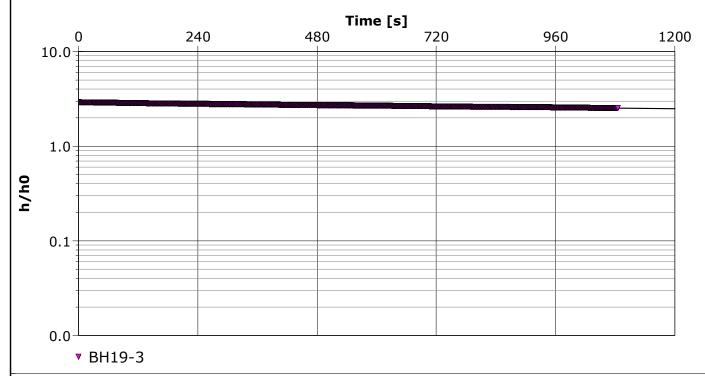
Client: Argo Development Corp.

Location: Bolton, ON Slug Test: BH19-3 Test Well: BH19-3

Test Conducted by: DG Test Date: 6/27/2019

Analysis Performed by: DG BH19-3 Analysis Date: 6/28/2019

Aquifer Thickness: 36.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-3	8.51 × 10 <sup>-8</sup>	



Project: 7675 King St

Number: 19-093-100

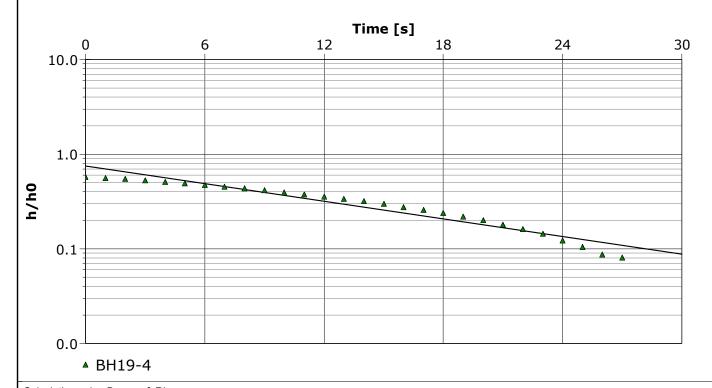
Client: Argo Development Corp.

Location: Bolton, ON Slug Test: BH19-4 Test Well: BH19-4

Test Conducted by: DG Test Date: 6/27/2019

Analysis Performed by: DG BH19-4 Analysis Date: 6/28/2019

Aquifer Thickness: 36.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-4	4.84 × 10 <sup>-5</sup>	



Project: 7675 King St

Number: 19-093-100

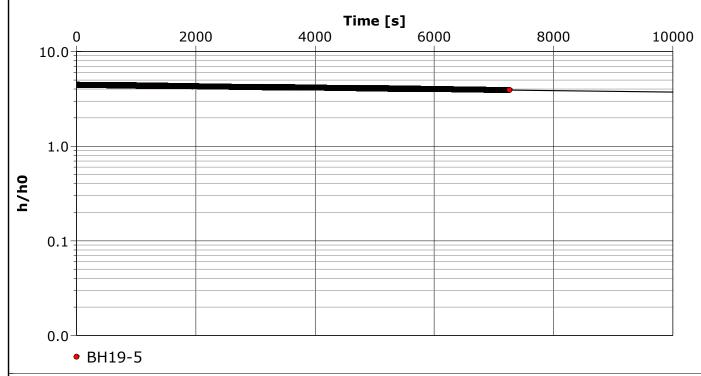
Client: Argo Development Corp.

 Location: Bolton, ON
 Slug Test: BH19-5
 Test Well: BH19-5

 Test Conducted by: DG
 Test Date: 6/27/2019

 Analysis Performed by: DG
 BH19-5
 Analysis Date: 6/28/2019

Aquifer Thickness: 36.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-5	1.18 × 10 <sup>-8</sup>	



Project: 7675 King St

Number: 19-093-100

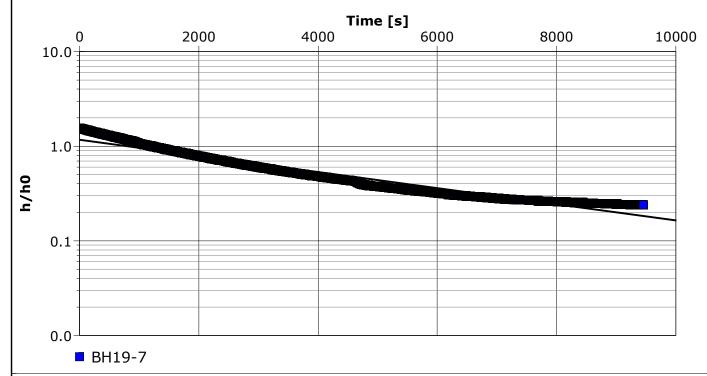
Client: Argo Development Corp.

 Location: Bolton, ON
 Slug Test: BH19-7
 Test Well: BH19-7

 Test Conducted by: DG
 Test Date: 6/27/2019

 Analysis Performed by: DG
 BH19-7
 Analysis Date: 6/28/2019

Aquifer Thickness: 36.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-7	1.33 × 10 <sup>-7</sup>	



Project: Argo King

Number: 19-093-100

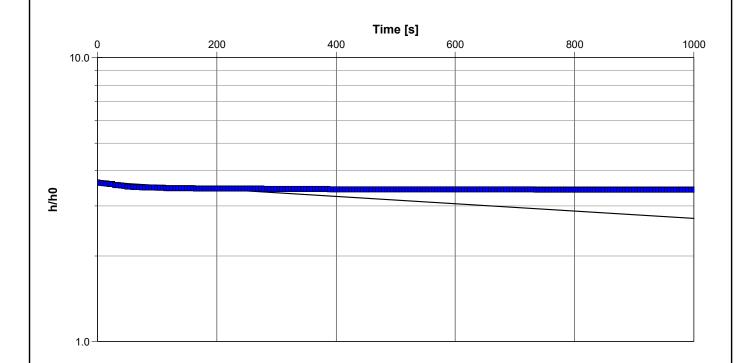
Client: Caledon Community Partners

 Location: Caledon, ON
 Slug Test: BH19-6
 Test Well: BH19-6

 Test Conducted by: DS
 Test Date: 10/26/2022

 Analysis Performed by: DS
 BH19-6
 Analysis Date: 10/31/2022

Aquifer Thickness: 7.00 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH19-6	1.04 × 10 <sup>-7</sup>	



Project: Argo King

Number: 19-093-100

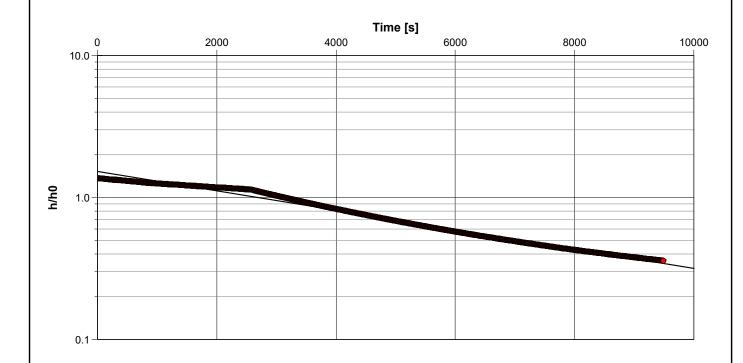
Client: Caledon Community Partners

 Location: Caledon, ON
 Slug Test: BH22-5
 Test Well: BH22-5

 Test Conducted by: DS
 Test Date: 10/26/2022

 Analysis Performed by: DS
 BH22-5
 Analysis Date: 10/31/2022

Aquifer Thickness: 11.20 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-5	5.54 × 10 <sup>-8</sup>	



Project: Argo King

Number: 19-093-100

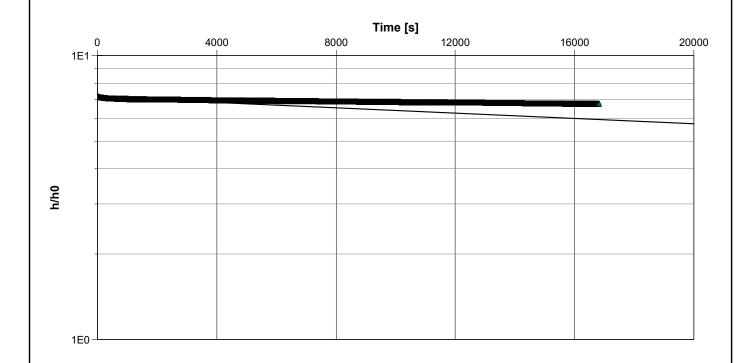
Client: Caledon Community Partners

 Location: Caledon, ON
 Slug Test: BH22-7
 Test Well: BH22-7

 Test Conducted by: DS
 Test Date: 10/26/2022

 Analysis Performed by: DS
 BH22-7
 Analysis Date: 10/31/2022

Aquifer Thickness: 11.20 m



Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-7	3.79 × 10 <sup>-9</sup>	



Project: Argo King

Number: 19-093-100

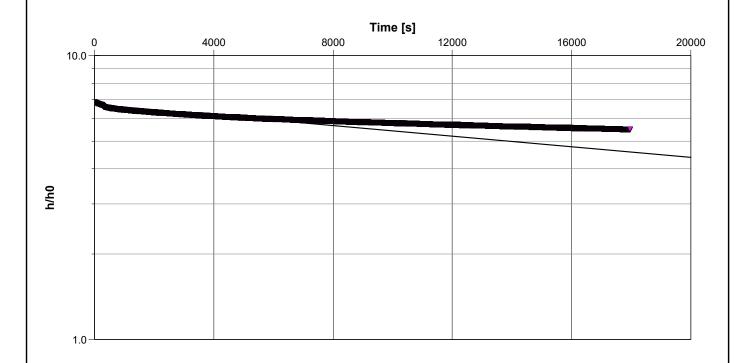
Client: Caledon Community Partners

 Location: Caledon, ON
 Slug Test: BH22-8
 Test Well: BH22-8

 Test Conducted by: DS
 Test Date: 10/26/2022

 Analysis Performed by: DS
 BH22-8
 Analysis Date: 10/31/2022

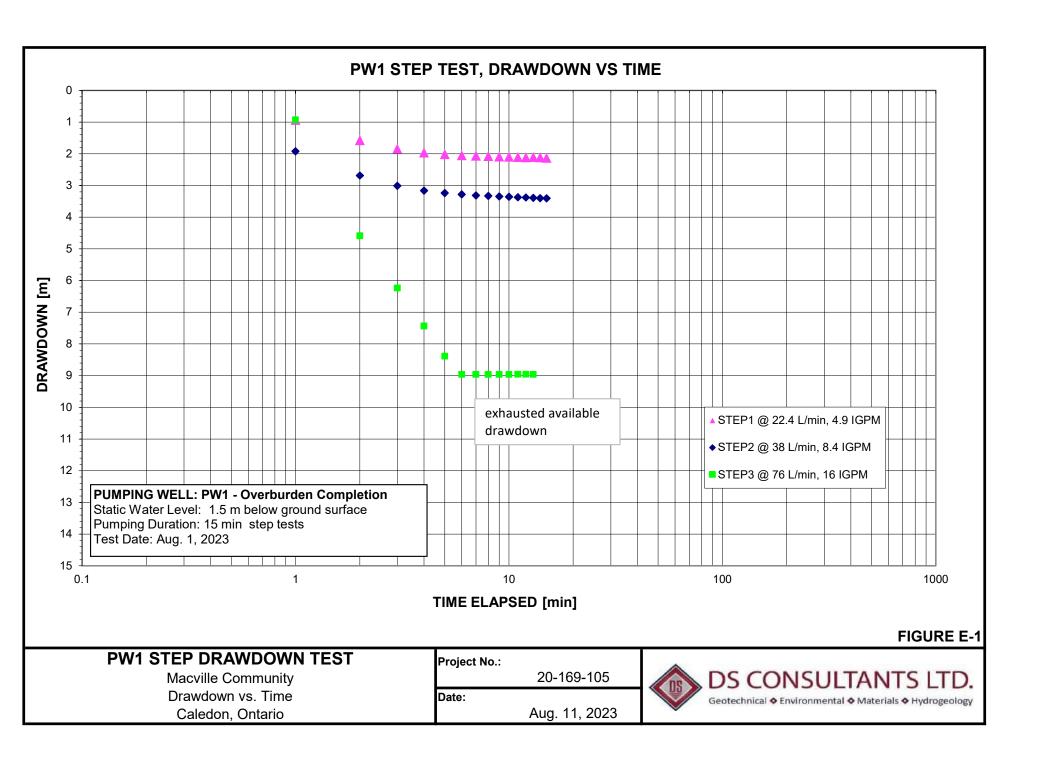
Aquifer Thickness: 11.30 m

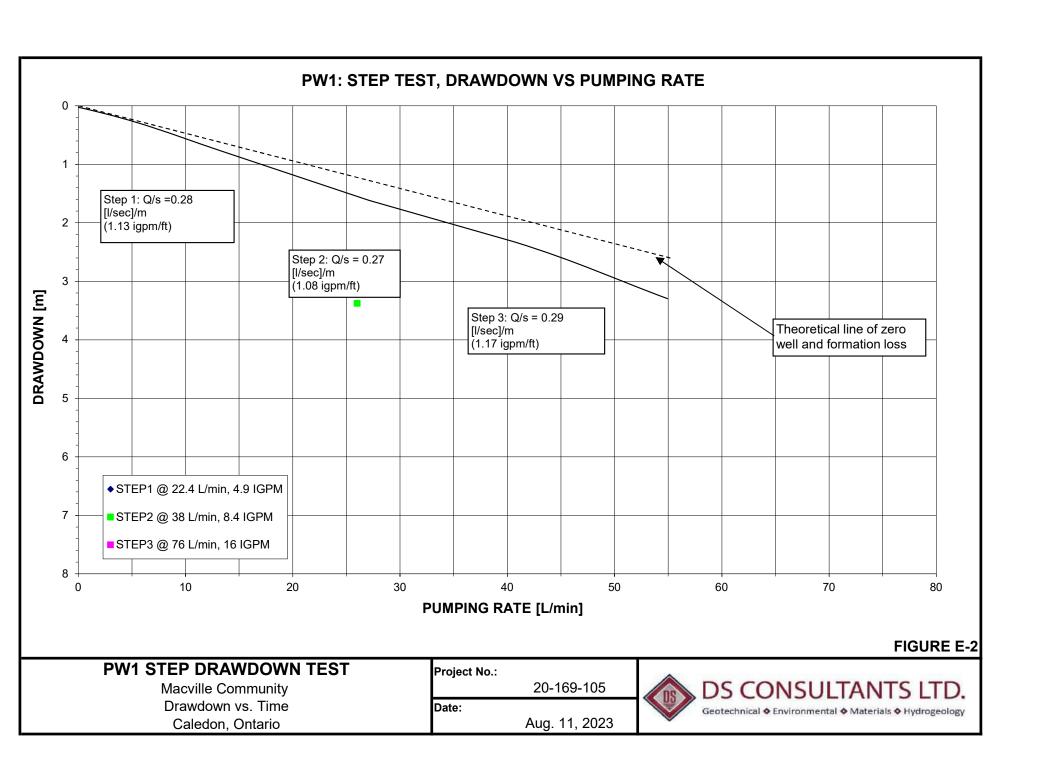


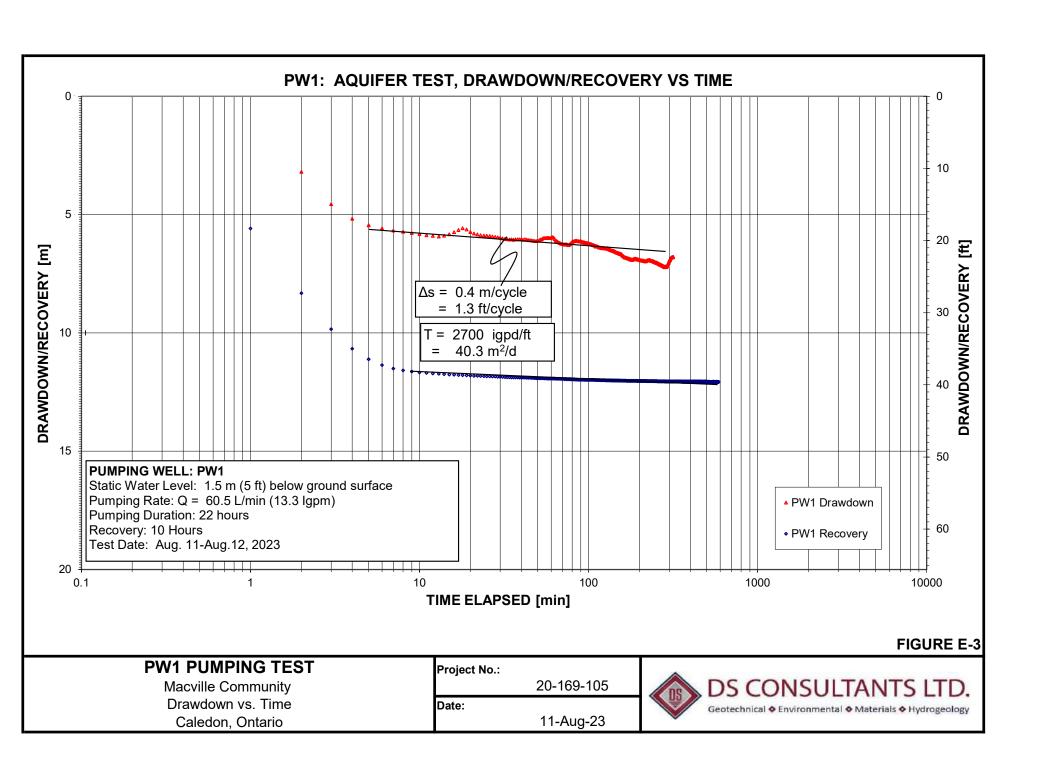
Observation Well	Hydraulic Conductivity	
	[m/s]	
BH22-8	8.00 × 10 <sup>-9</sup>	

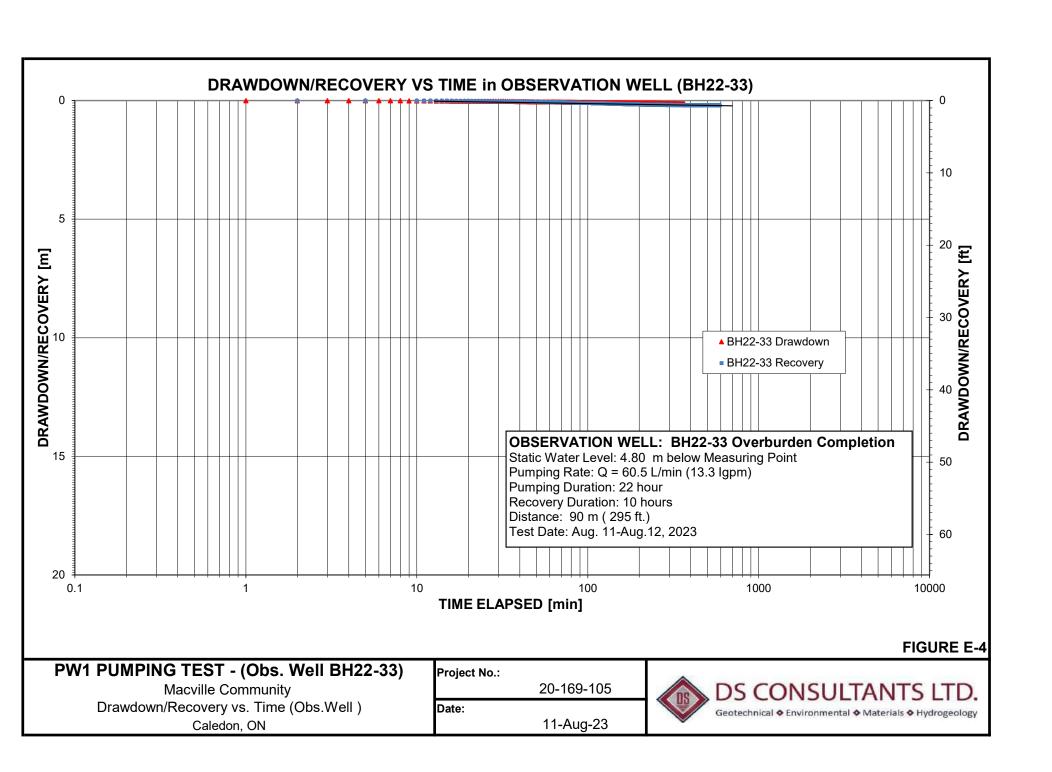


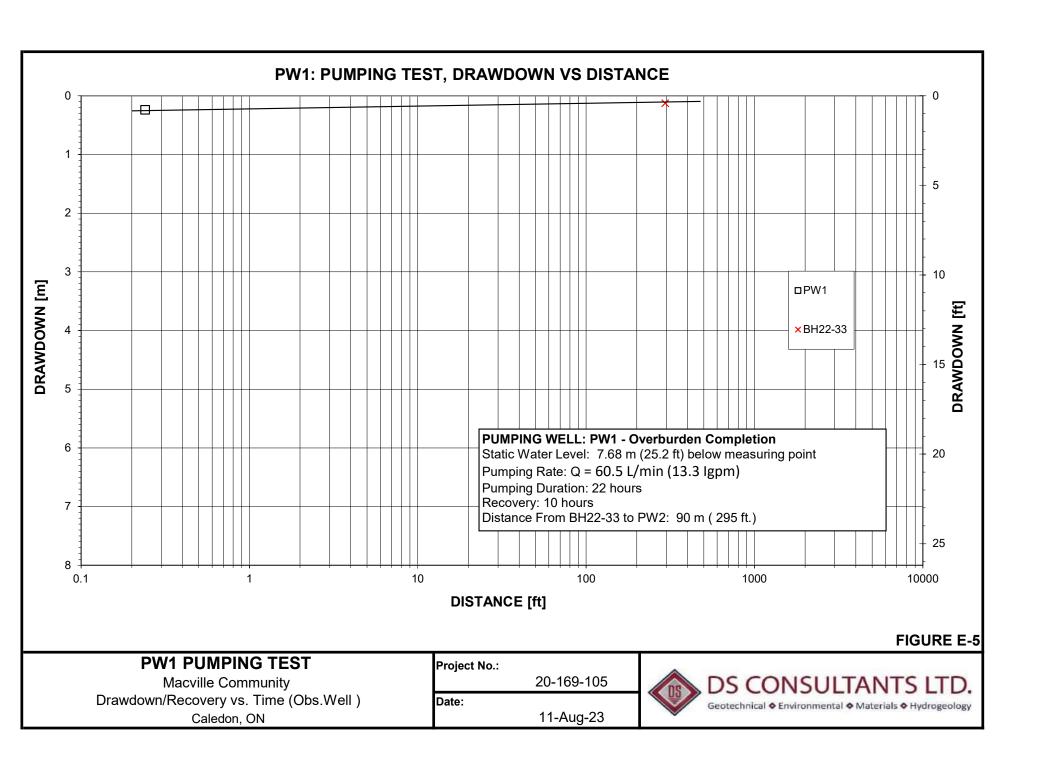
## **Appendix E**

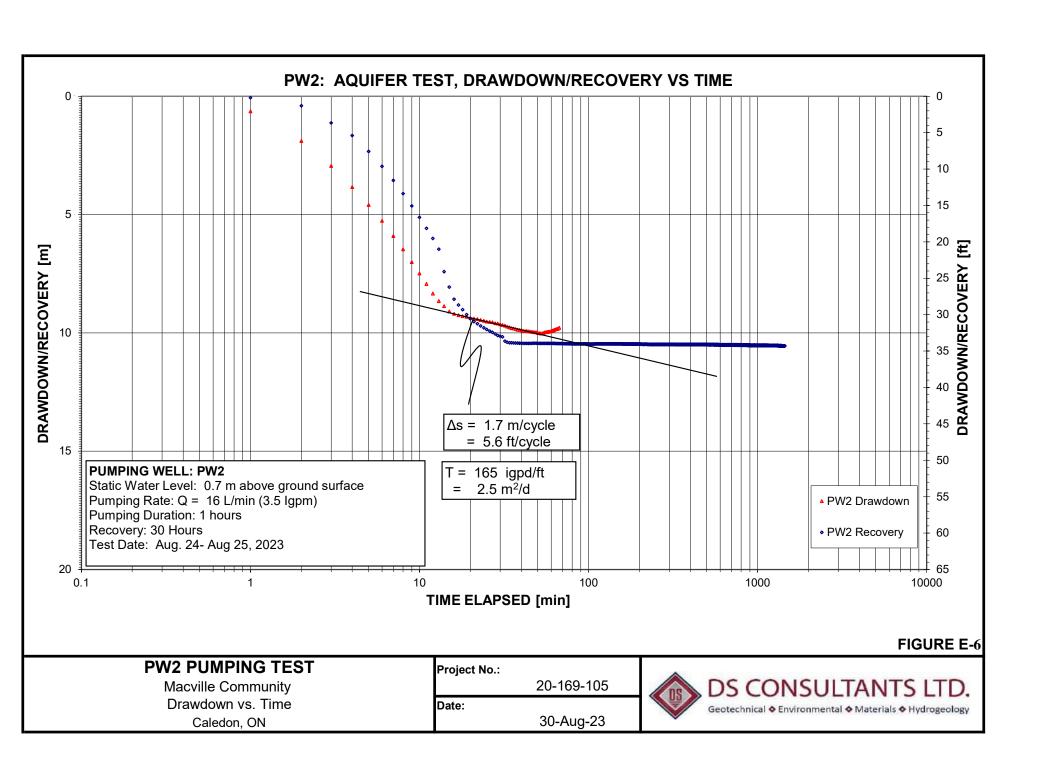


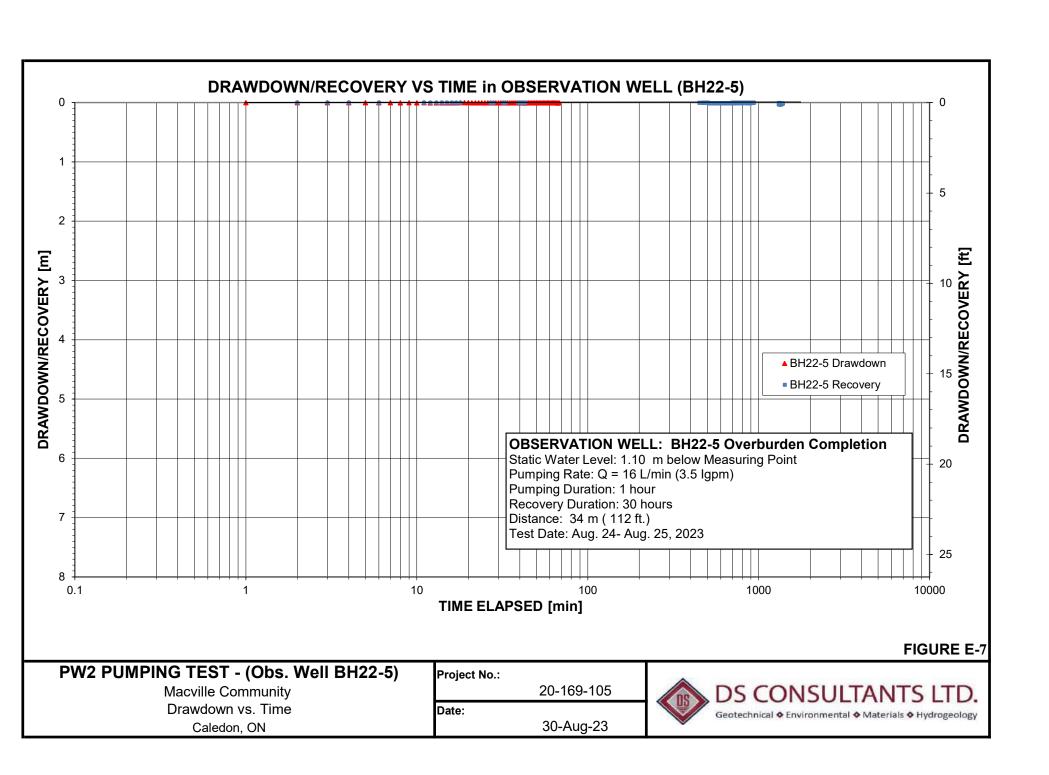


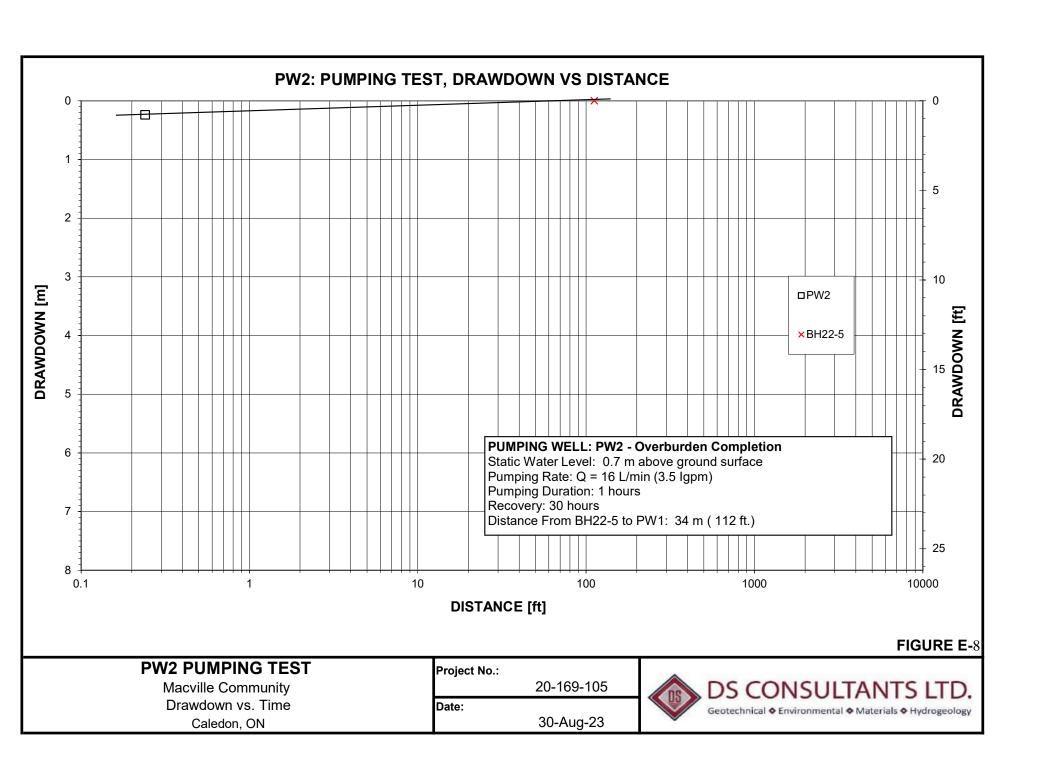


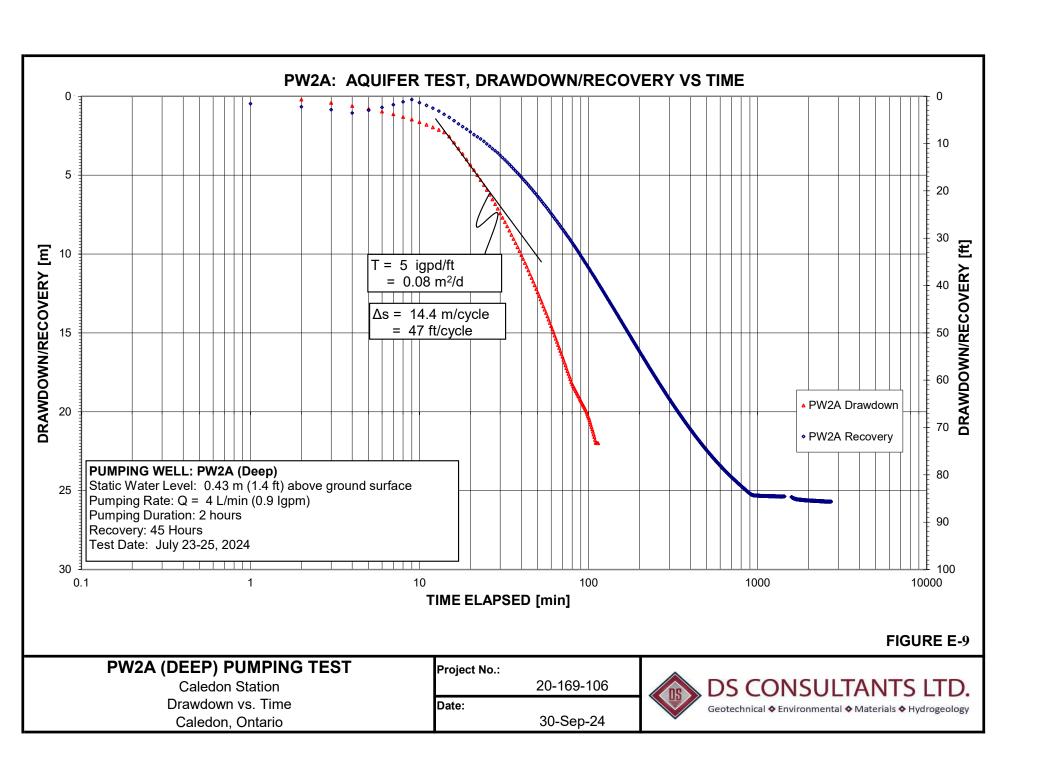


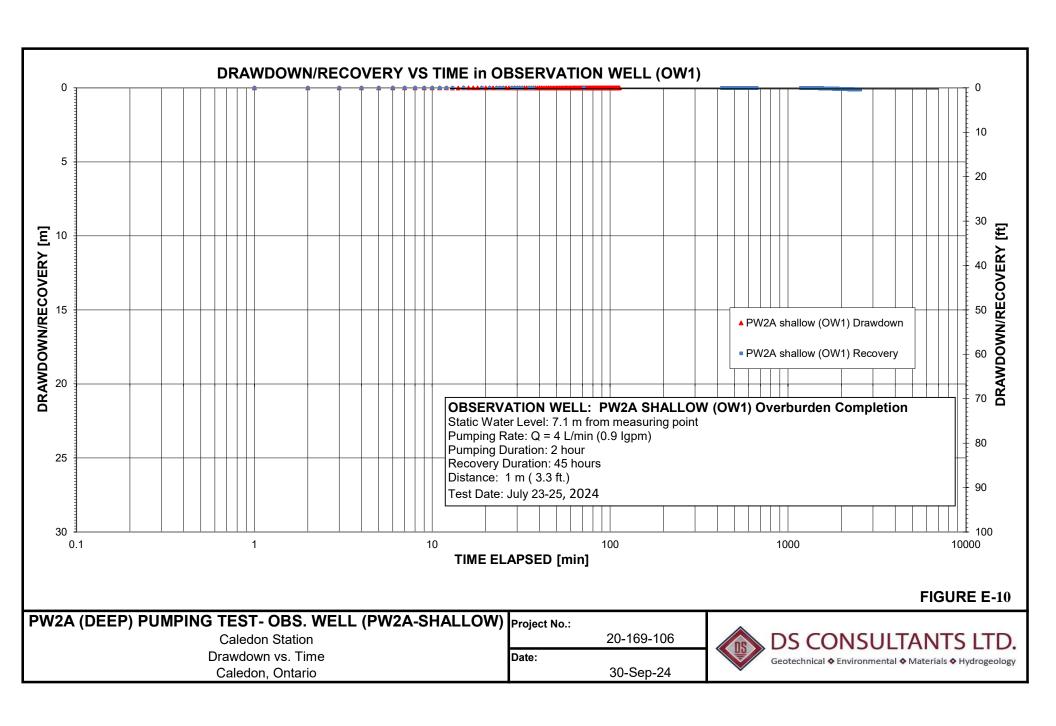


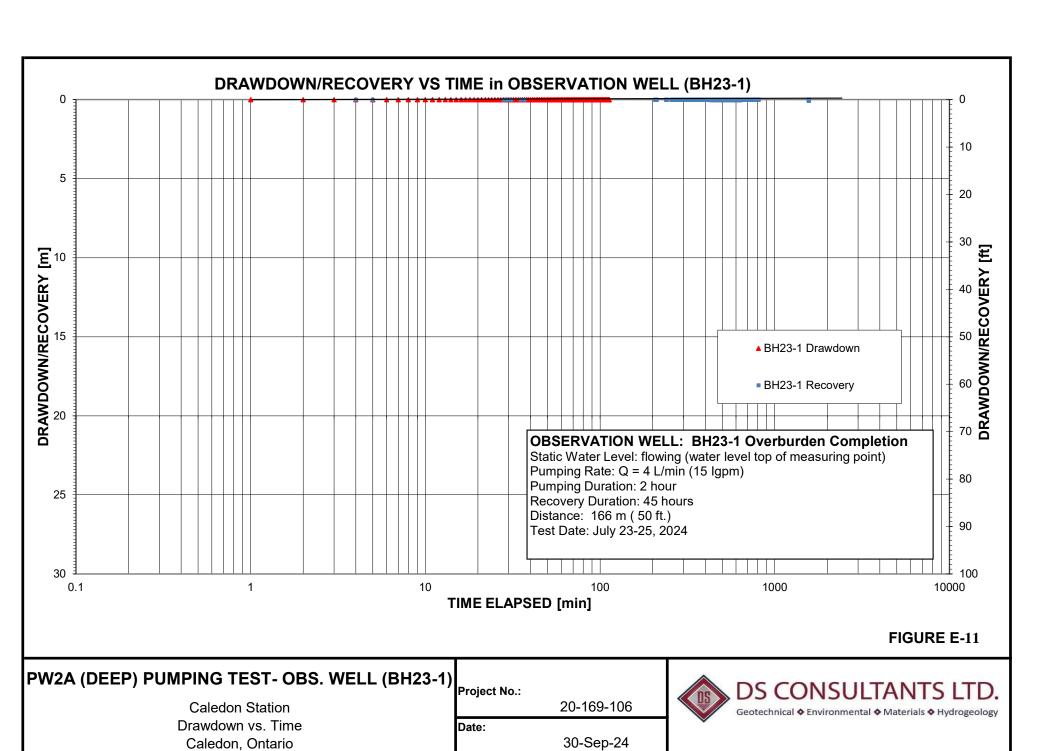


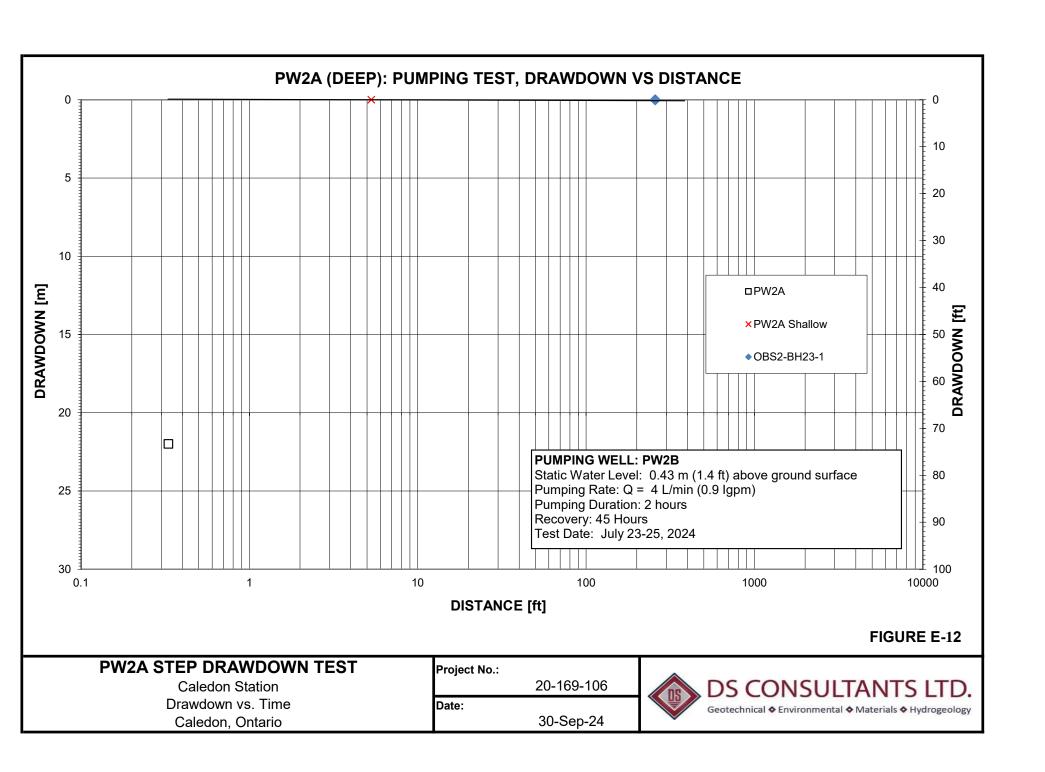














## **Appendix** F

THEORETICAL GROUNDWATER CONTROL MODEL



#### THEORETICAL GROUNDWATER CONTROL MODEL

Hydrogeological Investigation Macville Community- SWM Pond 1

Caledon, Ontario

Project No.: 20-169-105 Date: 15-Sep-23



FIGURE F-1

#### Groundwater Control Model for Temporary Construction Dewatering - Drawdown and Interference at Theoretical Well Locations PW12 PW3 PW5 PW6 PW8 PW10 PW11 OW1 OW2 PW1 4.00 1.43 1.16 1.78 1.22 1.22 1.06 1.16 1.29 1.35 1.55 2.09 1.37 1.51 PW2 1.78 4.00 1.42 1.88 1.49 1.47 1.34 1.17 1.26 1.32 1.27 1.66 1.51 1.86 PW3 1.43 1.88 4.00 1.90 1.76 1.49 1.25 1.29 1.27 1.16 1.26 1.38 1.50 1.87 PW4 1.22 1.49 1.90 4.00 2.01 1.58 1.30 1.28 1.18 1.06 1.13 1.20 1.39 1.59 PW5 1.22 1.93 1.48 1.30 1.55 1.70 1.47 1.76 2.01 4.00 1.46 1.14 1.19 1.22 PW6 1.16 1.34 1.49 1.58 1.93 4.00 1.83 1.72 1.41 1.19 1.21 1.19 1.66 1.60 PW7 1.06 1.17 1.25 1.30 1.48 1.83 4.00 1.92 1.44 1.19 1.17 1.11 1.53 1.37 PW8 1.82 1.49 1.16 1.26 1.29 1.28 1.46 1.72 1.92 4.00 1.76 1.34 1.23 0.00 PW9 1.50 1.29 1.32 1.27 1.18 1.30 1.41 1.44 1.76 4.00 1.78 1.66 1.42 1.87 PW10 1.50 1.35 1.35 1.27 1.16 1.06 1.14 1.19 1.19 1.37 1.78 4.00 2.02 1.53 PW11 1.46 1.55 1.42 1.26 1.13 1.19 1.21 1.17 1.34 1.66 2.02 4.00 1.83 PW12 2.09 1.66 1.38 1.20 1.22 1.19 1.11 1.23 1.42 1.53 1.83 4.00 1.54 Total Drawdown at each location 19.30 20.04 20.07 19.35 20.17 20.03 18.89 19.78 19.82 19.02 19.68 18.64 18.71 18.85 (ft) Total Drawdown at each location 5.89 6.11 6.12 5.90 6.15 6.11 5.76 6.03 6.04 5.80 6.00 5.68 5.71 5.75 (m) **Final Pumping** 259.81 | 259.59 | 259.58 | 259.80 | 259.55 | 259.59 | 259.94 | 259.67 259.66 259.90 259.70 260.02 259.99 259.95 Elev. (masl)

Ground Level Elev. (masl)	267.2	Well	IGPM	Q (I/min)	Units		
Static Water Elev. (masl)	265.7	PW1-PW12	6.70	30.4	s	1.E-04	
Est. Bottom of SWM (261 masl)	261.0	Total	80.4	365	t	5	day(s)
Safety Factor (1 m)	1				Т	2700	igpd/ft
Target Pumping Water Level	260.00						

Notes: In Rows - Drawdown in feet at each location due to pumping of well in that row

In Columns - Drawdown in feet in each column due to interference from pumping indicated well W/L elevation at each location is shown in bottom of row of matrix.

#### GROUNDWATER CONTROL MODEL

Hydrogeological Investigation Macville Community- SWM Pond 1

Caledon, Ontario

Project No.: 20-169-105

Date: 15-Sep-23



DS CONSULTANTS LTD.

Geotechnical & Environmental & Materials & Hydrogeology

FIGURE F-2

	Groundwater Control Model for Permanent Drainage - Drawdown and Interference at Theoretical Well Locations														
	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	PW9	PW10	PW11	PW12	OW1	OW2	
PW1	2.00	1.60	1.35	1.20	1.20	1.16	1.08	1.16	1.25	1.29	1.44	1.83	1.31	1.41	
PW2	1.60	2.00	1.67	1.40	1.38	1.29	1.17	1.23	1.27	1.24	1.34	1.52	1.41	1.66	
PW3	1.35	1.67	2.00	1.69	1.59	1.39	1.22	1.26	1.23	1.16	1.23	1.32	1.40	1.67	
PW4	1.20	1.40	1.69	2.00	1.77	1.46	1.26	1.24	1.18	1.09	1.14	1.19	1.32	1.47	
PW5	1.20	1.38	1.59	1.77	2.00	1.71	1.39	1.37	1.26	1.14	1.18	1.20	1.44	1.55	
PW6	1.16	1.29	1.39	1.46	1.71	2.00	1.64	1.56	1.34	1.18	1.19	1.18	1.52	1.47	
PW7	1.08	1.17	1.22	1.26	1.39	1.64	2.00	1.70	1.36	1.18	1.16	1.12	1.42	1.31	
PW8	1.16	1.23	1.26	1.24	1.37	1.56	1.70	2.00	1.59	1.29	1.21	0.00	1.63	1.40	
PW9	1.25	1.27	1.23	1.18	1.26	1.34	1.36	1.59	2.00	1.60	1.52	1.35	1.67	1.41	
PW10	1.29	1.24	1.16	1.09	1.14	1.18	1.18	1.31	1.60	2.00	1.78	1.42	1.40	1.29	
PW11	1.44	1.34	1.23	1.14	1.18	1.19	1.16	1.29	1.52	1.78	2.00	1.64	1.44	1.37	
PW12	1.83	1.52	1.32	1.19	1.20	1.18	1.12	1.21	1.35	1.42	1.64	2.00	1.38	1.43	
Total Drawdown at each location (ft)	16.57	17.10	17.12	16.61	17.19	17.10	16.28	16.91	16.94	16.37	16.84	15.77	17.34	17.44	
Total Drawdown at each location (m)	5.05	5.21	5.22	5.06	5.24	5.21	4.96	5.16	5.16	4.99	5.13	4.81	5.29	5.32	
Final Pumping Elev. (masl)	260.65	260.49	260.48	260.64	260.46	260.49	260.74	260.54	260.54	260.71	260.57	260.89	260.41	260.38	

Ground Level Elev. (masl)	267.2	Well	IGPM	Q (I/min)	Units		
Static Water Elev. (masl)	265.7	PW1-PW12	4.80	21.8	s	1.E-04	
Est. Bottom of SWM Pond - 261 masl	261.0	Total	57.6	262	t	25	day(s)
					Т	2700	igpd/ft
Target Pumping Water Level	260.50						

Notes: In Rows - Drawdown in feet at each location due to pumping of well in that row

In Columns - Drawdown in feet in each column due to interference from pumping indicated well W/L elevation at each location is shown in bottom of row of matrix.

Project No.:

20-169-105

#### GROUNDWATER CONTROL MODEL

Hydrogeological Investigation Macville Community- SWM Pond 1

Community- SWM Pond 1
Caledon, Ontario

Date: 15-Sep-23



FIGURE F-3



## **Appendix** G

THEORETICAL GROUNDWATER CONTROL MODEL STM.HH 217 'DV 254.03m OWW

PW18

THEORETICAL GROUNDWATER CONTROL MODEL

Hydrogeological Investigation

Macville Community- SWM Pond 2A
Caledon, Ontario

Project No.: 20-169-105

Date: 02-Oct-24



				Grou	ındwater Co	ntrol Model	for Tempora	ry Construct	tion Dewate	ering - Draw	down and In	terference a	t Theoretical	Well Location	ons								
	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	PW9	PW10	PW11	PW12	PW13	PW14	PW15	PW16	PW17	PW18	PW19	/20	OW1	OW2	
PW1	5.00	3.08	0.00	0.00	0.00	0.00	0.92	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		2.52	0.00	
PW2	3.08	5.00	2.75	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		2.63	0.00	
PW3	0.00	2.75	5.00	4.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.07	0.00	
PW4	0.00	1.62	4.16	5.00	4.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		2.49	0.00	
PW5	0.00	0.00	0.00	4.15	5.00	3.98	1.22	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		3.20	0.00	
PW6	0.00	0.00	0.00	0.00	3.98	5.00	2.73	0.00	0.00	1.39	5.23	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00		1.30	0.00	
PW7	0.92	0.00		0.00	1.22	2.73	5.00	2.27	1.17	4.85	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		4.24	1.04	
PW8	3.23	0.00	0.00	0.00	0.00	0.00	2.27	5.00	5.23	0.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.63	0.00	
PW9	0.00	0.00	0.00	0.00	0.00	0.00	1.17	5.23	5.00	2.43	0.00	6.28	0.00	0.93	0.00	0.00	0.00	0.00	0.00		0.00	1.89	
PW10	0.00	0.00	0.00	0.00	0.00	1.39	4.85	1.22	2.43	5.00	2.56	1.49	0.88	0.00	1.01	0.00	0.00	0.00	0.00		0.09	6.19	
PW11	0.00	0.00	0.00	0.00	0.00	5.23	1.41	0.00	0.00	2.56	5.00	0.00	4.79	0.00	0.00	0.35	0.00	0.00	0.00		0.09	1.27	
PW12														4.54									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	6.28	1.49	0.00	5.00	0.00		0.92	0.00	1.09	0.00	0.00		0.00	2.73	
PW13	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.88	4.79	0.00	5.00	0.00	1.17	4.74	0.00	0.00	0.56	-	0.00	1.46	
PW14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.00	4.54	0.00	5.00	2.80	0.00	6.69	1.12	0.00		0.00	1.81	
PW15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.92	1.17	2.80	5.00	2.16	2.77	5.23	0.91		0.00	4.71	
PW16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	4.74	0.00	2.16	5.00	0.00	1.98	5.29		0.00	0.33	
PW17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	6.69	2.77	0.00	5.00	2.96	0.00		0.00	0.31	
PW18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	5.23	1.98	2.96	5.00	2.94		0.00	0.51	
PW19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.91	5.29	0.00	2.94	5.00		0.00	0.00	
Total Drawdown at each location (ft)	12.23	12.45	11.91	14.93	14.48	18.89	19.56	18.23	21.03	19.61	20.74	19.32	17.71	21.08	21.97	19.52	18.50	19.22	14.70		17.16	22.25	
Total		12.70	11.01	17.55	14.40	10.03	10.00	10.20	21.00	10.01	20.74	10.02	17.71	21.00	21.07	10.02	10.00	10.22	14.70		17.10		
Drawdown at each location																							
(m)	3.73	3.80	3.63	4.55	4.42	5.76	5.96	5.56	6.41	5.98	6.32	5.89	5.40	6.43	6.70	5.95	5.64	5.86	4.48		5.23	6.78	
Final Pumping Elev. (masl)	259 35	259 28	259 45	258 53	258 66	257 32	257 12	257.52	256 67	257 10	256 76	257 19	257 68	256 65	256 38	257 13	257 44	257 22	258 60		257 85	256.30	

Ground Level Elev. (masl)	262.1	Well	IGPM	Q (I/min)	Units		
Static Water Elev. (masl)	263.08	PW1-PW19	0.14	0.6	S	1.E-04	
Est. Bottom of SWM (masl) -259 masl	259.0	Total	2.7	12	t	3	day(s)
Factor of safety 1 m	1				т	5	igpd/ft
Target Pumping Water Level	258.00						

Notes: In Rows - Drawdown in feet at each location due to pumping of well in that row

In Columns - Drawdown in feet in each column due to interference from pumping indicated well W/L elevation at each location is shown in bottom of row of matrix.

	1 1 3		
GROUNDWATER CONTROL MODEL	Project No.:	20-169-105	ſ
Hydrogeological Investigation		20 107 100	
Macville Community- SWM Pond 2A	Date:	02.0-4.24	
Caledon, Ontario		02-Oct-24	





## **Appendix H**

THEORETICAL GROUNDWATER CONTROL MODEL



#### FIGURE H-1

THEORETICAL GROUNDWATER CONTROL MODEL
Hydrogeological Investigation

Macville Community- SWM Pond 2B

Caledon, Ontario

Project No.: 20-169-105

Date: 15-Sep-23



Groundwater Control Model for Temporary Construction Dewatering - Drawdown and Interference at Theoretical
ordinanator control moder for remporary concerned bonatoring. Brandown and metrological
Man I and the second
Well Locations

	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	OW1	OW2	
PW1	4.00	2.09	1.85	1.25	1.30	1.27	0.99	2.27	2.03	1.44	
PW2	2.09	4.00	3.68	1.80	1.97	1.34	1.24	1.72	2.94	1.55	
PW3	1.85	3.68	4.00	1.96	2.20	1.32	1.29	1.58	2.80	1.53	
PW4	1.25	1.80	1.96	4.00	3.21	1.59	2.01	1.30	2.02	1.77	
PW5	1.30	1.97	2.20	3.21	4.00	1.40	1.69	1.27	2.07	1.58	
PW6	1.27	1.34	1.32	1.59	1.40	4.00	2.00	1.72	1.64	3.28	
PW7	0.99	1.24	1.29	2.01	1.69	2.00	4.00	1.19	1.46	1.98	
PW8	2.27	1.72	1.58	1.30	1.27	1.72	1.19	4.00	1.95	1.90	
Total Drawdown at each location (ft)	15.02	17.83	17.88	17.13	17.04	14.64	14.40	15.02	16.90	15.03	
Total Drawdown at each location (m)	4.58	5.44	5.45	5.22	5.20	4.46	4.39	4.58	<i>5.15</i>	<i>4.5</i> 8	
Final Pumping Elev. (masl)	255.42	254.56	254.55	254.78	254.80	255.54	255.61	255.42	254.85	255.42	

Ground Level Elev. (masl)	259.3	Well	IGPM	Q (I/min)	Units		
Static Water Elev. (masl)	260	PW1-PW8	0.80	3.6	S	1.E-04	
Est. Bottom of SWM Pond - 256 masl	256.0	Total	6.4	29	t	3	day(s)
Factor of safety 1 m	1				Т	165	igpd/ft
Target Pumping Water Level	255.00						

Notes: In Rows - Drawdown in feet at each location due to pumping of well in that row

In Columns - Drawdown in feet in each column due to interference from pumping indicated well W/L elevation at each location

#### GROUNDWATER CONTROL MODEL

Hydrogeological Investigation

Macville Community- SWM Pond 2B

Caledon, Ontario

Project No.: 20-169-105

Date:

15-Sep-23

FIGURE H-2





# **Appendix** 1-1 **Caledon** Station







**FINAL REPORT** 

CA15868-OCT20 R1

20-169-100

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAIL	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2143
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	brad.moore@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA15868-OCT20
Project	20-169-100	Received	10/29/2020
Order Number		Approved	10/30/2020
Samples	Surface Water (2)	Report Number	CA15868-OCT20 R1
		Date Reported	10/30/2020

#### COMMENTS

MAC - Maximum Acceptable Concentration

AO/OG - Aesthetic Objective / Operational Guideline

NR - Not reportable under applicable Provincial drinking water regulations as per client.

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present:Yes

Custody Seal Present:Yes

Chain of Custody Number:018069

Hg spike reported as NV due to technician error. No spike used for the replicate sample. Data accepted as the spike blank met tolerance as well as secondary QC

SIGNATORIES

Brad Moore Hon. B.Sc

SGS Canada Inc. 185 Concession St., Lakefield ON, K0L 2H0 t 705-652-2143 f 705-652-6365

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nnexes	18

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO\_L - General Chemistry

SGS

Sample Number

7

8

(WATER)

Sample Name SGW1 SGW6
Sample Matrix Surface Water Surface Water

1 = PWQO_L / WATER / Table 2 - General - July 1999	9 PIBS 3303E		Sample Matrix	Surface Water	Surface Water
			Sample Date	29/10/2020	29/10/2020
Parameter	Units	RL	L1	Result	Result
eneral Chemistry					
Dissolved Oxygen	mg/L	1		8.8	9.1
Total Suspended Solids	mg/L	2		103	33
Alkalinity	mg/L as	2		247	375
	CaCO3				
Bicarbonate	mg/L as	2		247	375
	CaCO3				
Carbonate	mg/L as	2		< 2	< 2
	CaCO3				
ОН	mg/L as	2		< 2	< 2
	CaCO3				
Colour	TCU	3		9	13
Conductivity	uS/cm	2		889	2190
Turbidity	NTU	0.10		56.7	50.1
Ammonia+Ammonium (N)	as N mg/L	0.04		0.04	0.32
Phosphorus (total reactive)	mg/L	0.03		0.09	0.10
Total Organic Carbon	mg/L	1		4	8
Ion Ratio	-	-9999		1.58	1
Total Dissolved Solids (calculated)	mg/L	-9999		460	1155
Conductivity (calculated)	uS/cm	-9999		1020	2135
Langeliers Index 4° C	@ 4° C	-9999		0.46	0.77
Saturation pH 4°C	pHs @ 4°C	-9999		7.61	7.25





Chromium

Potassium

Magnesium

Manganese

Molybdenum

Iron

μg/L

ug/L

mg/L

mg/L

μg/L

μg/L

0.08

7

0.009

0.001

0.01

0.04

100

300

40

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO_L - Metals a	and Inorganics		Sample Number	7	8
WATER)					
			Sample Name	SGW1	SGW6
1 = PWQO_L / WATER / Table 2 - General - J	July 1999 PIBS 3303E		Sample Matrix	Surface Water	Surface Water
			Sample Date	29/10/2020	29/10/2020
Parameter	Units	RL	L1	Result	Result
Metals and Inorganics					
Fluoride	mg/L	0.06		0.12	0.67
Bromide	mg/L	0.05		<0.05	0.15
Nitrite (as N)	as N mg/L	0.003		<0.003	<0.003
Nitrate (as N)	as N mg/L	0.006		0.058	0.042
Sulphate	mg/L	0.04		20	14
Mercury	μg/L	0.01	0.2	< 0.01	< 0.01
Hardness	mg/L as	0.05		311	467
	CaCO3				
Aluminum	μg/L	1	75	2610	2400
Aluminum (0.2μm)	mg/L	0.001	0.015	0.034	0.096
Arsenic	μg/L	0.2	5	12.0	1.0
Boron	μg/L	2	200	17	32
Barium	μg/L	0.02		178	82.0
Beryllium	μg/L	0.007	1100	0.139	0.109
Cobalt	μg/L	0.004	0.9	1.86	1.87
Calcium	mg/L	0.01		93.0	153
Cadmium	μg/L	0.003	0.5	0.059	0.036
Copper	μg/L	0.2	5	5.9	3.2

2.80

7.23

20.8

3270

1.53

3.82

36800

2.69

19.1

1910

1.34

Anion Sum

Anion-Cation Balance

# **FINAL REPORT**

CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

ics		Sample Number	7	8
		Sample Name	SGW1	SGW6
303E		Sample Matrix	Surface Water	Surface Water
		Sample Date	29/10/2020	29/10/2020
Units	RL	L1	Result	Result
μg/L	0.1	25	1.8	2.8
mg/L	0.01		87.3	254
mg/L	0.003	0.01	1.93	0.358
μg/L	0.01	25	5.68	1.72
ug/L	20		12800	9560
μg/L	0.05	0.1	< 0.05	< 0.05
μg/L	0.02		306	466
μg/L	0.005	0.3	0.034	0.026
μg/L	0.06		0.20	0.19
ug/L	0.05		87.3	75.4
μg/L	0.09	20	0.19	0.19
μg/L	0.04	100	0.22	0.28
μg/L	0.002	5	0.220	1.30
μg/L	0.01	6	5.20	3.92
μg/L	2	20	24	19
meq/L	-9999		12.5	21.35
	Units  Units   Units   Units   Units   Units   Units   Units  Uni	Units RL  μg/L 0.1  mg/L 0.01  mg/L 0.003  μg/L 0.01  ug/L 20  μg/L 0.05  μg/L 0.06  ug/L 0.06  ug/L 0.05  μg/L 0.05  μg/L 0.05  μg/L 0.06  ug/L 0.05  μg/L 0.05  μg/L 0.05  μg/L 0.05  μg/L 0.05  μg/L 0.01  μg/L 0.01  μg/L 0.01  μg/L 0.01  μg/L 0.002	Sample Name Sample Matrix Sample Date  Units RL L1	Sample Name SGW1 Sample Matrix Surface Water 29/10/2020  Units RL L1 Result   µg/L 0.1 25 1.8  mg/L 0.01 87.3  mg/L 0.003 0.01 1.93  µg/L 0.01 25 5.68  ug/L 20 12800  µg/L 0.05 0.1 < 0.05  µg/L 0.02 306  µg/L 0.005 0.3 0.034  µg/L 0.06 0.20  ug/L 0.05 0.1 0.20  ug/L 0.06 0.20  ug/L 0.09 20 0.19  µg/L 0.002 5 0.220  µg/L 0.001 6 5.20  µg/L 0.01 6 5.20

7.89

22.58

-9999

-9999

meq/L

%

difference

21.36

-0.03



CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PAC	CKAGE: <b>PWQO_L - Other (ORP)</b> (WA	TER)		Sample Numbe	7	8
				Sample Name	SGW1	SGW6
L1 = P'	L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E Sample Matrix			Surface Water	Surface Water	
				Sample Date	29/10/2020	29/10/2020
P	arameter	Units	RL	L1	Result	Result
Othe	er (ORP)					
pl	Н	No unit	0.05	8.6	8.07	8.02
С	hloride	mg/L	0.04		90	480



### **EXCEEDANCE SUMMARY**

PWQO\_L / WATER
/ - - Table 2 -

General - July 1999 PIBS 3303E

	Parameter	Method	Units	Result	L1
ı	1 dramotor	Moulou	O.I.I.O	rtoodit	

### SGW1

Aluminum	SM 3030/EPA 200.8	μg/L	2610	75
Aluminum (dissolved)	SM 3030/EPA 200.8	μg/L	0.034	0.015
Arsenic	SM 3030/EPA 200.8	μg/L	12.0	5
Cobalt	SM 3030/EPA 200.8	μg/L	1.86	0.9
Copper	SM 3030/EPA 200.8	μg/L	5.9	5
Iron	SM 3030/EPA 200.8	μg/L	36800	300
Phosphorus	SM 3030/EPA 200.8	μg/L	1.93	0.01
Zinc	SM 3030/EPA 200.8	μg/L	24	20

### SGW6

Aluminum	SM 3030/EPA 200.8	μg/L	2400	75
Aluminum (dissolved)	SM 3030/EPA 200.8	μg/L	0.096	0.015
Cobalt	SM 3030/EPA 200.8	μg/L	1.87	0.9
Iron	SM 3030/EPA 200.8	μg/L	4300	300
Phosphorus	SM 3030/EPA 200.8	μg/L	0.358	0.01

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#### QC SUMMARY

**Alkalinity** 

Method: SM 2320 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)	Spike Recovery		ery Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Alkalinity	EWL0551-OCT20	mg/L as	2	< 2	1	20	102	80	120	NA			
		CaCO3											

### Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duplicate		LC	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)		
								Low	High	(%)	Low	High	
Ammonia+Ammonium (N)	SKA0324-OCT20	mg/L	0.04	<0.04	0	10	100	90	110	99	75	125	

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#### QC SUMMARY

### Anions by IC

Method: EPA300/MA300-lons1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC (%)	Spike Recovery		Recovery Limits (%)		Recovery Limits (%)	
						(70)	(%)	Low	High	(%)	Low	High
Bromide	DIO0586-OCT20	mg/L	0.05	<0.05	ND	20	102	80	120	98	75	125
Chloride	DIO0586-OCT20	mg/L	0.04	<0.04	8	20	100	80	120	94	75	125
Nitrite (as N)	DIO0586-OCT20	mg/L	0.003	<0.003	ND	20	101	80	120	98	75	125
Nitrate (as N)	DIO0586-OCT20	mg/L	0.006	<0.006	20	20	103	80	120	102	75	125
Sulphate	DIO0586-OCT20	mg/L	0.04	<0.04	NV	20	98	80	120	91	75	125
Chloride	DIO0590-OCT20	mg/L	0.04	<0.04	2	20	98	80	120	100	75	125

### Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-009

Parameter	QC batch	Units	RL	Method	Dup	plicate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	RPD AC (%)	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Organic Carbon	SKA0327-OCT20	mg/L	1	<1	2	10	103	90	110	109	75	125

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#### QC SUMMARY

#### Carbonate/Bicarbonate

Method: SM 2320 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		Ma	atrix Spike / Ref.	
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Carbonate	EWL0551-OCT20	mg/L as CaCO3	2	< 2	ND	10	NA	90	110	NA		
Bicarbonate	EWL0551-OCT20	mg/L as CaCO3	2	< 2	1	10	NA	90	110	NA		
ОН	EWL0551-OCT20	mg/L as CaCO3	2	< 2	ND	10	NA	90	110	NA		

#### Colour

Method: SM 2120 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	ī.
	Reference		Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recove	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Colour	EWL0563-OCT20	TCU	3	< 3	ND	10	100	80	120	NA		

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#### QC SUMMARY

### Conductivity

Method: SM 2510 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Conductivity	EWL0551-OCT20	uS/cm	2	< 2	0	20	99	90	110	NA		

### Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	atrix Spike / Ref	ī.
	Reference			Blank	RPD AC Spike (%) Recovery (%)		ry Limits %)	Spike Recovery		ry Limits %)		
						_	Low	High	(%)	Low	High	
Fluoride	EWL0560-OCT20	mg/L	0.06	<0.06	ND	10	98	90	110	111	75	125

### Mercury by CVAAS

Method: SM3112/EPA 245 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
Mercury	EHG0029-OCT20	ug/L	0.01	-0.020	ND	20	90	80	120	NV	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	atrix Spike / Re	ř.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	•	Spike Recovery		ory Limits %)
							(%)	Low	High	(%)	Low	High
Silver	EMS0179-OCT20	ug/L	0.05	<0.00005	ND	20	101	90	110	98	70	130
Aluminum	EMS0179-OCT20	ug/L	1	<0.001	ND	20	99	90	110	115	70	130
Aluminum (0.2µm)	EMS0179-OCT20	mg/L	0.001	<0.001	ND	20	99	90	110	115	70	130
Arsenic	EMS0179-OCT20	ug/L	0.2	<0.0002	4	20	102	90	110	101	70	130
Barium	EMS0179-OCT20	ug/L	0.02	<0.00002	4	20	98	90	110	109	70	130
Beryllium	EMS0179-OCT20	ug/L	0.007	<0.000007	0	20	95	90	110	94	70	130
Boron	EMS0179-OCT20	ug/L	2	<0.002	6	20	91	90	110	NV	70	130
Calcium	EMS0179-OCT20	mg/L	0.01	<0.01	3	20	96	90	110	103	70	130
Cadmium	EMS0179-OCT20	ug/L	0.003	<0.000003	7	20	99	90	110	100	70	130
Cobalt	EMS0179-OCT20	ug/L	0.004	<0.000004	3	20	100	90	110	98	70	130
Chromium	EMS0179-OCT20	ug/L	0.08	<0.00008	ND	20	102	90	110	104	70	130
Copper	EMS0179-OCT20	ug/L	0.2	<0.0002	14	20	101	90	110	105	70	130
Iron	EMS0179-OCT20	ug/L	7	<0.007	18	20	97	90	110	NV	70	130
Potassium	EMS0179-OCT20	mg/L	0.009	<0.009	2	20	100	90	110	100	70	130
Magnesium	EMS0179-OCT20	mg/L	0.001	<0.001	4	20	95	90	110	97	70	130
Manganese	EMS0179-OCT20	ug/L	0.01	<0.00001	1	20	101	90	110	104	70	130
Molybdenum	EMS0179-OCT20	ug/L	0.04	<0.00004	ND	20	102	90	110	106	70	130
Sodium	EMS0179-OCT20	mg/L	0.01	<0.01	6	20	91	90	110	94	70	130
Nickel	EMS0179-OCT20	ug/L	0.1	<0.0001	18	20	101	90	110	83	70	130
Lead	EMS0179-OCT20	ug/L	0.01	<0.00001	2	20	96	90	110	105	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	atrix Spike / Ref	ı.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recover	•	Spike Recovery		ry Limits %)
						(70)	(%)	Low	High	(%)	Low	High
Phosphorus	EMS0179-OCT20	mg/L	0.003	<0.003	ND	20	96	90	110	NV	70	130
Antimony	EMS0179-OCT20	ug/L	0.09	<0.0009	ND	20	98	90	110	110	70	130
Selenium	EMS0179-OCT20	ug/L	0.04	<0.00004	ND	20	100	90	110	110	70	130
Silicon	EMS0179-OCT20	ug/L	20	<0.02	5	20	99	90	110	NV	70	130
Tin	EMS0179-OCT20	ug/L	0.06	<0.00006	ND	20	98	90	110	NV	70	130
Strontium	EMS0179-OCT20	ug/L	0.02	< 0.02	3	20	102	90	110	103	70	130
Titanium	EMS0179-OCT20	ug/L	0.05	<0.00005	ND	20	98	90	110	NV	70	130
Thallium	EMS0179-OCT20	ug/L	0.005	<0.000005	13	20	99	90	110	104	70	130
Uranium	EMS0179-OCT20	ug/L	0.002	<0.000002	4	20	97	90	110	102	70	130
Vanadium	EMS0179-OCT20	ug/L	0.01	<0.00001	8	20	99	90	110	87	70	130
Zinc	EMS0179-OCT20	ug/L	2	<0.002	ND	20	97	90	110	126	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-OES

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-003

Parameter	QC batch	Units	RL	Method	Dup	licate	LCS	S/Spike Blank		М	atrix Spike / Re	
	Reference			Blank	RPD	AC (%)	Spike		ery Limits %)	Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Hardness	EMS0179-OCT20	mg/L as	0.05		3	20						
		CaCO3										

#### pН

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD			Recover	-	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0551-OCT20	No unit	0.05	NA	0		101			NA		

### Reactive Phosphorus by SFA

Method: SM 4500-P F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference		Blank F	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ery Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Phosphorus (total reactive)	SKA0319-OCT20	mg/L	0.03	<0.03	ND	10	97	90	110	NV	75	125

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#### QC SUMMARY

**Suspended Solids** 

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery	Recover	·
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0555-OCT20	mg/L	2	< 2	0	10	96	90	110	NA		

### **Turbidity**

Method: SM 2130 | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-003

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Turbidity	EWL0554-OCT20	NTU	0.10	< 0.10	1	10	99	90	110	NA		

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

20201030



#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms\_and\_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This report must not be reproduced, except in full. This report supersedes all previous versions.

-- End of Analytical Report --

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# SGS

### Request for Laboratory Services and CHAIN OF CUSTODY

No:018069

Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Page 1 of 1

Received By: Suff		Received By (	(signature): _	Labor	ator	y Info		on Sec																	
Received Date: 16 / 29 / 2020 (mm/dd/) Received Time: 16 20 (hr: min)	yy)	Custody Seal Custody Seal					Cooli	ng Agen erature	t Prese Upon I	ent: Y Receipt	es 🗾	No 1	96	Туре	ec.	14-4						LAB L	IMS #:	CIAI	567- 3CH
REPORT INFORMATION	IN'	VOICE INFO	RMATION					30																(	30+20
Company: DS	(same as Re	eport Informa	ition)		Quo	lation #												P.O. i	#:						
Contact: Dorothy Gerda Address: 16-6221 Avoy7	Company:	accaer	sing		Proje	ect#:				20	3-1	69	-10	00				Site L	ocatio	on/ID:	ý.				
Address: 16-6221 12047	Contact:		U										T	URNA	NAROUND TIME (TAT) REQUIRED										
Vewginn, ou	Address:				Regular TAT (5-7days)								TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day												
Vewginn, onl Phone: (905) 324-2735					RUSH TAT (Additional Charges May Apply): Day							2 [	Days	<u>3</u> I	Days	□4	Days								
Fax:	Phone:				PLE	PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION																			
Email: Jorday gorde docuse Hunts	Email: Ac co	Intima	Acres	. Hents. on									NG (PO								SUMPTION	ON MUST BE SUBMITTED			
REGI	ULATIONS	9	Desco, S	44-11-							- 1	ANA	LYS	SIS F	REC	UES			3						
O.Reg 153/04 O.Reg 406/19	Other Regulatio	ns:	Sewe	er By-Law:		M	&1		SV	/OC	PCB	P	НС	V	ОС	Pest		,	Otbe	r (plea	ase spe	cify)		TCLP	
Table 1 Res/Park Soil Texture:	Reg 347/558 (3 Day min TAT)		- Am	Sanitary						la la la la la la la la la la la la la l								-	C	7				Specify	
Table 2 Ind/Com Coarse	2.	MMER		Storm							100								Character				kg	TCLP	
Table 3 Agri/Other Medium/Fine	CCME [	Other:	Iviunic	ipality:		10	5				Aroclor								Yes		ate		5	tests	
Soil Volume	_	Reportable *Sec	e note			SARS	Ď PÍ	N.			Ā								2		acha		ratio	□M&I	
RECORD OF SITE CONDITION (RSC)	YES	NO			N	ani S).EC.	ite anly)	Pb.M			1					other			Chem	4	9 Le		eriz	□voc	COMMENTS:
					P	O. B.	Sco	only		a S	otal	X				specifi		1	3	J's	1/90. Fls 1		act	□PCB	
A CONTROL PROPERTY SECTION	DATE	TIME	# OF		tere	E H	tals BERTY	als	à	BNs.	-	BT	ylt.		ş	Seor	_	3	0	5	2: 4 Lev	Jse	hai	□B(a)P □ABN	
SAMPLE IDENTIFICATION	SAMPLED	SAMPLED	and the second	MATRIX	Field Filtered (Y/N)	Metals & Inorganics ind Crvi. CN. Hg pH. (8(HWS), EC. SAR (Cl. Na-water)	Full Metals Suite	ICP Metals only Sb.As.Ba.Be.B.Cd.Cr.Co.Cu.P	PAHS only	SVOCS all inci PAHs, ABNs,	PCBs Total	F1-F4 + BTEX	F1-F4 only	VOCs all incl BTE).	BTEX only	Pesticides Organochlorine or s	00	F	Gen	20	Appendix 2: 406/19 Leachate Screening Levels Table :	Sewer Use;	ter C	□ ABN	
					Fie	N Sept	E de	CP Sp. As. B	PA	SV	PCI	Ė	F1-1	V	BTE	Pes			9	9	App	Specif	Wa	- grot	
1 56W1 2 56W6	20/29/20	8.30am	8	SW		5-7											X	X	X						4.3.
2 SUW6	6/29/20	9.am	8	SW													X	X	X						
3																1.			- (		=7	) [T	1		
4							-																		
5								7-1																	
6										114															
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12																				1.4					
Observations/Comments/Special Instructions																									
Sampled By (NAME):	DOWN	runda	Signature:	Δ	-ole	m	_							-	Date:	16	7	29/	2	0	(m	ım/dd/y	v)		Pink Copy - Client
Relinquished by (NAME):	A 4 11		Signature:	6	)ev-	, le	in	~	_						Date:	16		29	_	0		ım/dd/y			Yellow & White Copy - SGS
Revision 8-1.4 Note: Submission of samples to SGS Date of Insue-22 May 2020 the contract, or in an alternal	is acknowledgement the															sidered	authoriz				work. S	Signature	es may a	ppear on th	nis form or be retained on file in
		//www.sgs.com/ter																							







CA40078-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAILS	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40078-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton (MacVille)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40078-NOV22 R1
		Date Reported	11/11/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029791

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

www.sgs.com





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Silver (total)

mg/L 0.00005

0.0001

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-13
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS	S 3303E		Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4↑
Total Suspended Solids	mg/L	2		492
Total Kjeldahl Nitrogen	as N mg/L	0.5		0.6
Metals and Inorganics				
Fluoride	mg/L	0.06		0.11
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		200
Aluminum (0.2μm)	mg/L	0.001	0.075	0.016
Aluminum (total)	mg/L	0.001		0.016
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0010
Cadmium (total)	mg/L	0.000003	0.0001	< 0.000003
Chromium (total)	mg/L	0.00008	0.1	0.00009
Copper (total)	mg/L	0.0002	0.001	0.0005
Cobalt (total)	mg/L	0.000004	0.0009	0.000676
Lead (total)	mg/L	0.00009	0.005	< 0.00009
Manganese (total)		0.00001		0.132
Molybdenum (total)	mg/L	0.00004	0.04	0.00234
Nickel (total)	mg/L	0.0001	0.025	0.0008
Phosphorus (total)	mg/L	0.003	0.01	0.011
Selenium (total)		0.00004	0.1	0.00012
, ,				

< 0.00005



CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			Sample Number	8
WATER TO THE TEN			Sample Name	BH 22-13
L1 = PWQO_L / WATER / Table 2 - General - July 1999	9 PIBS 3303E		Sample Matrix	
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Tin (total)	mg/L	0.00006		0.00079
Titanium (total)	mg/L	0.00005		0.00133
Zinc (total)	mg/L	0.002	0.02	< 0.002
Microbiology				
E. Coli	cfu/100mL	0	100	0
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4

### CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-13
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E	≣		Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Other (ORP)				
рН	No unit	0.05	8.6	7.46
Mercury (total)	mg/L	0.00001	0.0002	0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenois				
4AAP-Phenolics	mg/L	0.002	0.001	0.003
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.0003	0.01	< 0.00
				< 0.005
Styrene Tatarahlara attadana (narahlara attadana)	mg/L	0.0005	0.05	
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



### CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER Sample Number 8

Sample Name BH 22-13

L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E			Sampl	le Matrix Ground Water
			Samı	ple Date 03/11/2022
Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005



### **EXCEEDANCE SUMMARY**

### BH 22-13

Phosphorus	SM 3030/EPA 200.8	mg/L	0.011	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.003	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	(%)		Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	RPD AC (%)			ry Limits %)	Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	ıf.
	Reference			Blank	RPD	RPD AC (%)	Spike	Recover	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ery Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					n							

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	ıtrix Spike / Re	f.
	Reference			Blank RPD AC	AC	Spike	Recover	-	Spike Recovery		ery Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference	Reference		Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	I.
	Reference			Blank	RPD	PD AC Spike (%) Recovery			ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Ref	۲.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	:
	Reference			Blank	RPD AC Spi		Spike		ery Limits %)	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	Units RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference				RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
								Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0094-NOV22	as N mg/L	0.5	<0.5	ND	10	102	90	110	103	75	125

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#### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference				RPD	AC (%)	Spike Recovery (%)	Recovery Limits		Spike Recovery	Recovery Limits	
								Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
(perchloroethylene)												
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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### Request for Laboratory Services and CHAIN OF CUSTODY

Request for Laboratory Services and CHAIN OF CUS

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web; www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Laboratory Information Section Laboratory

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CA40078-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAILS		LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40078-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton (MacVille)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40078-NOV22 R1
		Date Reported	11/11/2022

#### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029791

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

SGS Canada Inc. 185 Concession St., Lakefield ON, K0L 2H0 t 705-652-2000 f 705-652-6365

> Member of the SGS Group (SGS SA) 1 / 18

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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			Sa	ample Number	8
				Sample Name	BH 22-13
.1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discha	arge - BL_53_2010		;	Sample Matrix	Ground Water
.2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge	ge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	492
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	0.6
Wetals and Inorganics					
Fluoride	mg/L	0.06	10		0.11
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		200
Aluminum (0.2μm)	mg/L	0.001			0.016
Aluminum (total)	mg/L	0.001	50		0.016
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0010
Cadmium (total)	mg/L	0.000003	0.7	0.008	< 0.000003
Chromium (total)	mg/L	0.00008	5	0.08	0.00009
Copper (total)	mg/L	0.0002	3	0.05	0.0005
Cobalt (total)	mg/L	0.000004	5		0.000676
Lead (total)	mg/L	0.00009	3	0.12	< 0.00009
Manganese (total)	mg/L	0.00001	5	0.05	0.132
Molybdenum (total)	mg/L	0.00004	5		0.00234
Nickel (total)	mg/L	0.0001	3	0.08	0.0008
Phosphorus (total)	mg/L	0.003	10	0.4	0.011
Selenium (total)	mg/L	0.00004	1	0.02	0.00012
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005



CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER				Sample Number	8
				Sample Name	BH 22-13
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharge -	- BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - B	3L_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00079
Titanium (total)	mg/L	0.00005	5		0.00133
Zinc (total)	mg/L	0.002	3	0.04	< 0.002
Microbiology				,	
E. Coli	cfu/100mL	0		200	0
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	IIIg/L	4	15		





Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			Sa	ample Number	8
			;	Sample Name	BH 22-13
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Disch	arge - BL_53_2010		;	Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Dischar	ge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.46
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00001
PCBs				'	
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenois					
4AAP-Phenolics	mg/L	0.002	1	0.008	0.003
	IIIg/L	0.002	ı	0.006	0.003
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8	0.011	< 0.02
		0.0005			< 0.002
Styrene	mg/L		0.2	0.0044	
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER			;	Sample Number	8
				Sample Name	BH 22-13
.1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharge - BL_53	3_2010			Sample Matrix	Ground Water
.2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - BL_53_2	2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
/OCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005



#### **EXCEEDANCE SUMMARY**

NSEW / WATER SA	NSEW / WATER
- Peel Table 1 - / -	Peel Table 2 -
anitary Sewer	Storm Sewer
Discharge -	Discharge -
BL_53_2010	BL_53_2010
L1	L2
S	Sanitary Sewer Discharge - BL_53_2010

#### BH 22-13

Total Suspended Solids	SM 2540D	mg/L	492	350	15
Manganese	SM 3030/EPA 200.8	mg/L	0.132		0.05

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	plicate	LC	S/Spike Blank		м	ī.	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

#### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	I.
	Reference			Blank	RPD				ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

#### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Ref	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ery Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					n							

#### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	ıtrix Spike / Re	f.
	Reference			Blank RPD AC	AC	Spike	Recover	-	Spike Recovery		ery Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

#### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference	Reference		Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	I.
	Reference			Blank	RPD	PD AC Spike (%) Recovery			ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

#### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

#### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Ref	·.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

#### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	:
	Reference					Spike		ery Limits %)	Spike Recovery	Recover	ry Limits 6)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

#### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0094-NOV22	as N mg/L	0.5	<0.5	ND	10	102	90	110	103	75	125

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#### QC SUMMARY

#### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference		Blank  RPD AC Spike  (%) Recovery  (%)		•	Spike Recovery		ery Limits %)					
						(75)	(%)	Low	High	(%)	Low	High	
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140	
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140	
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140	
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140	
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140	
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140	
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140	
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140	
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140	
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140	
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140	
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140	
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140	
(perchloroethylene)													
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140	
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140	
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140	

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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## Request for Laboratory Services and CHAIN OF CUSTODY

Request for Laboratory Services and CHAIN OF CUS

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web; www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

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SAMPLE IDENTIFICATION	DATE	TIME	# OF	MATRIX	Field Filtered (Y/N)	Metals & Inorganics ind CVI, CN, Hg pH. (B(HWS), EC, SAR	Full Metals Suite	ICP Metals only sb.As.Ba.	PAHs only	SVOCs all inci PAHs, ABNs, CPs	1	F1-F4 + BTEX	only	VOCs all incl BTEX	ylu	Pesticides Organochlorine or s	5.0	3		Sewer Use:	ter Characterization Pkg	ОСР	□ <sub>ABN</sub>	7.00
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Revision # 1,6 Note: Submission of samples to SGS	is acknowledgement the	at you have been	provided dire	ection on sample co	allection/	handling	and Iran	sportation	of sam	ples. (2)	Submis	sion of	samples	s to SGS	Date:	sidered a	authoriza	tion for c	omoletion	of work	nm/dd/y Signatu	res may ar	innear on th	Yellow & White Copy - SG his form or be retained on file in
Date of Issue: 02 May 2022 the contract, or in an alternat	tive format (e.g. shipping	documents). (3	Results may	be sent by email to	an unli	mited nur	mber of a	addresses	for no	addition	al cost	Fax is a	wailable	upon re	equest.	This do	cument i	s issued b	by the Con	pany un	der its G	ieneral Co	unditions of	Service accessible at

http://www.sgs.com/herms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein







CA40079-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

**DS Consultants** 





#### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40079-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton (MacVille)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40079-NOV22 R1
		Date Reported	11/11/2022

#### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029792

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER			Sample Number	8	
			Sample Name	BH 22-32	
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIB	S 3303E		Sample Matrix	Ground Water	
			Sample Date	03/11/2022	
Parameter	Units	RL	L1	Result	
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4↑	
Total Suspended Solids	mg/L	2		98	
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5	
Metals and Inorganics					
Fluoride	mg/L	0.06		0.10	
Cyanide (total)	mg/L	0.01		< 0.01	
Sulphate	mg/L	2		63	
Aluminum (0.2µm)	mg/L	0.001	0.075	0.001	
Aluminum (total)	mg/L	0.001		0.608	
Antimony (total)	mg/L	0.0009	0.02	< 0.0009	
Arsenic (total)	mg/L	0.0002	0.005	< 0.0002	
Cadmium (total)	mg/L	0.000003	0.0001	0.000005	
Chromium (total)	mg/L	0.00008	0.1	0.00118	
Copper (total)	mg/L	0.0002	0.001	0.0011	
Cobalt (total)	mg/L	0.000004	0.0009	0.000342	
Lead (total)	mg/L	0.00009	0.005	0.00043	
Manganese (total)	mg/L	0.00001		0.0462	
Molybdenum (total)	mg/L	0.00004	0.04	0.00084	
Nickel (total)	mg/L	0.0001	0.025	0.0010	
Phosphorus (total)	mg/L	0.003	0.01	0.073	
Selenium (total)	mg/L	0.00004	0.1	< 0.00004	
Silver (total)	mg/L	0.00005	0.0001	< 0.00005	

**FINAL REPORT** 



CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-32
_1 = PWQO_L / WATER / Table 2 - General - July 1999 Pl	IBS 3303E		Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Tin (total)	mg/L	0.00006		0.00128
Titanium (total)	mg/L	0.00005		0.0246
Zinc (total)	mg/L	0.002	0.02	0.004
Microbiology				
E. Coli	cfu/100mL	0	100	1
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX, MATER			Sample Number	8
MATRIX: WATER			•	BH 22-32
			Sample Name Sample Matrix	Ground Water
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E			Sample Matrix Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Other (ORP)	Office	T.C.		rtoduk
pH	No unit	0.05	8.6	7.63
Mercury (total)	mg/L	0.00001	0.0002	< 0.00001
	mg/L	0.00001	0.0002	10.00001
PCBs		0.0004		. 0 0004
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols			1	
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02	0.07	< 0.02
		0.002		< 0.005
Styrene	mg/L		0.05	
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



#### CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER Sample Number 8

Sample Name BH 22-32

			Sample Name	BH 22-32
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E			Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005



#### **EXCEEDANCE SUMMARY**

PWQO\_L / WATER

/ - - Table 2 
General - July 1999

PIBS 3303E

Parameter Method Units Result L1

#### BH 22-32

Copper	SM 3030/EPA 200.8	mg/L	0.0011	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.073	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD			Recovery Limits (%)		Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

#### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	I.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

#### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

#### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Ref	•
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

#### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	i.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

#### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

#### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	125	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

#### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duplicate			LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	-	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA			

#### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Units Reference	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
				Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125

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#### QC SUMMARY

#### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method Blank	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference				RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery	Recovery Limits	
								Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
(perchloroethylene)												
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte

ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

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This report supersedes all previous versions.

-- End of Analytical Report --

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# SGS

### Request for Laboratory Services and CHAIN OF CUSTODY

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 No: 029792

Laboratory Information Section - Lab use only CA 40079-NOVEZ

NLAB LIMS # NOV 3 40074 Received By: Nicole Dintel Received By (signature): Cooling Agent Present: Yes No Type: Received Date: Nin 1 2 1124 Custody Seal Present: Yes No Received Time: 7 : 30 (hr : min) Custody Seal Intact: Yes P No T REPORT INFORMATION INVOICE INFORMATION Company: DS Consultants 15 [D(same as Report Information) Quotation #: P.O. #: 20 - 169 - 109 Site Location/ID: 19413 1100

TURNAROUND TIME (TAT) REQUIRED (Macville) Contact: Dorothy Santos Site Location/ID: 14275 The Got Rd. Beiton Project #: Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Voughan, ON Samples received after 6pm or on weekends: TAT begins next business day Phone: 905 329 2735 RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Specify Due Date: Email: clorutty, Santos & de Consulta Email: REGULATIONS WITH SGS DRINKING WATER CHAIN OF CUSTODY ANALYSIS REQUESTED O.Reg 406/19 M & I SVOC PCB PHC O.Reg 153/04 Other Regulations: VOC Pest Other (please specify) SPLP TCLP Sewer By-Law: Table 1 Res/Park Soil Texture: Ref 347/558 (3 Day min TAT) Sanitary Specify Specify ☐ Ind/Com ☐ Coarse Table 2 MPWQ0 1 Storm MMER tests Agri/Other Medium/Fine Table 3 CCME Other: Municipality: Aroclor Page Characterization Pkg MISA Table Аррх. Metals DMR Metals & Inorganics nel CVI, CN, Hg pH,(B(HWS), EC, SAR-(Ci, Na-water) Soil Volume <350m3 >350m3 ODWS Not Reportable \*See note Field Filtered (Y/N) COMMENTS: Dvoc □voc Full Metals Suite RECORD OF SITE CONDITION (RSC) YES ICP Metals only a 1,4-□ PCB Total F1-F4 + BTEX SVOCs all incl PAHs, ABNs, CPs Pesticides
Organochlorine or s
(PCC) SEC □6(a)F DOCP Sewer Use: Specify pkg: Water Chara F1-F4 only PAHS only DATE TIME # OF SAMPLE IDENTIFICATION DABN MATRIX DABN SAMPLED SAMPLED BOTTLES PCBs VOCs ☐ ignit BH 22-32 PM GW Sample 5 9 11 12 Observations/Comments/Special Instructions Harry /chei tanya Sampled By (NAME): Date: 11 103122 Signature: Pink Copy - Client Relinquished by (NAME): 11,03,22 (mm/dd/yv) vision # 1.E Note: Submission of samplies to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. [2] Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at tate of Issue: 02 May 2022

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CA40079-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

**DS Consultants** 





#### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40079-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton (MacVille)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40079-NOV22 R1
		Date Reported	11/11/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029792

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

www.sgs.com



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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

MATRIX: WATER				ample Number	8
				Sample Name	BH 22-32
1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Dis	scharge - BL_53_2010		;	Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Disch	narge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	98
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Vetals and Inorganics					
Fluoride	mg/L	0.06	10		0.10
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		63
Aluminum (0.2µm)	mg/L	0.001			0.001
Aluminum (total)	mg/L	0.001	50		0.608
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	< 0.0002
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000005
Chromium (total)	mg/L	0.00008	5	0.08	0.00118
Copper (total)	mg/L	0.0002	3	0.05	0.0011
Cobalt (total)	mg/L	0.000004	5		0.000342
Lead (total)	mg/L	0.00009	3	0.12	0.00043
Manganese (total)	mg/L	0.00001	5	0.05	0.0462
Molybdenum (total)	mg/L	0.00004	5		0.00084
Nickel (total)	mg/L	0.0001	3	0.08	0.0010
Phosphorus (total)	mg/L	0.003	10	0.4	0.073
Selenium (total)	mg/L	0.00004	1	0.02	< 0.00004
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005



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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

MATRIX: WATER				Sample Number	8
				Sample Name	BH 22-32
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Disc	charge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discha	arge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00128
Titanium (total)	mg/L	0.00005	5		0.0246
Zinc (total)	mg/L	0.002	3	0.04	0.004
Microbiology					
E. Coli	cfu/100mL	0		200	1
Nonylphenol and Ethoxylates			1	ı	
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01	-		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
	9/=				0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

MATRIX: WATER  L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharg  Parameter  Other (ORP)  pH  Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total  Phenols		RL 0.05 0.00001		sample Number Sample Name Sample Matrix Sample Date L2  9 0.0004	03/11/2022  Result  7.63
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharg  Parameter  Other (ORP)  pH  Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	ge - BL_53_2010  Units  No unit  mg/L	0.05	<b>L1</b>	Sample Matrix Sample Date L2	Ground Water 03/11/2022 Result 7.63
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharg  Parameter  Other (ORP)  pH  Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	ge - BL_53_2010  Units  No unit  mg/L	0.05	<b>L1</b>	L2	03/11/2022  Result  7.63
Parameter Other (ORP)  pH  Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	Units  No unit  mg/L	0.05	10	<b>L2</b>	Result
Other (ORP)  pH  Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	No unit mg/L	0.05	10	9	7.63
pH Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.00001			
Mercury (total)  PCBs  Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.00001			
PCBs Polychlorinated Biphenyls (PCBs) - Total					< 0.00001
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001			
	mg/L		0.001	0.0004	< 0.0001
Phenois			0.001	0.0004	
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Project Manager: Dorothy Garda

MATRIX: WATER			S	Sample Number	8
WATEN.				Sample Name	BH 22-32
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010				•	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - BL_53_2010				Sample Date	03/11/2022
Parameter Units	RL	L	L1	L2	Result
VOCs - BTEX					
Benzene mg/l	0.00	005	0.01	0.002	< 0.0005
Ethylbenzene mg/l	0.00	005	0.16	0.002	< 0.0005
Toluene mg/l	0.00	005	0.27	0.002	< 0.0005
Xylene (total) mg/l	0.00	005	1.4	0.0044	< 0.0005
m-p-xylene mg/l	0.00	005			< 0.0005
o-xylene mg/l	0.00	005			< 0.0005



#### **EXCEEDANCE SUMMARY**

SANSEW / WATER SANSEW / WATER / - - Peel Table 2 -/ - - Peel Table 1 -Sanitary Sewer Storm Sewer Discharge -Discharge -BL\_53\_2010 BL\_53\_2010 Method Units L1 L2 Parameter Result

BH 22-32

Total Suspended Solids SM 2540D mg/L 98

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125	

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		I.
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch Units		RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	ry Limits %)	Spike Recovery		ery Limits %)	
						(76)	(%)	Low	High	(%)	Low	High	
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130	
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130	
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130	
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130	
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130	
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130	
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130	
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130	
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130	
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130	
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130	
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130	
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130	
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130	
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130	
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130	
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130	
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130	

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	
	Reference		Blank F		RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Ref	•
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference Blank		Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	i.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	125	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	:
	Reference			Blank RPD AC (%)		Spike		ery Limits %)	Spike Recovery	Recover	ry Limits 6)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125

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#### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(75)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
(perchloroethylene)												
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte

ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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# SGS

## Request for Laboratory Services and CHAIN OF CUSTODY

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON KOL 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029792

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REPORT INFORMATION	IN	VOICE INFO					remp	erature	Upon	Receip	((C)_	4.		-	-						U	BLIMS		,	70 1
Company: DS Consultants 12 Contact: Dorothy Santos	1				1	tation #	t:	20	·) -	16	9-	las			_	_		P.O.		o/ID: I	1,2-	10	π. (	1	Beilon
Address: 6221 Huly 7, unit 16, Voughan, on Phone: 905 329 2735	Contact: AC	Coun	Fireq		RUS	,	(Addi	TAT (	5-7da Charg	ys) ges Ma	ау Арр	oly):	T	URNA	ROU Day	ND TI	ME (TA Sa Days	T's are amples	e quoteo receive Days [	ED ( in busi d after (	ness d Spm or ays	CU i ) ays (exc	lude statu	atory holidays	
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Table 2         Ind/Com         Coarse           Table 3         Agri/Other         Medium/Fine           Table         Appx.           Soil Volume         <350m3	CCME MISA ODWS Not		_	Ustorm Municipality: Page 1	2	C,SAR-sall)	y) Hg, CrVI	/ Sb,As,Ba,Be,B,Cd,			Arodor 🗌						anet (Johnson)	0			ion Pkg	Specites	sts test	s	IMENTS:
RECORD OF SITE CONDITION (RSC	YES [	NO			(N/A) P	Orgar (B(HWS),E	Suite VS-soil only	only st		CPs	Total	X				pecify othe	8 2	g		1	terizat	Extended	4- PO		WENTS.
SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTL	MATRIX	Field Filtered	Metals & Inorganics	uli Metals	ICP Metals Or.Co.Cu.Pb,Mo,Ni,se	PAHs only	SVOCS all incl Pates, ABNs, CPs	PCBs Te	F1-F4 + BTEX	F1-F4 only	VOCs all incl BTEX	BTEX only		SAN HE	30		ewer Use:	Specify pkg: Water Characterization Pkg	□oc □AE	Die	N	
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Observations/Comments/Special Instructions								-	/				= 1			1					4	1		1	
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Relinquished by (NAME): He or y  Revision # 1.6   Note: Submission of samples to SGS	1	at you have been	Signature provided d	- 12	lection.	-	and tran	sportation	n of san	moles 12	7 Suhmi	ssinn of	sample		Date:	( (			7_ complete		(mm/c		av annear.	Yellow & W	Vhite Copy - SGS
Date of Issue: 02 May 2022 (the contract, or in an alterna	tive format (e.g. shipping	g documents). (3	Results m	nay be sent by email to	an uni	imited nu	imber of	addresse	s for no	addition	nal cost.	Fax is	avadable	e upon r	equest.	This do	ocument i	s issue	d by the (	Company	under if	s Genera	Condition	of Service acco	essible at

http://www.sgs.com/terms\_and\_conditions.htm. (Printed copies are available upon request.) Aftention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.







CA40080-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40080-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40080-NOV22 R1
		Date Reported	11/11/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029793

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

www.sgs.com





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CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-17
1 = PWQO_L / WATER / Table 2 - General - July 1999	PIBS 3303E		Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
eneral Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4↑
Total Suspended Solids	mg/L	2		169
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
letals and Inorganics				
Fluoride	mg/L	0.06		0.12
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		50
Aluminum (0.2µm)	mg/L	0.001	0.075	0.003
Aluminum (total)	mg/L	0.001		1.64
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0009
Cadmium (total)	mg/L	0.000003	0.0001	0.000013
Chromium (total)	mg/L	0.00008	0.1	0.00283
Copper (total)	mg/L	0.0002	0.001	0.0025
Cobalt (total)	mg/L	0.000004	0.0009	0.00106
Lead (total)	mg/L	0.00009	0.005	0.00108
Manganese (total)	mg/L	0.00001		0.101
Molybdenum (total)	mg/L	0.00004	0.04	0.00151
Nickel (total)	mg/L	0.0001	0.025	0.0021
Phosphorus (total)	mg/L	0.003	0.01	0.098
Selenium (total)	mg/L	0.00004	0.1	0.00015
Silver (total)	mg/L	0.00005	0.0001	< 0.00005



CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER			Sample Number	8
WATEN			Sample Name	BH 22-17
L1 = PWQO_L / WATER / Table 2 - General - July 199	9 PIBS 3303E		Sample Matrix	
table 2 Solicial day 100			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Tin (total)	mg/L	0.00006		0.00188
Titanium (total)	mg/L	0.00005		0.0409
Zinc (total)	mg/L	0.002	0.02	0.006
Microbiology				
E. Coli	cfu/100mL	0	100	0
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



### CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-17
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3:	303E		Sample Matrix	Ground Water
			Sample Date	03/11/2022
Parameter	Units	RL	L1	Result
Other (ORP)				
рН	No unit	0.05	8.6	7.61
Mercury (total)	mg/L	0.00001	0.0002	0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenois				
4AAP-Phenolics	mg/L	0.002	0.001	0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
	mg/L	0.002		V 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



### CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

Sample Number 8 MATRIX: WATER

> Sample Name BH 22-17

L1 =	PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E				Sample Matrix	Ground Water	
					Sample Date	03/11/2022	
1	Parameter	Units	RL	L1		Result	
VO	Cs - BTEX						
	Benzene	mg/L	0.0005	0.1		< 0.0005	
	Ethylbenzene	mg/L	0.0005	0.008		< 0.0005	
	Toluene	mg/L	0.0005	0.0008		< 0.0005	
	Xylene (total)	mg/L	0.0005			< 0.0005	
	m-p-xylene	mg/L	0.0005	0.002		< 0.0005	
	o-xylene	mg/L	0.0005	0.04		< 0.0005	



### **EXCEEDANCE SUMMARY**

PWQO\_L / WATER / - - Table 2 -General - July 1999 PIBS 3303E

Parameter Method Units Result L1

### BH 22-17

Cobalt	SM 3030/EPA 200.8	mg/L	0.00106	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0025	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.098	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)		Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)			ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recove	ry Limits
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	CS/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)		Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	Matrix Spike / Ref.	
	Reference			Blank	RPD	AC (%)	Spike	Recovery Limits (%)		Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)	
						(70)	(%)	Low	High	(%)	Low	High	
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130	
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130	
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130	
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130	
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130	
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130	
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130	
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130	
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130	
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130	
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130	
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130	
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130	
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130	
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130	
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130	
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130	
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130	

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#### QC SUMMARY

### Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD		Spike	Recove	-	Spike Recovery	Recovery Limits	
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	55					М	Matrix Spike / Ref.				
	Reference			Blank RPD		AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	J		3		Method			CS/Spike Blank		M	latrix Spike / Ref	•
	Reference			Blank	RPD		· ·	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)		
						(%)	Recovery (%)	Low	High	(%)	Low	High	
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA			

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits 6)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125	

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			M	atrix Spike / Re	f.
	Reference				nk RPD	AC (%)	Spike	Recovery Limits (%)		Spike Recovery		ery Limits %)
							Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

# Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits 6)
		(%)	Recovery (%)	Low	High	(%)	Low	High				
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

# **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125	

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### QC SUMMARY

# Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	(%)		Spike Recovery		ery Limits %)
						(75)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
(perchloroethylene)												
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

- RL Reporting Limit.
- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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# Request for Laboratory Services and CHAIN OF CUSTODY

Request for Laboratory Services and CHAIN OF CUS
Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON KOL 2HO Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment

Received By: Michael Brigant Received Date: MW 1 3 122 (mm/dd Received Time: 17 : 18 (hr: min)	3/yy)	Received By (s Custody Seal I	Present: Ye	m	rator	Infor	matic		ction	- Lab	use	only		Type:_	Î	c					LAB	LIMS #:	CA-	Cn - 40080 - NOVZ
REPORT INFORMATION		NVOICE INFOR						10-										3						
Company: DS consultents 11d	(same as F	Report Informat	tion)		Quot	ation #												P.O. #	ŧ					11016
Contact: Original Scientes	Company:							2-1	69	-14	26							Site L	ocation/l	D: 14	221	Th	E 010	me Kal, bout
Contact: Ourthy Scentos Address: 521 Hug-7, Dut. Vaughar: ON	Gontact: A:	croumtin	Q.			Quotation #: P.O. #:  Project #: 20 -169 -104 Site Location/ID: 14225 The Good Rd., Bo  TURNAROUND TIME (TAT) REQUIRED (MICHINE)										eville)								
Vaughas ON	Address:		1			TAT's are quoted in business days (exclude statutory holidays & week										ry holidays & weekends).								
Phone:					RUS	Samples received after 6pm or on weekends: TAT begins next business  RUSH TAT (Additional Charges May Apply):										regins next business day								
Fax:	Phone:																		SUBMI					
- 1 1 1 0 1						ify Due											TABLE	WATE	R SAMPI	ES FO	R HUM			ON MUST BE SUBMITTED
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O.Reg 153/04         O.Reg 406/19         Other Regulations:           □ Table 1         □ Res/Park         Soil Texture:         □ Reg 347/558 (3 Day min TA'           □ Table 2         □ Ind/Com         □ Coarse         □ PWQO         □ MMER		T) (T	Sanitary Storm		"	X 1		34		гов			V		Pest	12		er (pleas	e specify			TCLP		
Table 3. Agri/Other Medium/Fine	CCME	Other:	Mun	nicipality:													tests	tests						
Table Appx	MISA.		_ 5	eel		S-Soil)	Z Z	Sb.As.Ba,Be,B,Cd			Aroclar		1				20				Pkg	- Own	D	
Soil Volume		Reportable "See	note		9	DICS C.SAF	, Hg.	2.As.B					3				10				o -	Metals	13 EV	COMMENTS:
RECORD OF SITE CONDITION (RSC	YES [	NO			(N/K)	gar ws),E	uite	NU.Y								ly othe	13	2			izat	□1,4-	□voc □pcs	COMMENTS.
SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered	Metals & Inorganics ind Civi. Chyl pH.(8(HWS),EC.SAR (Ci. Na-water)	Full Metals Suite	ICP Metals only s	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total	F1-F4 + BTEX	F1-F4 only	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or spec	Peel Som	PW/Ch.		Sewer Use:	Water Characterization Pkg	Doors	□B(a)P □ABN □Ignit.	
1 BH 22-12	Nov 03	Pm	17	GW	N	rei.											1	1						Meri-filtera
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8				1																				
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Observations/Comments/Special Instructions													- 6								1			
Sampled By (NAME): Chartery 3 7 / 1	- Wary	l.	Signature:	dhey	Coris			-								(Del)	1	3	20					
Delinestate MANCO	10.219				ing	an	1			_	_		-		Date:	50	01 1	9.7	19.		nm/dd/y			Pink Copy - Client
Revision # 1.5 Note: Submission of samples to SG	S is acknowledgement t		Signature: provided direct				and trans	sportation	n of sam	ples. (2	Submis	sion of	samples		Date:	sidered	authoriza	tion for	completion		nm/dd/y Signatu		poear on t	Yellow & White Copy - SGS his form or be retained on file in

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CA40080-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Garda	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.garda@dsconsultants.ca	SGS Reference	CA40080-NOV22
Project	20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)	Received	11/03/2022
Order Number		Approved	11/11/2022
Samples	Ground Water (1)	Report Number	CA40080-NOV22 R1
		Date Reported	11/11/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029793

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

www.sgs.com





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Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

			_		
MATRIX: WATER				ample Number	8
				Sample Name	BH 22-17
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Dis	scharge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Disch	narge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	169
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.12
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		50
Aluminum (0.2µm)	mg/L	0.001			0.003
Aluminum (total)	mg/L	0.001	50		1.64
Antimony (total)	mg/L	0.0009	5		< 0.0009
		0.0009		0.02	0.0009
Arsenic (total)	mg/L		1		
Cadmium (total)		0.000003	0.7	0.008	0.000013
Chromium (total)	mg/L	0.00008	5	0.08	0.00283
Copper (total)	mg/L	0.0002	3	0.05	0.0025
Cobalt (total)	mg/L	0.000004	5		0.00106
Lead (total)	mg/L	0.00009	3	0.12	0.00108
Manganese (total)	mg/L	0.00001	5	0.05	0.101
Molybdenum (total)	mg/L	0.00004	5		0.00151
Nickel (total)	mg/L	0.0001	3	0.08	0.0021
Phosphorus (total)	mg/L	0.003	10	0.4	0.098
Selenium (total)	mg/L	0.00004	1	0.02	0.00015
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
· '					



CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER				Sample Number	8
				Sample Name	BH 22-17
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Disc	charge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discha	arge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00188
Titanium (total)	mg/L	0.00005	5		0.0409
Zinc (total)	mg/L	0.002	3	0.04	0.006
Microbiology					
E. Coli	cfu/100mL	0		200	0
Nonylphenol and Ethoxylates				'	
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease				'	
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4

CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER			Sa	ample Number	8
				Sample Name	BH 22-17
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Disc	charge - BL_53_2010		;	Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Dischar	arge - BL_53_2010			Sample Date	03/11/2022
Parameter	Units	RL	L1	L2	Result
Other (ORP)					
рН	No unit	0.05	10	9	7.61
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00001
PCBs				'	
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	0.002
	IIIg/L	0.002	<u>'</u>	0.006	0.002
SVOCs			I		
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
· · · ·				0.017	< 0.02
Methyl ethyl ketone	mg/L	0.02	8		
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER		;	Sample Number	8
WATEN.			Sample Name	
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010				Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - BL_53_2010			Sample Date	03/11/2022
Parameter Units	RL	L1	L2	Result
VOCs - BTEX				
Benzene mg/l	0.0005	0.01	0.002	< 0.0005
Ethylbenzene mg/l	0.0005	0.16	0.002	< 0.0005
Toluene mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total) mg/l	0.0005	1.4	0.0044	< 0.0005
m-p-xylene mg/L	0.0005			< 0.0005
o-xylene mg/l	0.0005			< 0.0005



### **EXCEEDANCE SUMMARY**

SANSEW / WATER SANSEW / WATER / - - Peel Table 2 -/ - - Peel Table 1 -Sanitary Sewer Storm Sewer Discharge -Discharge -BL\_53\_2010 BL\_53\_2010 Method Units L1 L2 Result Parameter

### BH 22-17

Total Suspended Solids	SM 2540D	mg/L	169
Manganese	SM 3030/EPA 200.8	mg/L	0.101

15 0.05

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference				AC	Spike		ry Limits %)	Spike Recovery	Recover	-	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

# **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		м	atrix Spike / Re	ſ.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ry Limits %)
						D AC Spike (%) Recovery (%)	Low	High	(%)	Low	High	
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

# Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	RPD AC (%)			ry Limits %)	Spike Recovery	Recove	ry Limits
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	RPD AC (%)			ry Limits %)	Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

# Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

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### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(70)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130

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#### QC SUMMARY

### Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

# Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	atrix Spike / Ref.	•
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery	Recover	ry Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
					(%)	Recovery (%)	Low	High	(%)	Low	High	
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference	Reference		Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	RPD AC (%)			ry Limits %)	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

# **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140
Total												

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#### QC SUMMARY

# Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	:
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

# **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125

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### QC SUMMARY

# Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Ref	ī.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ry Limits %)
						(70)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
(perchloroethylene)												
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

- RL Reporting Limit.
- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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# Request for Laboratory Services and CHAIN OF CUSTODY

Request for Laboratory Services and CHAIN OF CUS
Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON KOL 2HO Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment

Received By: Michael Brigant Received Date: MW 1 3 122 (mm/dd Received Time: 17 : 18 (hr: min)	3/yy)	Received By (s Custody Seal I	Present: Ye	m	rator	Infor	matic		ction	- Lab	use	only		Type:_	Î	c					LAB	LIMS #:	CA-	Cn - 40080 - NOVZ
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Company: DS consultents 11d	(same as F	Report Informat	tion)		Quot	ation #												P.O. #	ŧ					11016
Contact: Original Scientes	Company:					ect#:		2-1	69	-14	26							Site L	ocation/l	D: 14	221	Th	E 010	ne Rd, Bolta eville)
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Table Appx	MISA.		_ 5	eel		S-Soil)	Z Z	Sb.As.Ba,Be,B,Cd			Aroclar		1				20				Pkg	- Own	D	
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RECORD OF SITE CONDITION (RSC	YES [	NO			(N/K)	gar ws),E	uite	NU.Y								ly othe	13	2			izat	□1,4-	□voc □pcs	COMMENTS.
SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered	Metals & Inorganics ind Civi. Chyl pH.(8(HWS),EC.SAR (Ci. Na-water)	Full Metals Suite	ICP Metals only s	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total	F1-F4 + BTEX	F1-F4 only	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or spec	Peel Som	PW/Ch.		Sewer Use:	Water Characterization Pkg	Doors	□B(a)P □ABN □Ignit.	
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Revision # 1.5 Note: Submission of samples to SG	S is acknowledgement t		Signature: provided direct				and trans	sportation	n of sam	ples. (2	Submis	sion of	samples		Date:	sidered	authoriza	tion for	completion		nm/dd/y Signatu		poear on t	Yellow & White Copy - SGS his form or be retained on file in

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CA40033-JUL23 R1

20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	705-652-2143
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	brad.moore@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40033-JUL23
Project	20-169-105, 14155 The Gore Rd, C aledon Macville Properties	Received	07/07/2023
Order Number		Approved	07/14/2023
Samples	Ground Water (1)	Report Number	CA40033-JUL23 R1
		Date Reported	07/14/2023

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 036524

Spike rep slightly high, accepted results based off other QC

### SIGNATORIES

Brad Moore Hon. B.Sc

SGS Canada Inc. 185 Concession St., Lakefield ON, K0L 2H0

t 705-652-2143 f 705-652-6365

www.sgs.com



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CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

MATRIX: WATER			s	ample Number	8
				Sample Name	BH23-1D
1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary Sewer Di	Discharge - BL_	53_2010		Sample Matrix	Ground Water
2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm Sewer Disc	charge - BL_53	3_2010		Sample Date	07/07/2023
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	139
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.12
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		9
Aluminum (total)	mg/L	0.001	50		1.91
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0012
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000014
Chromium (total)	mg/L	0.00008	5	0.08	0.00216
Copper (total)	mg/L	0.0002	3	0.05	0.0042
Cobalt (total)	ma/L	0.000004	5		0.00108
Lead (total)	mg/L	0.00009	3	0.12	0.00157
Manganese (total)	mg/L	0.00001	5	0.05	0.0849
Molybdenum (total)	mg/L	0.00004	5	0.00	0.00148
Nickel (total)	mg/L	0.0001	3	0.08	0.00140
		0.0001			0.129
Phosphorus (total)	mg/L		10	0.4	
Selenium (total)	mg/L	0.00004	1	0.02	< 0.00004
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5		0.00035



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

		s	Sample Number	8
			Sample Name	BH23-1D
ewer Discharge - BL_f	53_2010		Sample Matrix	Ground Water
er Discharge - BL_53	_2010		Sample Date	07/07/2023
Units	RL	L1	L2	Result
mg/L	0.00007	5		0.0562
mg/L	0.002	3	0.04	0.012
			'	
cfu/100mL	0		200	4
mg/L	0.001	0.02		< 0.001
mg/L	0.01	0.2		< 0.01
mg/L	0.01			< 0.01
mg/L	0.01			< 0.01
mg/L	2			< 2
	4	150		< 4
				< 4
	er Discharge - BL_53  Units  mg/L  mg/L  cfu/100mL  mg/L  mg/L  mg/L  mg/L	mg/L 0.00007 mg/L 0.002  cfu/100mL 0  mg/L 0.001 mg/L 0.01 mg/L 0.01 mg/L 0.01 mg/L 0.01	mg/L 0.001 0.2 mg/L 0.001 0.2 mg/L 0.001 0.2 mg/L 0.001 0.2 mg/L 0.01 mg/L 0.01 mg/L 0.01	mg/L 53_2010         Sample Date           Units         RL         L1         L2           mg/L 0.00007         5



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

MATDIY, WATED			9	ample Number	8
MATRIX: WATER				Sample Name	BH23-1D
L4 - CANCEW/WATER / Deal Courselles But and Course	Causa Diaghasa - Di 1	E2 2040		Sample Matrix	Ground Water
L1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary S L2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm Set	-			Sample Date	07/07/2023
Parameter	Wei Discharge - BL_55	_2010 <b>RL</b>	L1	L2	Result
Other (ORP)					
рН	No unit	0.05	10	9	7.95
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PCBs	<del>`</del>				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenois					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
	mg/L	0.002	<u>'</u>	0.000	V 0.002
SVOCs		0.000	0.00	0.045	10.000
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs			l		
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

MATRIX: WATER			s	ample Number	8
				Sample Name	BH23-1D
L1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary	Sewer Discharge - BL_53	3_2010		Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm S	ewer Discharge - BL_53_2	2010		Sample Date	07/07/2023
Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005



### **EXCEEDANCE SUMMARY**

SANSEW / WATER SANSEW / WATER / - - Peel Sewer / - - Peel Sewer Use ByLaw -Use ByLaw - Storm Sanitary Sewer Sewer Discharge -Discharge -BL\_53\_2010 BL\_53\_2010 Parameter Method Units Result L1 L2

# BH23-1D

Total Suspended Solids	SM 2540D	mg/L	139
Manganese	SM 3030/EPA 200.8	mg/L	0.0849

15 0.05

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery (%)	Recover	-	
					(%)	Recovery (%)	Low	High	Low		High		
Sulphate	DIO5026-JUL23	mg/L	2	<2	1	20	106	80	120	110	75	125	

# **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	plicate	LC	LCS/Spike Blank		Matrix Spike / Ref.		
	Reference				' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		(%)		Spike Recovery	Recovery Limits (%)		
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0013-JUL23	mg/L	2	< 2	1	30	101	70	130	131	70	130

# Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	Units RL Method		Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD		Spike	Recovery Limits (%)		Spike Recovery (%)		ry Limits %)	
					(%)	Recovery (%)	Low	High	Low		High		
Cyanide (total)	SKA0065-JUL23	mg/L	0.01	<0.01	ND	10	101	90	110	NV	75	125	

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duplicate LCS		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0144-JUL23	mg/L	0.06	<0.06	3	10	101	90	110	104	75	125

# Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0016-JUL23	mg/L	0.00001	< 0.00001	0	20	105	80	120	104	70	130

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### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recovery Limits (%)		Spike Recovery		ery Limits %)
							(%)	Low	High	(%)	Low	High
Silver (total)	EMS0048-JUL23	mg/L	0.00005	<0.00005	ND	20	96	90	110	93	70	130
Aluminum (total)	EMS0048-JUL23	mg/L	0.001	<0.001	2	20	93	90	110	88	70	130
Arsenic (total)	EMS0048-JUL23	mg/L	0.0002	<0.0002	4	20	98	90	110	107	70	130
Cadmium (total)	EMS0048-JUL23	mg/L	0.000003	<0.000003	4	20	95	90	110	108	70	130
Cobalt (total)	EMS0048-JUL23	mg/L	0.000004	<0.000004	5	20	94	90	110	103	70	130
Chromium (total)	EMS0048-JUL23	mg/L	0.00008	<0.00008	1	20	98	90	110	110	70	130
Copper (total)	EMS0048-JUL23	mg/L	0.0002	<0.0002	4	20	98	90	110	112	70	130
Manganese (total)	EMS0048-JUL23	mg/L	0.00001	<0.00001	3	20	100	90	110	115	70	130
Molybdenum (total)	EMS0048-JUL23	mg/L	0.00004	<0.00004	2	20	103	90	110	116	70	130
Nickel (total)	EMS0048-JUL23	mg/L	0.0001	<0.0001	1	20	99	90	110	106	70	130
Lead (total)	EMS0048-JUL23	mg/L	0.00009	<0.00009	1	20	98	90	110	107	70	130
Phosphorus (total)	EMS0048-JUL23	mg/L	0.003	<0.003	5	20	102	90	110	NV	70	130
Antimony (total)	EMS0048-JUL23	mg/L	0.0009	<0.0009	ND	20	109	90	110	103	70	130
Selenium (total)	EMS0048-JUL23	mg/L	0.00004	<0.00004	0	20	96	90	110	110	70	130
Tin (total)	EMS0048-JUL23	mg/L	0.00006	<0.00006	ND	20	99	90	110	NV	70	130
Titanium (total)	EMS0048-JUL23	mg/L	0.00007	<0.00005	1	20	99	90	110	NV	70	130
Zinc (total)	EMS0048-JUL23	mg/L	0.002	<0.002	1	20	94	90	110	112	70	130

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits		
							Recovery (%)	Low	High	(%)	Low	High	
E. Coli	BAC9121-JUL23	cfu/100mL	-	ACCEPTED	ACCEPTE								
					D								

# Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Method Dupli		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	Blank RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0145-JUL23	mg/L	0.01	<0.01			84	55	120			
Nonylphenol Ethoxylates	GCM0145-JUL23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0145-JUL23	mg/L	0.01	<0.01			82	55	120			
Nonylphenol	GCM0145-JUL23	mg/L	0.001	<0.001			63	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0167-JUL23	mg/L	2	<2	NSS	20	102	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0167-JUL23	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0167-JUL23	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0227-JUL23	No unit	0.05	NA	1		99			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0094-JUL23	mg/L	0.002	<0.002	ND	10	91	80	120	101	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0105-JUL23	mg/L	0.0001	<0.0001	NSS	30	136	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	ſ.
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0110-JUL23	mg/L	0.002	< 0.002	NSS	30	116	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0110-JUL23	mg/L	0.002	< 0.002	NSS	30	105	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0250-JUL23	mg/L	2	< 2	1	10	96	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	f.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0074-JUL23	as N mg/L	0.5	<0.5	6	10	97	90	110	92	75	125

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### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	i.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(70)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	103	60	130	111	50	140
1,2-Dichlorobenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	86	60	130	92	50	140
1,4-Dichlorobenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	86	60	130	90	50	140
Benzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	88	60	130	94	50	140
Chloroform	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	84	60	130	91	50	140
cis-1,2-Dichloroethene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	96	50	140
Ethylbenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	95	50	140
m-p-xylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	92	60	130	97	50	140
Methyl ethyl ketone	GCM0120-JUL23	mg/L	0.02	<0.02	ND	30	105	50	140	112	50	140
Methylene Chloride	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	90	60	130	97	50	140
o-xylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	93	60	130	97	50	140
Styrene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	95	50	140
Tetrachloroethylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	93	60	130	96	50	140
(perchloroethylene)												
Toluene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	79	60	130	90	50	140
Trichloroethylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	102	60	130	106	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

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This report supersedes all previous versions.

-- End of Analytical Report --

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### Request for Laboratory Services and CHAIN OF CUSTODY

Laboratory Information Section - Lab use only

No: 036524

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON KOL 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment

Custody Seal Present: Yes No

Received By (signature):

- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Received By: Atmeer

Received Date: 07/07/23 (mm/dd/yy)

Received Time: 10:30 (hr:min) CA 40633-54133 Cooling Agent Present: Yes No Type: Tupe: Tupe: Type: Tupe: Custody Seal Intact: Yes No REPORT INFORMATION INVOICE INFORMATION Company: DS (consultants Ltd. Desame as Report Information)
Contact: Devoting Santos Company: Site Location/ID: 14155 The Good Rd.
AT) REQUIRED Catedon Project #: 20-169-105 Address: 6221 Flery 7, TURNAROUND TIME (TAT) REQUIRED TAT's are quoted in business day, texclude statutory holidays & weakeness Samples received after 6pm or on weekenes. AT hegins hax business and Regular TAT (5-7days) Unit 16, Vaughan Phone: 905 - 329 - 2735 RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION Email: OS embos @ do consultar Email:
REGULATIONS \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Specify Due Date: WITH SGS DRINKING WATER CHAIN OF CUSTODY **ANALYSIS REQUESTED** SVOC PCB PHC VOC Pest SPLP TCLP M & I Other (please specify) O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Sanitary Table 2 Ind/Com Coarse PWQO MMER Storm tests Journan Agri/Other Medium/Fine Municipality Table 3 CCME Other MISA Table Motok Characterization F Soil Volume < <350m3 >350m3 ODWS Not Reportable \*See note Metals & Inorganics Dvoc COMMENTS: Full Metals Suite RECORD OF SITE CONDITION (RSC) YES NO ICP Metals only F1-F4 only Pesticides PAHs only DATE TIME # OF DABN SAMPLE IDENTIFICATION MATRIX SVOCS all Inci PAHIL. VOCs all incl BTEX SAMPLED SAMPLED BOTTLES Specify pk **Dignit** Am BH 23-1 D 717123 (au) Non hillere Observations/Comments/Special Instructions Sampled By (NAME): Signature: Relinquished by (NAME): the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by small to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at ate of Issue 07 JUNE 2023 http://www.sgs.com/terms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein







CA40033-JUL23 R1

20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	705-652-2143
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	brad.moore@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40033-JUL23
Project	20-169-105, 14155 The Gore Rd, C aledon Macville Properties	Received	07/07/2023
Order Number		Approved	07/14/2023
Samples	Ground Water (1)	Report Number	CA40033-JUL23 R1
		Date Reported	10/11/2023

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 036524

Spike rep slightly high, accepted results based off other QC

### SIGNATORIES

Brad Moore Hon. B.Sc

SGS Canada Inc. 185 Concession St., Lakefield ON, K0L 2H0

t 705-652-2143 f 705-652-6365

www.sgs.com



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CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

Samplers: Ken

		Sample Number	8
		Sample Name	BH23-1D
3 3303E		Sample Matrix	Ground Water
		•	07/07/2023
Units	RL	L1	Result
mg/L	2		< 4↑
mg/L	2		139
as N mg/L	0.5		< 0.5
mg/L	0.06		0.12
mg/L	0.01		< 0.01
mg/L	2		9
mg/L	0.001		1.91
mg/L	0.0009	0.02	< 0.0009
mg/L	0.0002	0.005	0.0012
mg/L	0.000003	0.0001	0.000014
mg/L	0.00008	0.1	0.00216
mg/L	0.0002	0.001	0.0042
mg/L	0.000004	0.0009	0.00108
mg/L	0.00009	0.005	0.00157
mg/L	0.00001		0.0849
mg/L	0.00004	0.04	0.00148
mg/L	0.0001	0.025	0.0027
mg/L	0.003	0.01	0.129
mg/L	0.00004	0.1	< 0.00004
mg/L	0.00005	0.0001	< 0.00005
			0.00035
	mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	Units         RL           mg/L         2           mg/L         2           as N mg/L         0.5           mg/L         0.06           mg/L         0.01           mg/L         0.001           mg/L         0.0009           mg/L         0.00002           mg/L         0.00008           mg/L         0.00004           mg/L         0.00001           mg/L         0.00004           mg/L         0.0001           mg/L         0.0001           mg/L         0.0001           mg/L         0.0001           mg/L         0.0004           mg/L         0.00004           mg/L         0.00004           mg/L         0.00005	Sample Name Sample Matrix Sample Date  Units RL L1  mg/L 2 mg/L 2 as N mg/L 0.05  mg/L 0.001 mg/L 0.0001 mg/L 0.0002 mg/L 0.0002 mg/L 0.00003 mg/L 0.00008 mg/L 0.00008 mg/L 0.00008 mg/L 0.00008 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.000004 0.0009 mg/L 0.00001 mg/L 0.00001 mg/L 0.00001 mg/L 0.00001 mg/L 0.00001 mg/L 0.00001 mg/L 0.00001 mg/L 0.00004 0.005 mg/L 0.00001 mg/L 0.00004 0.005 mg/L 0.00004 0.005 mg/L 0.00004 0.001



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

Samplers: Ken

AATDIY: MATED			Sample Number	8
MATRIX: WATER			•	
			Sample Name	BH23-1D
1 = PWQO_L / WATER / Table 2 - General - July 1999 I	PIBS 3303E		Sample Matrix	
			Sample Date	07/07/2023
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00007		0.0562
Zinc (total)	mg/L	0.002	0.02	0.012
Microbiology				
E. Coli	cfu/100mL	0	100	4
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Dil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

Samplers: Ken

MATRIX: WATER         Sample Number         8           L1 = PWQQ_L / WATER / Table 2 - General - July 1999 PIBS 3303E         Sample Matrix         Ground Wate Sample Date         07/07/2023           Parameter         Units         RL         L1         Result           Other (ORP)           PH         No unit         0.05         8.6         7.95           Mercury (total)         mg/L         0.0001         0.0002         <0.00001
Sample Matrix   Sample Date   O7/07/2023
Parameter         Units         RL         L1         Result           Other (ORP)         PH         No unit         0.05         8.6         7.95           Mercury (total)         mg/L         0.00001         0.0002         < 0.00001
Parameter         Units         RL         L1         Result           Other (ORP)           pH         No unit         0.05         8.6         7.95           Mercury (total)         mg/L         0.00001         0.0002         < 0.00001
Other (ORP)         PH         No unit         0.05         8.6         7.95           Mercury (total)         mg/L         0.00001         0.0002         < 0.00001
pH         No unit         0.05         8.6         7.95           Mercury (total)         mg/L         0.00001         0.0002         < 0.00001
Mercury (total)         mg/L         0.00001         0.0002         < 0.00001           PCBs           Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         < 0.0001
PCBs           Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         < 0.0001
Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         < 0.0001           Phenols           4AAP-Phenolics         mg/L         0.002         0.001         < 0.002
Phenols           4AAP-Phenolics         mg/L         0.002         0.001         < 0.002
4AAP-Phenolics         mg/L         0.002         0.001         < 0.002           SVOCs         di-n-Butyl Phthalate         mg/L         0.002         < 0.002
4AAP-Phenolics         mg/L         0.002         0.001         < 0.002           SVOCs           di-n-Butyl Phthalate         mg/L         0.002         < 0.002
di-n-Butyl Phthalate         mg/L         0.002         < 0.002           Bis(2-ethylhexyl)phthalate         mg/L         0.002         < 0.002
di-n-Butyl Phthalate         mg/L         0.002         < 0.002           Bis(2-ethylhexyl)phthalate         mg/L         0.002         < 0.002
Bis(2-ethylhexyl)phthalate         mg/L         0.002         < 0.002           VOCs         Chloroform         mg/L         0.0005         < 0.0005           1,2-Dichlorobenzene         mg/L         0.0005         < 0.0005
VOCs         mg/L         0.0005         < 0.0005           1,2-Dichlorobenzene         mg/L         0.0005         < 0.0005
Chloroform         mg/L         0.0005         < 0.0005           1,2-Dichlorobenzene         mg/L         0.0005         < 0.0005
1,2-Dichlorobenzene       mg/L       0.0005       < 0.0005
1,4-Dichlorobenzene       mg/L       0.0005       < 0.0005
cis-1,2-Dichloroethene mg/L 0.0005 < 0.0005
trans-1,3-Dichloropropene mg/L 0.0005 < 0.0005
Methylene Chloride         mg/L         0.0005         0.1         < 0.0005
1,1,2,2-Tetrachloroethane mg/L 0.0005 0.07 < 0.0005
Methyl ethyl ketone mg/L 0.02 < 0.02
Styrene mg/L 0.0005 < 0.0005
Tetrachloroethylene (perchloroethylene) mg/L 0.0005 0.05 < 0.0005
Trichloroethylene mg/L 0.0005 0.02 < 0.0005



CA40033-JUL23 R1

Client: DS Consultants

Project: 20-169-105, 14155 The Gore Rd, C aledon Macville Properties

Project Manager: Dorothy Santos

Samplers: Ken

MATRIX: WATER Sample Number 8

Sample Name BH23-1D

			Campio Hamo	2.120 .2
3E			Sample Matrix	Ground Water
			Sample Date	07/07/2023
Units	RL	L1		Result
mg/L	0.0005	0.1		< 0.0005
mg/L	0.0005	0.008		< 0.0005
mg/L	0.0005	0.0008		< 0.0005
mg/L	0.0005			< 0.0005
mg/L	0.0005	0.002		< 0.0005
mg/L	0.0005	0.04		< 0.0005
	mg/L mg/L mg/L mg/L mg/L	Units         RL           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005	Units         RL         L1           mg/L         0.0005         0.1           mg/L         0.0005         0.008           mg/L         0.0005         0.0008           mg/L         0.0005         0.002	Sample Matrix   Sample Date



### **EXCEEDANCE SUMMARY**

### BH23-1D

Cobalt	SM 3030/EPA 200.8	mg/L	0.00108	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0042	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.129	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	LCS/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	PD AC Spike (%) Recovery	_		ry Limits %)	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5026-JUL23	mg/L	2	<2	1	20	106	80	120	110	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank	S/Spike Blank		Matrix Spike / Ref.	
	Reference			Blank	RPD	AC	%) Recovery	Recovery Limits (%)		Spike Recovery	Recovery Limits	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0013-JUL23	mg/L	2	< 2	1	30	101	70	130	131	70	130

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		f.
	Reference			Blank	RPD	AC (%)	Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0065-JUL23	mg/L	0.01	<0.01	ND	10	101	90	110	NV	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank	6/Spike Blank		Matrix Spike / Ref.	
	Reference			Blank	RPD	AC	Spike Recovery	Recovery Limits (%)		Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0144-JUL23	mg/L	0.06	<0.06	3	10	101	90	110	104	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	Units RL	Method Blank	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
R	Reference				RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
								Low	High	(%)	Low	High
Mercury (total)	EHG0016-JUL23	mg/L	0.00001	< 0.00001	0	20	105	80	120	104	70	130

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### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits 6)	Spike Recovery		ery Limits %)	
						(75)	(%)	Low	High	(%)	Low	High	
Silver (total)	EMS0048-JUL23	mg/L	0.00005	<0.00005	ND	20	96	90	110	93	70	130	
Aluminum (total)	EMS0048-JUL23	mg/L	0.001	<0.001	2	20	93	90	110	88	70	130	
Arsenic (total)	EMS0048-JUL23	mg/L	0.0002	<0.0002	4	20	98	90	110	107	70	130	
Cadmium (total)	EMS0048-JUL23	mg/L	0.000003	<0.000003	4	20	95	90	110	108	70	130	
Cobalt (total)	EMS0048-JUL23	mg/L	0.000004	<0.000004	5	20	94	90	110	103	70	130	
Chromium (total)	EMS0048-JUL23	mg/L	0.00008	<0.00008	1	20	98	90	110	110	70	130	
Copper (total)	EMS0048-JUL23	mg/L	0.0002	<0.0002	4	20	98	90	110	112	70	130	
Manganese (total)	EMS0048-JUL23	mg/L	0.00001	<0.00001	3	20	100	90	110	115	70	130	
Molybdenum (total)	EMS0048-JUL23	mg/L	0.00004	<0.00004	2	20	103	90	110	116	70	130	
Nickel (total)	EMS0048-JUL23	mg/L	0.0001	<0.0001	1	20	99	90	110	106	70	130	
Lead (total)	EMS0048-JUL23	mg/L	0.00009	<0.00009	1	20	98	90	110	107	70	130	
Phosphorus (total)	EMS0048-JUL23	mg/L	0.003	<0.003	5	20	102	90	110	NV	70	130	
Antimony (total)	EMS0048-JUL23	mg/L	0.0009	<0.0009	ND	20	109	90	110	103	70	130	
Selenium (total)	EMS0048-JUL23	mg/L	0.00004	<0.00004	0	20	96	90	110	110	70	130	
Tin (total)	EMS0048-JUL23	mg/L	0.00006	<0.00006	ND	20	99	90	110	NV	70	130	
Titanium (total)	EMS0048-JUL23	mg/L	0.00007	<0.00005	1	20	99	90	110	NV	70	130	
Zinc (total)	EMS0048-JUL23	mg/L	0.002	<0.002	1	20	94	90	110	112	70	130	

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENVIMIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits		
						(%)	Recovery (%)	Low	High	(%)	Low	High	
E. Coli	BAC9121-JUL23	cfu/100mL	-	ACCEPTED	ACCEPTE								
					D								

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike Recovery	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	(%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0145-JUL23	mg/L	0.01	<0.01			84	55	120			
Nonylphenol Ethoxylates	GCM0145-JUL23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0145-JUL23	mg/L	0.01	<0.01			82	55	120			
Nonylphenol	GCM0145-JUL23	mg/L	0.001	<0.001			63	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0167-JUL23	mg/L	2	<2	NSS	20	102	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0167-JUL23	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0167-JUL23	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	•
	Reference			Blank	RPD	AC (%)	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0227-JUL23	No unit	0.05	NA	1		99			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	I.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0094-JUL23	mg/L	0.002	<0.002	ND	10	91	80	120	101	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Du	plicate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0105-JUL23	mg/L	0.0001	<0.0001	NSS	30	136	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0110-JUL23	mg/L	0.002	< 0.002	NSS	30	116	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0110-JUL23	mg/L	0.002	< 0.002	NSS	30	105	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0250-JUL23	mg/L	2	< 2	1	10	96	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	f.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0074-JUL23	as N mg/L	0.5	<0.5	6	10	97	90	110	92	75	125

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### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Ref	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recove	•	Spike Recovery		ory Limits %)
						(70)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	103	60	130	111	50	140
1,2-Dichlorobenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	86	60	130	92	50	140
1,4-Dichlorobenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	86	60	130	90	50	140
Benzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	88	60	130	94	50	140
Chloroform	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	84	60	130	91	50	140
cis-1,2-Dichloroethene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	96	50	140
Ethylbenzene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	95	50	140
m-p-xylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	92	60	130	97	50	140
Methyl ethyl ketone	GCM0120-JUL23	mg/L	0.02	<0.02	ND	30	105	50	140	112	50	140
Methylene Chloride	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	90	60	130	97	50	140
o-xylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	93	60	130	97	50	140
Styrene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	91	60	130	95	50	140
Tetrachloroethylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	93	60	130	96	50	140
(perchloroethylene)												
Toluene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	79	60	130	90	50	140
Trichloroethylene	GCM0120-JUL23	mg/L	0.0005	<0.0005	ND	30	102	60	130	106	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier**: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL. **Matrix Spike Qualifier**: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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### Request for Laboratory Services and CHAIN OF CUSTODY

Laboratory Information Section - Lab use only

No: 036524

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON KOL 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment

Custody Seal Present: Yes No

Received By (signature):

- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Received By: Atmeer

Received Date: 07/07/23 (mm/dd/yy)

Received Time: 10:30 (hr:min) CA 40633-54133 Cooling Agent Present: Yes No Type: Tupe: Tupe: Type: Tupe: Custody Seal Intact: Yes No REPORT INFORMATION INVOICE INFORMATION Company: DS (consultants Ltd. Desame as Report Information)
Contact: Devoting Santos Company: Site Location/ID: 14155 The Good Rd.
AT) REQUIRED Catedon Project #: 20-169-105 Address: 6221 Flery 7, TURNAROUND TIME (TAT) REQUIRED TAT's are quoted in business day, texclude statutory holidays & weakeness Samples received after 6pm or on weekenes. AT hegins hax business and Regular TAT (5-7days) Unit 16, Vaughan Phone: 905 - 329 - 2735 RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION Email: OS embos @ do consultar Email:
REGULATIONS \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Specify Due Date: WITH SGS DRINKING WATER CHAIN OF CUSTODY **ANALYSIS REQUESTED** SVOC PCB PHC VOC Pest SPLP TCLP M & I Other (please specify) O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Sanitary Table 2 Ind/Com Coarse PWQO MMER Storm tests Journan Agri/Other Medium/Fine Municipality: Table 3 CCME Other MISA Table Motok Characterization F Soil Volume < <350m3 >350m3 ODWS Not Reportable \*See note Metals & Inorganics Dvoc COMMENTS: Full Metals Suite RECORD OF SITE CONDITION (RSC) YES NO ICP Metals only F1-F4 only Pesticides PAHs only DATE TIME # OF DABN SAMPLE IDENTIFICATION MATRIX SVOCS all Inci PAHIL. VOCs all incl BTEX SAMPLED SAMPLED BOTTLES Specify pk **Dignit** Am BH 23-1 D 717123 (au) Non hillere Observations/Comments/Special Instructions Sampled By (NAME): Signature: Relinquished by (NAME): the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by small to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at ate of Issue 07 JUNE 2023 http://www.sgs.com/terms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein







CA40149-AUG23 RFinal 2

20-169-105, Macville

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	s	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	705-652-2000
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40149-AUG23
Project	20-169-105, Macville	Received	08/14/2023
Order Number		Approved	08/21/2023
Samples	Ground Water (1)	Report Number	CA40149-AUG23 RFinal 2
		Date Reported	10/10/2023

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 036525

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

t 705-652-2000 f 705-652-6365

www.sgs.com



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Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

MATRIX: WATER			Sa	ample Number	8
				Sample Name	PW1
1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary	y Sewer Discharge - BL_	53_2010	;	Sample Matrix	Ground Water
.2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm S	Sewer Discharge - BL_53	3_2010		Sample Date	14/08/2023
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	3
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics				,	
Fluoride	mg/L	0.06	10		0.09
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		63
Aluminum (total)	mg/L	0.001	50		0.020
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0004
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000004
Chromium (total)	mg/L	0.00008	5	0.08	0.00017
Copper (total)	mg/L	0.0002	3	0.05	0.0024
Cobalt (total)	mg/L	0.000004	5		0.000365
Lead (total)	mg/L	0.00009	3	0.12	< 0.00009
Manganese (total)	mg/L	0.00001	5	0.05	0.0449
Molybdenum (total)	mg/L	0.00004	5		0.00106
Nickel (total)	mg/L	0.0001	3	0.08	0.0010
Phosphorus (total)	mg/L	0.003	10	0.4	0.006
Selenium (total)	mg/L	0.00004	1	0.02	0.00005
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5	V2	0.00463
Till (total)	iilg/L	0.00000	5		0.00403



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

MATRIX: WATER			;	Sample Number	8
				Sample Name	PW1
L1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary	Sewer Discharge - BL_5	53_2010		Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm Se	ewer Discharge - BL_53	_2010		Sample Date	14/08/2023
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00007	5		0.00062
Zinc (total)	mg/L	0.002	3	0.04	0.023
Microbiology					
E. Coli	cfu/100mL	0		200	0
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

			_		6
MATRIX: WATER				ample Number	8
				Sample Name	PW1
L1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanitary Se	ewer Discharge - BL_5	53_2010		Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm Sew	ver Discharge - BL_53_	_2010		Sample Date	14/08/2023
Parameter	Units	RL	L1	L2	Result
Other (ORP)					
рН	No unit	0.05	10	9	7.70
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PCBs				'	
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenois					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
	mg/L	0.002		0.000	V 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene		0.0005	0.4	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

MATRIX: WATER			S	Sample Number	8
				Sample Name	PW1
L1 = SANSEW / WATER / Peel Sewer Use ByLaw - Sanit	itary Sewer Discharge - BL_53	3_2010		Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Sewer Use ByLaw - Storm	m Sewer Discharge - BL_53_2	2010		Sample Date	14/08/2023
Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005



### **EXCEEDANCE SUMMARY**

No exceedances are present above the regulatory limit(s) indicated

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5041-AUG23	mg/L	2	<2	ND	20	103	80	120	106	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	icate LC		CS/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0027-AUG23	mg/L	2	< 2	6	30	97	70	130	NV	70	130

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0141-AUG23	mg/L	0.01	<0.01	ND	10	93	90	110	90	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		Recovery Limits (%)		Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0310-AUG23	mg/L	0.06	<0.06	ND	10	100	90	110	108	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch	Units RL Method Duplicate LCS/Spike Blank					Matrix Spike / Ref.					
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0026-AUG23	mg/L	0.00001	< 0.00001	0	20	103	80	120	93	70	130

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#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(75)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0090-AUG23	mg/L	0.00005	<0.00005	ND	20	98	90	110	70	70	130
Aluminum (total)	EMS0090-AUG23	mg/L	0.001	<0.001	1	20	100	90	110	94	70	130
Arsenic (total)	EMS0090-AUG23	mg/L	0.0002	<0.0002	2	20	96	90	110	94	70	130
Cadmium (total)	EMS0090-AUG23	mg/L	0.000003	<0.000003	11	20	98	90	110	80	70	130
Cobalt (total)	EMS0090-AUG23	mg/L	0.000004	<0.000004	0	20	96	90	110	76	70	130
Chromium (total)	EMS0090-AUG23	mg/L	0.00008	<0.00008	9	20	95	90	110	96	70	130
Copper (total)	EMS0090-AUG23	mg/L	0.0002	<0.0002	4	20	97	90	110	98	70	130
Manganese (total)	EMS0090-AUG23	mg/L	0.00001	<0.00001	1	20	102	90	110	101	70	130
Molybdenum (total)	EMS0090-AUG23	mg/L	0.00004	<0.00004	3	20	98	90	110	101	70	130
Nickel (total)	EMS0090-AUG23	mg/L	0.0001	<0.0001	1	20	98	90	110	91	70	130
Lead (total)	EMS0090-AUG23	mg/L	0.00009	<0.00009	2	20	103	90	110	84	70	130
Phosphorus (total)	EMS0090-AUG23	mg/L	0.003	<0.003	2	20	104	90	110	NV	70	130
Antimony (total)	EMS0090-AUG23	mg/L	0.0009	<0.0009	ND	20	101	90	110	103	70	130
Selenium (total)	EMS0090-AUG23	mg/L	0.00004	<0.00004	16	20	101	90	110	109	70	130
Tin (total)	EMS0090-AUG23	mg/L	0.00006	<0.00006	17	20	103	90	110	NV	70	130
Titanium (total)	EMS0090-AUG23	mg/L	0.00007	<0.00005	1	20	99	90	110	NV	70	130
Zinc (total)	EMS0090-AUG23	mg/L	0.002	<0.002	1	20	95	90	110	87	70	130

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#### QC SUMMARY

### Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference		Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9234-AUG23	cfu/100mL	-	ACCEPTED	ACCEPTE							

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Ref	•
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0217-AUG23	mg/L	0.01	<0.01			93	55	120			
Nonylphenol Ethoxylates	GCM0217-AUG23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0217-AUG23	mg/L	0.01	<0.01			94	55	120			
Nonylphenol	GCM0217-AUG23	mg/L	0.001	<0.001			94	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0236-AUG23	mg/L	2	<2	NSS	20	96	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike	Recove	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0236-AUG23	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0236-AUG23	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0288-AUG23	No unit	0.05	NA	0		100			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0145-AUG23	mg/L	0.002	<0.002	ND	10	110	80	120	90	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0298-AUG23	mg/L	0.0001	<0.0001	NSS	30	105	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0262-AUG23	mg/L	0.002	< 0.002	NSS	30	111	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0262-AUG23	mg/L	0.002	< 0.002	NSS	30	108	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0303-AUG23	mg/L	2	< 2	0	10	97	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	f.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0150-AUG23	as N mg/L	0.5	<0.5	ND	10	100	90	110	97	75	125

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### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recover	•	Spike Recovery		ery Limits %)
						(70)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	106	60	130	100	50	140
1,2-Dichlorobenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	103	60	130	99	50	140
1,4-Dichlorobenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	100	60	130	97	50	140
Benzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
Chloroform	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
cis-1,2-Dichloroethene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Ethylbenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	100	60	130	99	50	140
m-p-xylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	101	60	130	100	50	140
Methyl ethyl ketone	GCM0269-AUG23	mg/L	0.02	<0.02	ND	30	95	50	140	93	50	140
Methylene Chloride	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	97	60	130	96	50	140
o-xylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	102	60	130	102	50	140
Styrene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	102	60	130	98	50	140
Tetrachloroethylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	98	50	140
(perchloroethylene)												
Toluene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
Trichloroethylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier**: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL. **Matrix Spike Qualifier**: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

- RL Reporting Limit.
- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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### Request for Laboratory Services and CHAIN OF CUSTODY

No:036525

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone; 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, NGE 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Received By: Tel and Lad Received Date: 08 / 14 / 23 (mm/dd/s Received Time: 12 : 3.0 (hr : min)	y)	Custody Seal Int	esent: Yes No act: Yes No			Cooli	ng Agen erature	t Preso Upon f	ent: Y Receip	es 🖸	No !	_q	Тура	- c						L	AB LIMS	#: <u>C</u>	AY	0 M9-AU6)																																						
Company: DS Consultants	(same as F	Report Information		18.70	otation #	:	~		a-	- 16	-						N-358	#:	10.00	1 a				2016																																						
Contact: Don't Sounds	Company: Contact:	Total said a	6 555a 7	Pro	Project#: 20-169- 105							URNA	Site Location/ID: Macuille NAROUND TIME (TAT) REQUIRED																																																	
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6221- Huy 7- unit 16 Uhijhar Phone: (905) 329-2735	2000	3.5		RUS	RUSH TAT (Additional Charges May Apply):								2 Days 3 Days 4 Days																																																	
Fax:	Phone:	1500		PLE	PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE										200					Air Committee Committee																																										
Email: dsantogodsansultants.ca	Email:			Spe	Specify Due Date: 'NOTE: DRINKING (PO							NG (PO				MPLES I					N MUST BE SUBMITTE																																									
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O.Reg 153/04 O.Reg 406/19	Other Regulations: Sewer By-Law:				M	81	No.	SV	OC	PCB	PI	HC	V	C	Pest		Oth	ner (pl	easo spe	cify)	SF	LP TO	CLP																																							
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CA40149-AUG23 RFinal 2

20-169-105, Macville

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	S	LABORATORY DETAIL	S
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	705-652-2000
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	dsantos@dsconsultants.ca	SGS Reference	CA40149-AUG23
Project	20-169-105, Macville	Received	08/14/2023
Order Number		Approved	08/21/2023
Samples	Ground Water (1)	Report Number	CA40149-AUG23 RFinal 2
		Date Reported	05/28/2024

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 036525

SIGNATORIES

Maarit Wolfe, Hon.B.Sc Luvoye

SGS Canada Inc. 185 Concession St., Lakefield ON, K0L 2H0 t 705-652-2000 f 705-652-6365

> Member of the SGS Group (SGS SA) 1 / 18

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Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

Samplers: Dorothy Santos

		Sample Number	8
		Sample Name	PW1
S 3303E		Sample Matrix	Ground Water
		Sample Date	14/08/2023
Units	RL	L1	Result
mg/L	2		< 4↑
mg/L	2		3
as N mg/L	0.5		< 0.5
mg/L	0.06		0.09
mg/L	0.01		< 0.01
mg/L	2		63
mg/L	0.001		0.020
mg/L	0.0009	0.02	< 0.0009
mg/L	0.0002	0.005	0.0004
mg/L	0.000003	0.0001	0.000004
mg/L	0.00008	0.1	0.00017
mg/L	0.0002	0.001	0.0024
mg/L	0.000004	0.0009	0.000365
mg/L	0.00009	0.005	< 0.00009
mg/L	0.00001		0.0449
mg/L	0.00004	0.04	0.00106
mg/L	0.0001	0.025	0.0010
mg/L	0.003	0.01	0.006
mg/L	0.00004	0.1	0.00005
mg/L	0.00005	0.0001	< 0.00005
mg/L	0.00006		0.00463
	mg/L mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	Units         RL           mg/L         2           mg/L         2           as N mg/L         0.5           mg/L         0.06           mg/L         0.01           mg/L         0.001           mg/L         0.0001           mg/L         0.0002           mg/L         0.00003           mg/L         0.00003           mg/L         0.00004           mg/L         0.00004           mg/L         0.00001           mg/L         0.0001           mg/L         0.0003           mg/L         0.0001           mg/L         0.0003           mg/L         0.00004	Sample Name Sample Matrix Sample Date  Units RL L1  mg/L 2 mg/L 2 as N mg/L 0.05  mg/L 0.006 mg/L 0.001 mg/L 0.0001 mg/L 0.0009 mg/L 0.0002 mg/L 0.0002 mg/L 0.00003 0.0001 mg/L 0.00008 0.1 mg/L 0.00008 0.1 mg/L 0.00009 mg/L 0.00009 mg/L 0.00009 mg/L 0.000009 mg/L 0.000004 0.0009 mg/L 0.000001 mg/L 0.000004 0.0009 mg/L 0.000004 0.0009 mg/L 0.000004 0.0005 mg/L 0.000004 0.005 mg/L 0.000004 0.005 mg/L 0.000004 0.005 mg/L 0.00004 0.005 mg/L 0.00004 0.005 mg/L 0.00004 0.001



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

Samplers: Dorothy Santos

MATRIX: WATER			Sample Number	8
			Sample Name	PW1
L1 = PWQO_L / WATER / Table 2 - General - July 1999 F	PIBS 3303E		Sample Matrix	Ground Water
			Sample Date	14/08/2023
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00007		0.00062
Zinc (total)	mg/L	0.002	0.02	0.023
Microbiology				
E. Coli	cfu/100mL	0	100	0
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

Samplers: Dorothy Santos

MATRIX: WATER			Sample Number	8
IVIATRIA. WATER			Sample Name	PW1
11 = DWOO 1 / WATER / - Table 2 Constal July 4000 BIRS 22025			Sample Matrix	Ground Water
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 3303E			Sample Date	14/08/2023
Parameter	Units	RL	L1	Result
Other (ORP)				
рН	No unit	0.05	8.6	7.70
Mercury (total)	mg/L	0.00001	0.0002	< 0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenois				
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs	mg/L	0.002		- 0.002
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene				< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
·	mg/L			
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



Client: DS Consultants

Project: 20-169-105, Macville

Project Manager: Dorothy Santos

Samplers: Dorothy Santos

MATRIX: WATER Sample Number 8

			Sample Na	me PW1
= PWQO_L / WATER / Table 2 - General - July 1999 PIBS 33	303E		Sample Ma	<b>trix</b> Ground Water
			Sample D	ate 14/08/2023
Parameter	Units	RL	L1	Result
/OCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005



### **EXCEEDANCE SUMMARY**

### PW1

Copper	SM 3030/EPA 200.8	mg/L	0.0024	0.001
Zinc	SM 3030/EPA 200.8	mg/L	0.023	0.02
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LCS/Spike Blank			M	Matrix Spike / Ref.	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5041-AUG23	mg/L	2	<2	ND	20	103	80	120	106	75	125

### **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	f.							
	Reference			Blank	RPD	AC					Spike	Recovery Limits (%)		_		Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High						
Biochemical Oxygen Demand (BOD5)	BOD0027-AUG23	mg/L	2	< 2	6	30	97	70	130	NV	70	130						

### Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	Duplicate LC			LCS/Spike Blank			
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0141-AUG23	mg/L	0.01	<0.01	ND	10	93	90	110	90	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0310-AUG23	mg/L	0.06	<0.06	ND	10	100	90	110	108	75	125

### Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		М	atrix Spike / Re	ī.
	Reference	Reference	Blank	RPD	AC (M)	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0026-AUG23	mg/L	0.00001	< 0.00001	0	20	103	80	120	93	70	130

20240528



#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	F.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ory Limits %)
						(70)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0090-AUG23	mg/L	0.00005	<0.00005	ND	20	98	90	110	70	70	130
Aluminum (total)	EMS0090-AUG23	mg/L	0.001	<0.001	1	20	100	90	110	94	70	130
Arsenic (total)	EMS0090-AUG23	mg/L	0.0002	<0.0002	2	20	96	90	110	94	70	130
Cadmium (total)	EMS0090-AUG23	mg/L	0.000003	<0.000003	11	20	98	90	110	80	70	130
Cobalt (total)	EMS0090-AUG23	mg/L	0.000004	<0.000004	0	20	96	90	110	76	70	130
Chromium (total)	EMS0090-AUG23	mg/L	0.00008	<0.00008	9	20	95	90	110	96	70	130
Copper (total)	EMS0090-AUG23	mg/L	0.0002	<0.0002	4	20	97	90	110	98	70	130
Manganese (total)	EMS0090-AUG23	mg/L	0.00001	<0.00001	1	20	102	90	110	101	70	130
Molybdenum (total)	EMS0090-AUG23	mg/L	0.00004	<0.00004	3	20	98	90	110	101	70	130
Nickel (total)	EMS0090-AUG23	mg/L	0.0001	<0.0001	1	20	98	90	110	91	70	130
Lead (total)	EMS0090-AUG23	mg/L	0.00009	<0.00009	2	20	103	90	110	84	70	130
Phosphorus (total)	EMS0090-AUG23	mg/L	0.003	<0.003	2	20	104	90	110	NV	70	130
Antimony (total)	EMS0090-AUG23	mg/L	0.0009	<0.0009	ND	20	101	90	110	103	70	130
Selenium (total)	EMS0090-AUG23	mg/L	0.00004	<0.00004	16	20	101	90	110	109	70	130
Tin (total)	EMS0090-AUG23	mg/L	0.00006	<0.00006	17	20	103	90	110	NV	70	130
Titanium (total)	EMS0090-AUG23	mg/L	0.00007	<0.00005	1	20	99	90	110	NV	70	130
Zinc (total)	EMS0090-AUG23	mg/L	0.002	<0.002	1	20	95	90	110	87	70	130

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#### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9234-AUG23	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

### Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0217-AUG23	mg/L	0.01	<0.01			93	55	120			
Nonylphenol Ethoxylates	GCM0217-AUG23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0217-AUG23	mg/L	0.01	<0.01			94	55	120			
Nonylphenol	GCM0217-AUG23	mg/L	0.001	<0.001			94	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0236-AUG23	mg/L	2	<2	NSS	20	96	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0236-AUG23	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0236-AUG23	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0288-AUG23	No unit	0.05	NA	0		100			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
4AAP-Phenolics	SKA0145-AUG23	mg/L	0.002	<0.002	ND	10	110	80	120	90	75	125

### **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0298-AUG23	mg/L	0.0001	<0.0001	NSS	30	105	60	140	NSS	60	140
Total												

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#### QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	i.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0262-AUG23	mg/L	0.002	< 0.002	NSS	30	111	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0262-AUG23	mg/L	0.002	< 0.002	NSS	30	108	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0303-AUG23	mg/L	2	< 2	0	10	97	90	110	NA		

### **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	f.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0150-AUG23	as N mg/L	0.5	<0.5	ND	10	100	90	110	97	75	125

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#### QC SUMMARY

### Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dur	licate	LC	S/Spike Blank		М	atrix Spike / Ref	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(76)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	106	60	130	100	50	140
1,2-Dichlorobenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	103	60	130	99	50	140
1,4-Dichlorobenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	100	60	130	97	50	140
Benzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
Chloroform	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
cis-1,2-Dichloroethene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Ethylbenzene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	100	60	130	99	50	140
m-p-xylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	101	60	130	100	50	140
Methyl ethyl ketone	GCM0269-AUG23	mg/L	0.02	<0.02	ND	30	95	50	140	93	50	140
Methylene Chloride	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	97	60	130	96	50	140
o-xylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	102	60	130	102	50	140
Styrene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	102	60	130	98	50	140
Tetrachloroethylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	98	50	140
(perchloroethylene)												
Toluene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	98	60	130	99	50	140
Trichloroethylene	GCM0269-AUG23	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140

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#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

20240528



#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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### Request for Laboratory Services and CHAIN OF CUSTODY

No:036525 Page # of W

Request for Laboratory Services and CHAIN OF CUS
Industries & Environment - Lakefield; 185 Concession St., Lakefield, ON K0L 2H0 Phone; 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, NGE 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

REPORT INFORMATION	II.	VOICE INFORM	ATION				1000					el.	600												
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O.Reg 153/04 O.Reg 406/19	Other Regula	ations:	Sewe	er By-Law:		M	81		SV	ОС	PCB	2000000		-	C	Pest	A Back		ner (pl	enso sp	ecify)		SPLP	TCLP	
Table 1	Reg 347/55  PWQO  CCME  MISA	8 (3 Day min TAT) MMER Other:	Mun	Sanitary Storm Cipality:		€		s,Ba,Be,B,Cd,			Aroclor									36 GP =		n Pkg	Specify tests	Specify tests	
RECORD OF SITE CONDITION (RSC)	YES [		AC .		(N/N)	organic (HWS),EC.S	Suite	only Sp.As.i		20,		×				roffy other					Dec	erization	□voc □1,4-	□уос □есв	COMMENTS:
SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED BO	# OF OTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics indication (BLM) and CAN, CN, Hg PH. (BHWS), EC. SAR-S-	Full Metals S	ICP Metals o	PAHs only	SVOCs all inci PAHs, ABNs, CPs	PCBs Total	F1-F4 + BTEX	F1-F4 only	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or spe	i de la composition della composition della comp					Water Characterizatio	□ocp □abn	Dagaje Daga Digoil	
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# Appendix |-2 Argo King I & II







CA40196-OCT22 R1

19-093-100, 7675 King St., Bolton

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAIL	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40196-OCT22
Project	19-093-100, 7675 King St., Bolton	Received	10/26/2022
Order Number		Approved	11/03/2022
Samples	Ground Water (1)	Report Number	CA40196-OCT22 R1
		Date Reported	11/03/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029795

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS

Jill Cumpbell





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Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

			0.	amanda Alumak	0
MATRIX: WATER				ample Number	8
				Sample Name	BH 22-5
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Disc	-		;	Sample Matrix Sample Date	Ground Water 26/10/2022
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discha			1.4	•	
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	5
Total Suspended Solids	mg/L	2	350	15	94
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.27
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		22
Aluminum (total)	mg/L	0.001	50		4.96
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0061
Cadmium (total)	-	0.000003	0.7	0.008	0.000024
Chromium (total)	mg/L	0.00008	5	0.08	0.00591
	mg/L	0.0002	3	0.05	0.0056
Copper (total)				0.05	
Cobalt (total)		0.000004	5		0.00314
Lead (total)	mg/L	0.00009	3	0.12	0.00155
Manganese (total)	mg/L	0.00001	5	0.05	0.148
Molybdenum (total)	mg/L	0.00004	5		0.00761
Nickel (total)	mg/L	0.0001	3	0.08	0.0064
Phosphorus (total)	mg/L	0.003	10	0.4	0.171
Selenium (total)	mg/L	0.00004	1	0.02	0.00023
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5		0.00340

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER			8	Sample Number	8
				Sample Name	BH 22-5
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer	Discharge - BL_53_2010			Sample Matrix	Ground Water
.2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Di	ischarge - BL_53_2010			Sample Date	26/10/2022
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00005	5		0.0707
Zinc (total)	mg/L	0.002	3	0.04	0.019
Microbiology					
E. Coli	cfu/100mL	0		200	2
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease		,			
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

Sample Number         8           Sample Number         8           Sample Name         BH 22-5           Sample Matrix         Ground Wate           L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - BL_53_2010         Sample Matrix         Ground Wate           Parameter         Units         RL         L1         L2         Result           Other (ORP)           pH         No unit         0.05         10         9         8.04           Mercury (total)         mg/L         0.0001         0.01         0.0004         < 0.00001           PCBs           Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         0.01         0.0004         < 0.0001           Phenolis           4AAP-Phenolics         mg/L         0.002         1         0.008         < 0.002           SVOCs           di-n-Butyl Phthalate         mg/L         0.002         0.08         0.015         < 0.002           Bis(2-ethylhexyl)phthalate         mg/L         0.002         0.01         0.008         < 0.002           Ehis(2-bithlorobenzene         mg/L         0.0005 <td< th=""></td<>
Sample Matrix   Ground Wate   Sample Matrix   Sample Date   Sample Date   Sample Date   Sample Date   Sample Date   26/10/2022
Parameter   Vinits   RL   L1   L2   Result
Other (ORP)         pH         No unit         0.05         10         9         8.04           Mercury (total)         mg/L         0.00001         0.01         0.0004         < 0.00001
PH
Mercury (total)         mg/L         0.00001         0.01         0.0004         < 0.00001           PCBs           Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         0.001         0.0004         < 0.0001
PCBs           Polychlorinated Biphenyls (PCBs) - Total         mg/L         0.0001         0.001         0.0004         < 0.0001
Polychlorinated Biphenyls (PCBs) - Total   mg/L   0.0001   0.001   0.0004   < 0.0001
Phenols           4AAP-Phenolics         mg/L         0.002         1         0.008         < 0.002
4AAP-Phenolics         mg/L         0.002         1         0.008         < 0.002           SVOCs           di-n-Butyl Phthalate         mg/L         0.002         0.08         0.015         < 0.002
4AAP-Phenolics         mg/L         0.002         1         0.008         < 0.002           SVOCs           di-n-Butyl Phthalate         mg/L         0.002         0.08         0.015         < 0.002
di-n-Butyl Phthalate         mg/L         0.002         0.08         0.015         < 0.002           Bis(2-ethylhexyl)phthalate         mg/L         0.002         0.012         0.0088         < 0.002
di-n-Butyl Phthalate         mg/L         0.002         0.08         0.015         < 0.002           Bis(2-ethylhexyl)phthalate         mg/L         0.002         0.012         0.0088         < 0.002
Bis(2-ethylhexyl)phthalate   mg/L   0.002   0.012   0.0088   < 0.002
VOCs         mg/L         0.0005         0.04         0.002         < 0.0005           1,2-Dichlorobenzene         mg/L         0.0005         0.05         0.0056         < 0.0005
Chloroform         mg/L         0.0005         0.04         0.002         < 0.0005           1,2-Dichlorobenzene         mg/L         0.0005         0.05         0.0056         < 0.0005
1,2-Dichlorobenzene         mg/L         0.0005         0.05         0.0056         < 0.0005           1,4-Dichlorobenzene         mg/L         0.0005         0.08         0.0068         < 0.0005
1,4-Dichlorobenzene         mg/L         0.0005         0.08         0.0068         < 0.0005           cis-1,2-Dichloroethene         mg/L         0.0005         4         0.0056         < 0.0005
cis-1,2-Dichloroethene         mg/L         0.0005         4         0.0056         < 0.0005           trans-1,3-Dichloropropene         mg/L         0.0005         0.14         0.0056         < 0.0005
trans-1,3-Dichloropropene mg/L 0.0005 0.14 0.0056 < 0.0005
·
1,1,2,2-Tetrachloroethane mg/L 0.0005 1.4 0.017 < 0.0005
Methyl ethyl ketone mg/L 0.02 8 < 0.02
Styrene mg/L 0.0005 0.2 < 0.0005
Tetrachloroethylene (perchloroethylene) mg/L 0.0005 1 0.0044 < 0.0005
Trichloroethylene mg/L 0.0005 0.4 0.008 < 0.0005



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Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

MATRIX: WATER		;	Sample Number	8
			Sample Name	BH 22-5
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge - BL_53_2010			Sample Date	26/10/2022
Parameter Units	RL	L1	L2	Result
VOCs - BTEX				
Benzene mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene mg/l	0.0005	0.16	0.002	< 0.0005
Toluene mg/l	0.0005	0.27	0.002	< 0.0005
Xylene (total) mg/l	0.0005	1.4	0.0044	< 0.0005
m-p-xylene mg/l	0.0005			< 0.0005
o-xylene mg/l	0.0005			< 0.0005



## **EXCEEDANCE SUMMARY**

SANSEW / WATER SANSEW / WATER / - - Peel Table 2 -/ - - Peel Table 1 -Sanitary Sewer Storm Sewer Discharge -Discharge -BL\_53\_2010 BL\_53\_2010 Method Units L1 L2 Parameter Result

## BH 22-5

Total Suspended Solids	SM 2540D	mg/L	94
Manganese	SM 3030/EPA 200.8	mg/L	0.148

15 0.05

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	· .
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

# **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike		ry Limits 6)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

# Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duplicate LCS/Spike Blank			M	flatrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

# Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130



#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ory Limits %)
						(70)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	ND	20	106	90	110	98	70	130
Aluminum (total)	EMS0224-OCT22	mg/L	0.001	<0.001	1	20	107	90	110	110	70	130
Arsenic (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	11	20	109	90	110	105	70	130
Cadmium (total)	EMS0224-OCT22	mg/L	0.000003	<0.000003	ND	20	106	90	110	101	70	130
Cobalt (total)	EMS0224-OCT22	mg/L	0.000004	<0.000004	0	20	106	90	110	93	70	130
Chromium (total)	EMS0224-OCT22	mg/L	0.00008	<0.00008	19	20	106	90	110	113	70	130
Copper (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	6	20	105	90	110	97	70	130
Manganese (total)	EMS0224-OCT22	mg/L	0.00001	<0.00001	1	20	109	90	110	108	70	130
Molybdenum (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	5	20	105	90	110	105	70	130
Nickel (total)	EMS0224-OCT22	mg/L	0.0001	<0.0001	5	20	102	90	110	94	70	130
Lead (total)	EMS0224-OCT22	mg/L	0.00009	<0.00001	18	20	106	90	110	95	70	130
Phosphorus (total)	EMS0224-OCT22	mg/L	0.003	<0.003	0	20	108	90	110	NV	70	130
Antimony (total)	EMS0224-OCT22	mg/L	0.0009	<0.0009	ND	20	101	90	110	94	70	130
Selenium (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	11	20	109	90	110	108	70	130
Tin (total)	EMS0224-OCT22	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	13	20	106	90	110	NV	70	130
Zinc (total)	EMS0224-OCT22	mg/L	0.002	<0.002	1	20	103	90	110	121	70	130

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#### QC SUMMARY

## Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

# Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		Ma		
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery		ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

## Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ма	trix Spike / Re	ix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ery Limits %)		
						(%)	Recovery (%)	Low	High	(%)	Low	High		
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130					
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130					

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC (%)	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

# **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140
Total												

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#### QC SUMMARY

# Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

## **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

# **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0015-NOV22	as N mg/L	0.5	<0.5	2	10	100	90	110	107	75	125



#### QC SUMMARY

# Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)
						(75)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
(perchloroethylene)												
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.



#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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-- End of Analytical Report --

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Request for Laboratory Services and CHAIN OF CUSTODY Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, NGE 288 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Laboratory Information Section - Lab use only Received By (signature LAB LIMS #: Ca4019 6-00 Cooling Agent Present: Yes No Type: Type: Temperature Upon Receipt (\*C) Received Date: 18 /21/2 (mm/dd/yy) Custody Seal Present: Yes No Received Time: 12: (hr:min) Custody Seal Intact: Yes No REPORT INFORMATION INVOICE INFORMATION Company: 05 Consultants Ltd. (same as Report Information) Contact: Dosthy Santos Company:
Address: 622 1 Hwy - 7, Unit-16 Contact: Accounting Project #: 19-093-100 TURNAROUND TIME (TAT) REQUIRED TAT's are quoted in business days (exclude statutory holidays & weekends). Regular TAT (5-7days) Vaugham, UN
Phone: 905-264-9393 Samples received after 6pm or on weekends: TAT begins next business day 1 Day 2 Days 3 Days 4 Days RUSH TAT (Additional Charges May Apply): PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION 'NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Email: dorty santes @ claconsultarts ca Specify Due Date: WITH SGS DRINKING WATER CHAIN OF CUSTODY ANALYSIS REQUESTED SPLP TCLP M & I SVOC PCB PHC VOC Pest Other (please specify) O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Sanitary Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Specify Specifi 5-6080 Storm PWQO Table 2 Ind/Com Coarse MMER tests Agri/Other Medium/Fine Municipality: CCME Table 3 Sewer Use: Specifypkg Water Characterization Pkg Table Metals & Inorganics ing CAU, CAL Hg ph.(B(1)WS),EG,SAR-4¢ (CL, Na-waser) EG,SAR-4¢ Full Metals Suite (CP metals pius B(HWS-460) only) Hg, CAV Dues ODWS Not Reportable "See note COMMENTS: Dvoc Dvoc Field Filtered (Y/N) YES RECORD OF SITE CONDITION (RSC) NO 114-□PCB BTEX ICP Metals o OB(a) Docp PAHs only Pesticides # OF DATE TIME F1-F4 + E SVOCs all incl PAHs, Al MATRIX VOCs all incl BTEX DABN SAMPLE IDENTIFICATION SAMPLED BOTTLES SAMPLED F1-F4 on BTEX PCBs Digna Non-filtered Oct 25 12 PM (Gu) BH 22-5 N 3 5 6

Observations/Comments/Special Instructions

Sampled By (NAME): Chartenya Relinquished by (NAME):

Signature:

(mm/dd/yy)

Pink Copy - Client

ate of Issue: 02 May 2022

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CA40196-OCT22 R1

19-093-100, 7675 King St., Bolton

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAILS	S	LABORATORY DETAI	ILS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40196-OCT22
Project	19-093-100, 7675 King St., Bolton	Received	10/26/2022
Order Number		Approved	11/03/2022
Samples	Ground Water (1)	Report Number	CA40196-OCT22 R1
		Date Reported	11/03/2022

#### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029795

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS

Jill Cumpbell





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# SGS FINAL REPORT

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-5
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PI	BS 3303E		Sample Matrix	Ground Water
			Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		5
Total Suspended Solids	mg/L	2		94
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.27
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		22
Aluminum (total)	mg/L	0.001		4.96
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0061
Cadmium (total)	mg/L	0.000003	0.0001	0.000024
Chromium (total)	mg/L	0.00008	0.1	0.00591
Copper (total)	mg/L	0.0002	0.001	0.0056
Cobalt (total)	mg/L	0.000004	0.0009	0.00314
Lead (total)	mg/L	0.00009	0.005	0.00155
Manganese (total)	mg/L	0.00001		0.148
Molybdenum (total)	mg/L	0.00004	0.04	0.00761
Nickel (total)	mg/L	0.0001	0.025	0.0064
Phosphorus (total)	mg/L	0.003	0.01	0.171
Selenium (total)	mg/L	0.00004	0.1	0.00023
Silver (total)	mg/L	0.00005	0.0001	< 0.00005
Tin (total)	mg/L	0.00006		0.00340



CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

MATRIX: WATER			Sample Number	. 8
MATRIX: WATER			-	
			Sample Name	
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIB	S 3303E		Sample Matrix	
			Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00005		0.0707
Zinc (total)	mg/L	0.002	0.02	0.019
Microbiology				
E. Coli	cfu/100mL	0	100	2
Nonylphenol and Ethoxylates				_
Nonylphenol	mg/L	0.001		0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-5
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIB:	S 3303E		Sample Matrix	Ground Water
			Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
Other (ORP)				
рН	No unit	0.05	8.6	8.04
Mercury (total)	mg/L	0.00001	0.0002	< 0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene		0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene		0.0005	0.02	< 0.0005
The merce any lene	9/ =	0.000	0.02	0.000



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Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER Sample Number 8

Sample Name BH 22-5

			Sample Name	BH 22-3
			Sample Matrix	Ground Water
			Sample Date	26/10/2022
Units	RL	L1		Result
mg/L	0.0005	0.1		< 0.0005
mg/L	0.0005	0.008		< 0.0005
mg/L	0.0005	0.0008		< 0.0005
mg/L	0.0005			< 0.0005
mg/L	0.0005	0.002		< 0.0005
ma/l	0.0005	0.04		< 0.0005
	mg/L mg/L mg/L mg/L	Units         RL           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005           mg/L         0.0005	mg/L 0.0005 0.1 mg/L 0.0005 0.008 mg/L 0.0005 0.0008 mg/L 0.0005 mg/L 0.0005 0.002	Sample Matrix Sample Date           Units         RL         L1           mg/L         0.0005         0.1           mg/L         0.0005         0.008           mg/L         0.0005         0.0008           mg/L         0.0005         0.0008           mg/L         0.0005         0.0002



## **EXCEEDANCE SUMMARY**

PWQO\_L / WATER / - - Table 2 -General - July 1999 PIBS 3303E

Parameter Method Units Result L1

# BH 22-5

Arsenic	SM 3030/EPA 200.8	mg/L	0.0061	0.005
Cobalt	SM 3030/EPA 200.8	mg/L	0.00314	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0056	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.171	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001

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#### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	· .
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

# **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		м	atrix Spike / Re	ī.
	Reference			Blank	RPD	AC	Spike		ry Limits 6)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

# Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125

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#### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	latrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

# Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike		ry Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130



#### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits 6)	Spike Recovery		ory Limits %)
						(75)	(%)	Low	High	(%)	Low	High
Silver (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	ND	20	106	90	110	98	70	130
Aluminum (total)	EMS0224-OCT22	mg/L	0.001	<0.001	1	20	107	90	110	110	70	130
Arsenic (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	11	20	109	90	110	105	70	130
Cadmium (total)	EMS0224-OCT22	mg/L	0.000003	<0.000003	ND	20	106	90	110	101	70	130
Cobalt (total)	EMS0224-OCT22	mg/L	0.000004	<0.000004	0	20	106	90	110	93	70	130
Chromium (total)	EMS0224-OCT22	mg/L	0.00008	<0.00008	19	20	106	90	110	113	70	130
Copper (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	6	20	105	90	110	97	70	130
Manganese (total)	EMS0224-OCT22	mg/L	0.00001	<0.00001	1	20	109	90	110	108	70	130
Molybdenum (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	5	20	105	90	110	105	70	130
Nickel (total)	EMS0224-OCT22	mg/L	0.0001	<0.0001	5	20	102	90	110	94	70	130
Lead (total)	EMS0224-OCT22	mg/L	0.00009	<0.00001	18	20	106	90	110	95	70	130
Phosphorus (total)	EMS0224-OCT22	mg/L	0.003	<0.003	0	20	108	90	110	NV	70	130
Antimony (total)	EMS0224-OCT22	mg/L	0.0009	<0.0009	ND	20	101	90	110	94	70	130
Selenium (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	11	20	109	90	110	108	70	130
Tin (total)	EMS0224-OCT22	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	13	20	106	90	110	NV	70	130
Zinc (total)	EMS0224-OCT22	mg/L	0.002	<0.002	1	20	103	90	110	121	70	130

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#### QC SUMMARY

## Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LCS/Spike Blank			M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

# Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery		ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

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#### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

## Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ery Limits %)
					(%)	Recovery (%)	Low	High	(%)	Low	High	
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	LCS/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC (%)	Spike		ery Limits %)	Spike Recovery	Recove	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
рН	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		

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#### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

# **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery		ery Limits
	(9	(%)	Recovery (%)	Low	High	(%)	Low	High				
Polychlorinated Biphenyls (PCBs) -	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140
Total												

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#### QC SUMMARY

# Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

## **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

# **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0015-NOV22	as N mg/L	0.5	<0.5	2	10	100	90	110	107	75	125



#### QC SUMMARY

# Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery		ery Limits %)	
						(75)		Low	High	(%)	Low	High	
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140	
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140	
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140	
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140	
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140	
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140	
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140	
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140	
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140	
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140	
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140	
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140	
Tetrachloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140	
(perchloroethylene)													
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140	
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140	
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140	

#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.



#### **LEGEND**

#### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --

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Request for Laboratory Services and CHAIN OF CUSTODY Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, NGE 288 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Laboratory Information Section - Lab use only Received By (signature LAB LIMS #: Ca4019 6-00 Cooling Agent Present: Yes No Type: Type: Temperature Upon Receipt (\*C) Received Date: 18 /21/2 (mm/dd/yy) Custody Seal Present: Yes No Received Time: 12: (hr:min) Custody Seal Intact: Yes No REPORT INFORMATION INVOICE INFORMATION Company: 05 Consultants Ltd. (same as Report Information) Contact: Dosthy Santos Company:
Address: 622 1 Hwy - 7, Unit-16 Contact: Accounting Project #: 19-093-100 TURNAROUND TIME (TAT) REQUIRED TAT's are quoted in business days (exclude statutory holidays & weekends). Regular TAT (5-7days) Vaugham, UN
Phone: 905-264-9393 Samples received after 6pm or on weekends: TAT begins next business day 1 Day 2 Days 3 Days 4 Days RUSH TAT (Additional Charges May Apply): PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION 'NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Email: dorty santes @ claconsultarts ca Specify Due Date: WITH SGS DRINKING WATER CHAIN OF CUSTODY ANALYSIS REQUESTED SPLP TCLP M & I SVOC PCB PHC VOC Pest Other (please specify) O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Sanitary Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Specify Specifi 5-6080 Storm PWQO Table 2 Ind/Com Coarse MMER tests Agri/Other Medium/Fine Municipality: CCME Table 3 Sewer Use: Specifypkg Water Characterization Pkg Table Metals & Inorganics ing CAU, CAL Hg ph.(B(1)WS),EG,SAR-4¢ (CL, Na-waser) EG,SAR-4¢ Full Metals Suite (CP metals pius B(HWS-460) only) Hg, CAV Dues ODWS Not Reportable "See note COMMENTS: Dvoc Dvoc Field Filtered (Y/N) YES RECORD OF SITE CONDITION (RSC) NO 114-□PCB BTEX ICP Metals o OB(a) Docp PAHs only Pesticides # OF DATE TIME F1-F4 + E SVOCs all incl PAHs, Al MATRIX VOCs all incl BTEX DABN SAMPLE IDENTIFICATION SAMPLED BOTTLES SAMPLED F1-F4 on BTEX PCBs Digna Non-filtered Oct 25 12 PM (Gu) BH 22-5 N 3 5 6

Observations/Comments/Special Instructions

Sampled By (NAME): Chartenya Relinquished by (NAME):

Signature:

(mm/dd/yy)

Pink Copy - Client

ate of Issue: 02 May 2022

11 12

> Sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability indemnification and independent of the copies are available upon request.)







CA40197-OCT22 R1

19-093-100, 7675 King St, Bolton

Prepared for

**DS Consultants** 



#### First Page

CLIENT DETAILS	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40197-OCT22
Project	19-093-100, 7675 King St, Bolton	Received	10/26/2022
Order Number		Approved	11/03/2022
Samples	Ground Water (1)	Report Number	CA40197-OCT22 R1
		Date Reported	11/03/2022

#### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029796

Note: Elevated E coli reporting limit due to excessive growth of bacteria at higher volumes.

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS

Jill Cumpbell



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Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER			s	ample Number	8
				Sample Name	BH 22-1
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Dischar	rge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharge	e - BL_53_2010			Sample Date	26/10/2022
Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4↑
Total Suspended Solids	mg/L	2	350	15	38300
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.14
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		24
Aluminum (total)	mg/L	0.001	50		15.7
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0072
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000178
Chromium (total)	mg/L	0.00008	5	0.08	0.0326
Copper (total)	mg/L	0.0002	3	0.05	0.0266
Cobalt (total)	mg/L	0.000004	5		0.0125
Lead (total)	mg/L	0.00009	3	0.12	0.0180
Manganese (total)	mg/L	0.00001	5	0.05	2.17
Molybdenum (total)	mg/L	0.00004	5		0.00230
Nickel (total)	mg/L	0.0001	3	0.08	0.0248
Phosphorus (total)	mg/L	0.003	10	0.4	3.12
Selenium (total)	mg/L	0.00004	1	0.02	0.00022
Silver (total)	mg/L	0.00005	5	0.12	0.00006
Tin (total)	mg/L	0.00006	5		0.00227

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER				Sample Number	8
				Sample Name	BH 22-1
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer D	Discharge - BL_53_2010			Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Disc	charge - BL_53_2010			Sample Date	26/10/2022
Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00005	5		0.576
Zinc (total)	mg/L	0.002	3	0.04	0.057
Microbiology					
E. Coli	cfu/100mL	0		200	< 20↑
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 4↑
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos
Samplers: Harry/Chaitanyo

MATRIX: WATER			Sa	ample Number	8
				Sample Name	BH 22-1
L1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer Discha	arge - BL_53_2010		;	Sample Matrix	Ground Water
L2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Discharg	ge - BL_53_2010			Sample Date	26/10/2022
Parameter	Units	RL	L1	L2	Result
Other (ORP)					
рН	No unit	0.05	10	9	7.72
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00002
PCBs				'	
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenois					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
	IIIg/L	0.002	ı .	0.000	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8	0.0	< 0.02
		0.0005	0.2		< 0.005
Styrene	mg/L			0.0044	
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER			;	Sample Number	8
				Sample Name	BH 22-1
_1 = SANSEW / WATER / Peel Table 1 - Sanitary Sewer [	Discharge - BL_53_2010			Sample Matrix	Ground Water
2 = SANSEW / WATER / Peel Table 2 - Storm Sewer Dis	ischarge - BL_53_2010			Sample Date	26/10/2022
Parameter	Units	RL	L1	L2	Result
/OCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005



### **EXCEEDANCE SUMMARY**

SANSEW / WATER SANSEW / WATER / - - Peel Table 2 -/ - - Peel Table 1 -Sanitary Sewer Storm Sewer Discharge -Discharge -BL\_53\_2010 BL\_53\_2010 Method Units L1 L2 Parameter Result

### BH 22-1

Total Suspended Solids	SM 2540D	mg/L	38300	350	15
Manganese	SM 3030/EPA 200.8	mg/L	2.17		0.05
Phosphorus	SM 3030/EPA 200.8	mg/L	3.12		0.4
Zinc	SM 3030/EPA 200.8	mg/L	0.057		0.04

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### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	cate LC			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

## **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Dup	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD		Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130	

## Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	plicate	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	LCS/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recove	ry Limits 6)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

## Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	RPD AC (%)	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130



### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)	
						(70)	(%)	Low	High	(%)	Low	High	
Silver (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	104	90	110	102	70	130	
Aluminum (total)	EMS0217-OCT22	mg/L	0.001	<0.001	3	20	103	90	110	107	70	130	
Arsenic (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	ND	20	110	90	110	106	70	130	
Cadmium (total)	EMS0217-OCT22	mg/L	0.000003	<0.000003	ND	20	103	90	110	102	70	130	
Cobalt (total)	EMS0217-OCT22	mg/L	0.000004	<0.000004	2	20	104	90	110	99	70	130	
Chromium (total)	EMS0217-OCT22	mg/L	0.00008	<0.00008	4	20	105	90	110	104	70	130	
Copper (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	5	20	105	90	110	92	70	130	
Manganese (total)	EMS0217-OCT22	mg/L	0.00001	<0.00001	ND	20	107	90	110	83	70	130	
Molybdenum (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	105	90	110	105	70	130	
Nickel (total)	EMS0217-OCT22	mg/L	0.0001	<0.0001	ND	20	105	90	110	90	70	130	
Lead (total)	EMS0217-OCT22	mg/L	0.00009	<0.00001	3	20	103	90	110	93	70	130	
Phosphorus (total)	EMS0217-OCT22	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130	
Antimony (total)	EMS0217-OCT22	mg/L	0.0009	<0.0009	ND	20	103	90	110	106	70	130	
Selenium (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	110	90	110	100	70	130	
Tin (total)	EMS0217-OCT22	mg/L	0.00006	<0.00006	ND	20	106	90	110	NV	70	130	
Titanium (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	105	90	110	NV	70	130	
Zinc (total)	EMS0217-OCT22	mg/L	0.002	<0.002	1	20	102	90	110	104	70	130	



### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

## Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	•		LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

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### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recover	•	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
рH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

## **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140
Total												

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### QC SUMMARY

## Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Units		RL	Method	Dup	licate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

## **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery		ery Limits
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Kjeldahl Nitrogen	SKA0004-NOV22	as N mg/L	0.5	<0.5	2	10	98	90	110	106	75	125



### QC SUMMARY

## Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recover	•	Spike Recovery		ery Limits %)
						(75)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
(perchloroethylene)												
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms\_and\_conditions.htm.

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This report supersedes all previous versions.

-- End of Analytical Report --

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Request for Laboratory Services and CHAIN OF CUSTODY Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Laboratory Information Section - Lab use only Received By (signature): Received By: Cooling Agent Present: Yes No Type: (CC)
Temperature Upon Receipt (\*C) Received Date: 19 Custody Seal Present: Yes No Received Time: Custody Seal Intact: REPORT INFORMATION INVOICE INFORMATION (same as Report Information) Quotation # Site Location/ID: 7675 19-093-100 Project # Company TURNAROUND TIME (TAT) REQUIRED Address: 6721 counting How Contact: TAT's are quoted in business days (exclude statutory holidays & weekends) Samples received after 6pm or on weekends: TAT begins next business day Regular TAT (5-7days) wit 16 Vougher, on Address: 1 Day 2 Days 3 Days 4 Days RUSH TAT (Additional Charges May Apply): PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY Specify Due Date: Email: Lorote Gontos @de. ANALYSIS REQUESTED SPLP TCLP SVOC PHC VOC Pest Other (please specify) PCB M & I O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Sanitary Specify Specify 200 [LPWQ0 MMER Storm tests tests Table 2 Coarse Ind/Com Table 3 Agri/Other Medium/Fine CCME Other: Municipality: Specify pkg: Water Characterization Pkg PCCI MISA Table Metal □<sub>M&I</sub> Metals & Inorganics inclovi, cn. Hg ph.(B(HWS),EC.SAR (C), Na-water) COMMENTS: Soil Volume <a></a> <350m3 <a>>350m3</a> ODWS Not Reportable "See note Dvoc Dvoc Field Filtered (Y/N) Suite RECORD OF SITE CONDITION (RSC) YES NO 1,4-□ PCS + BTEX Total □B(a)F Full Metals ICP Metals Pesticides Sewer Use: PAHS only only DABN DATE TIME # OF DABN SAMPLE IDENTIFICATION MATRIX SVOCs all incl PAHs. SAMPLED BOTTLES F1-F4 VOCS SAMPLED F1-F4 BTEX PCBs ☐ Ignit. (TW) BH 22-Oct 26,2 L PM 2 3 5 6 8 10 12 Observations/Comments/Special Instructions Pink Copy - Client (mm/dd/yy) Date: 10 / 26/ Yellow & White Copy Sampled By (NAME): Signature: har inner o any liftee a Copy

Relinquished by (NAME): Signature







CA40197-OCT22 R1

19-093-100, 7675 King St, Bolton

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dorothy.santos@dsconsultants.ca	SGS Reference	CA40197-OCT22
Project	19-093-100, 7675 King St, Bolton	Received	10/26/2022
Order Number		Approved	11/03/2022
Samples	Ground Water (1)	Report Number	CA40197-OCT22 R1
		Date Reported	11/03/2022

### COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes Custody Seal Present: Yes

Chain of Custody Number: 029796

Note: Elevated E coli reporting limit due to excessive growth of bacteria at higher volumes.

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS

Jill Cumpbell





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0.01

0.1

0.0001

mg/L

mg/L

0.003

0.00005

mg/L 0.00004

mg/L 0.00006

Phosphorus (total)

Selenium (total)

Silver (total)

Tin (total)

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

**Project Manager:** Dorothy Santos **Samplers:** Harry/Chaitanyo

MATRIX: WATER			Sample Number	8
			Sample Name	BH 22-1
_1 = PWQO_L / WATER / Table 2 - General - July 1999 PIE	BS 3303E		Sample Matrix	Ground Water
			Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4↑
Total Suspended Solids	mg/L	2		38300
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.14
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		24
Aluminum (total)	mg/L	0.001		15.7
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0072
Cadmium (total)	mg/L	0.000003	0.0001	0.000178
Chromium (total)	mg/L	0.00008	0.1	0.0326
Copper (total)	mg/L	0.0002	0.001	0.0266
Cobalt (total)	mg/L	0.000004	0.0009	0.0125
Lead (total)	mg/L	0.00009	0.005	0.0180
Manganese (total)	mg/L	0.00001		2.17
Molybdenum (total)	mg/L	0.00004	0.04	0.00230
Nickel (total)	mg/L	0.0001	0.025	0.0248

0.00022

0.00006

0.00227



CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER			Sample Number	
			Sample Name	BH 22-1
.1 = PWQO_L / WATER / Table 2 - General - July 1999 PIB	SS 3303E		Sample Matrix	Ground Water
			Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00005		0.576
Zinc (total)	mg/L	0.002	0.02	0.057
Microbiology				
E. Coli	cfu/100mL	0	100	< 20↑
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 4↑
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER			Sample Number	8
INICATIANA. WATELLA			Sample Name	BH 22-1
L1 = PWQO_L / WATER / Table 2 - General - July 1999 PIBS 330	03E		Sample Matrix	Ground Water
ET - T WQO_E / WATER/ Table 2 - General - July 1999 T IBO 300	03L		Sample Date	26/10/2022
Parameter	Units	RL	L1	Result
Other (ORP)				
рН	No unit	0.05	8.6	7.72
Mercury (total)	mg/L	0.00001	0.0002	0.00002
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenois	<del>-</del>			
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
	9/	0.002	0.001	10.002
SVOCs		0.000		- 0 000
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER Sample Number 8

Sample Name BH 22-1

		Sample Name	BH 22-1		
		Sample Matri	Ground Water		
		Sample Date	26/10/2022		
Units	RL	L1	Result		
mg/L	0.0005	0.1	< 0.0005		
mg/L	0.0005	0.008	< 0.0005		
mg/L	0.0005	0.0008	0.0005		
mg/L	0.0005		< 0.0005		
mg/L	0.0005	0.002	< 0.0005		
mg/L	0.0005	0.04	< 0.0005		
	mg/L mg/L mg/L mg/L mg/L	mg/L 0.0005 mg/L 0.0005 mg/L 0.0005 mg/L 0.0005 mg/L 0.0005	Sample Matrix   Sample Date	Sample Matrix         Ground Water 26/10/2022           Units         RL         L1         Result           mg/L         0.0005         0.1         < 0.0005	Sample Matrix         Ground Water           Sample Date         26/10/2022           Units         RL         L1         Result           mg/L         0.0005         0.1         < 0.0005



### **EXCEEDANCE SUMMARY**

PWQO\_L / WATER / - - Table 2 -General - July 1999

PIBS 3303E

Parameter Method Units Result L1

## BH 22-1

Arsenic	SM 3030/EPA 200.8	mg/L	0.0072	0.005
Cadmium	SM 3030/EPA 200.8	mg/L	0.000178	0.0001
Cobalt	SM 3030/EPA 200.8	mg/L	0.0125	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0266	0.001
Lead	SM 3030/EPA 200.8	mg/L	0.0180	0.005
Phosphorus	SM 3030/EPA 200.8	mg/L	3.12	0.01
Zinc	SM 3030/EPA 200.8	mg/L	0.057	0.02
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001

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### QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch	Units	RL	Method	Duj	plicate	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	RPD AC (%)	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
							Recovery (%)	Low	High	(%)	Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

## **Biochemical Oxygen Demand**

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	RPD AC (%)	Spike	Recovery Limits (%)		Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

## Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	RPD AC (%)	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)
							Recovery (%)	Low	High	(%)	Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125

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### QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-014

Parameter	QC batch	Units	RL	Method	Duj	olicate	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	RPD	AC	•		ery Limits %)	Spike Recovery	Recover	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

## Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LCS/Spike Blank			Matrix Spike / Ref.		
	Reference			Blank	Blank RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130



### QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery		ry Limits %)	Spike Recovery		ery Limits %)	
						(1.9)	(%)	Low	High	(%)	Low	High	
Silver (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	104	90	110	102	70	130	
Aluminum (total)	EMS0217-OCT22	mg/L	0.001	<0.001	3	20	103	90	110	107	70	130	
Arsenic (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	ND	20	110	90	110	106	70	130	
Cadmium (total)	EMS0217-OCT22	mg/L	0.000003	<0.000003	ND	20	103	90	110	102	70	130	
Cobalt (total)	EMS0217-OCT22	mg/L	0.000004	<0.000004	2	20	104	90	110	99	70	130	
Chromium (total)	EMS0217-OCT22	mg/L	0.00008	<0.00008	4	20	105	90	110	104	70	130	
Copper (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	5	20	105	90	110	92	70	130	
Manganese (total)	EMS0217-OCT22	mg/L	0.00001	<0.00001	ND	20	107	90	110	83	70	130	
Molybdenum (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	105	90	110	105	70	130	
Nickel (total)	EMS0217-OCT22	mg/L	0.0001	<0.0001	ND	20	105	90	110	90	70	130	
Lead (total)	EMS0217-OCT22	mg/L	0.00009	<0.00001	3	20	103	90	110	93	70	130	
Phosphorus (total)	EMS0217-OCT22	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130	
Antimony (total)	EMS0217-OCT22	mg/L	0.0009	<0.0009	ND	20	103	90	110	106	70	130	
Selenium (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	110	90	110	100	70	130	
Tin (total)	EMS0217-OCT22	mg/L	0.00006	<0.00006	ND	20	106	90	110	NV	70	130	
Titanium (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	105	90	110	NV	70	130	
Zinc (total)	EMS0217-OCT22	mg/L	0.002	<0.002	1	20	102	90	110	104	70	130	



### QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		M	atrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike	Recove	-	Spike Recovery		ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

## Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	_CS/Spike Blank		Matrix Spike / Ref.		f.
	Reference			Blank	RPD	AC	Spike	Recover	-	Spike Recovery		ery Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

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### QC SUMMARY

#### Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	•
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

### Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		м	atrix Spike / Re	f.
	Reference			Blank	RPD AC S  (%) Rec	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits		
						(%)	Recovery (%)	Low	High	(%)	Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

#### pН

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch			Method	Dup	olicate	LC	S/Spike Blank		М	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ry Limits %)	Spike Recovery	Recove	ry Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
рH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		

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### QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recover	-
						(%)	Recovery (%)	Low	High	(%)	Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

## **Polychlorinated Biphenyls**

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duj	olicate	LC	S/Spike Blank		M	latrix Spike / Re	f.
	Reference			Blank	RPD	AC	Spike		ery Limits %)	Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Polychlorinated Biphenyls (PCBs) -	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140
Total												

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### QC SUMMARY

## Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Units		RL	Method	Dup	licate	LC	LCS/Spike Blank		Matrix Spike / Ref.		f.
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery		ory Limits %)
						(%)	Recovery (%)	Low	High	(%)	Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

### **Suspended Solids**

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Duj	plicate	LC	S/Spike Blank		M	atrix Spike / Ref	
	Reference		Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery	Recover	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

## **Total Nitrogen**

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch	Units	RL	Method	Duplicate LCS		S/Spike Blank		М	atrix Spike / Re	f.	
	Reference	Blank	Blank	RPD	AC	Spike	Recovery Limits (%)		Spike Recovery		ery Limits	
					(%)	Recovery (%)	Low	High	(%)	Low	High	
Total Kjeldahl Nitrogen	SKA0004-NOV22	as N mg/L	0.5	<0.5	2	10	98	90	110	106	75	125



### QC SUMMARY

## Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch	Units	RL	Method	Dup	licate	LC	S/Spike Blank		Ma	atrix Spike / Re	f.
	Reference			Blank	RPD	AC (%)	Spike Recovery	Recover	•	Spike Recovery		ery Limits %)
						(70)	(%)	Low	High	(%)	Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
(perchloroethylene)												
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

#### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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#### **LEGEND**

### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --

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Request for Laboratory Services and CHAIN OF CUSTODY Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Laboratory Information Section - Lab use only Received By (signature): Received By: Cooling Agent Present: Yes No Type: (CC)
Temperature Upon Receipt (\*C) Received Date: 19 Custody Seal Present: Yes No Received Time: Custody Seal Intact: REPORT INFORMATION INVOICE INFORMATION (same as Report Information) Quotation # Site Location/ID: 7675 19-093-100 Project # Company TURNAROUND TIME (TAT) REQUIRED Address: 6721 counting How Contact: TAT's are quoted in business days (exclude statutory holidays & weekends) Samples received after 6pm or on weekends: TAT begins next business day Regular TAT (5-7days) wit 16 Vougher, on Address: 1 Day 2 Days 3 Days 4 Days RUSH TAT (Additional Charges May Apply): PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY Specify Due Date: Email: Lorote Gontos @de. ANALYSIS REQUESTED SPLP TCLP SVOC PHC VOC Pest Other (please specify) PCB M & I O.Reg 153/04 O.Reg 406/19 Other Regulations: Sewer By-Law: Table 1 Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Sanitary Specify Specify 200 [LPWQO MMER Storm tests tests Table 2 Coarse Ind/Com Table 3 Agri/Other Medium/Fine CCME Other: Municipality: Specify pkg: Water Characterization Pkg PCCI MISA Table Metal □<sub>M&I</sub> Metals & Inorganics inclovi, cn. Hg ph.(B(HWS),EC.SAR (C), Na-water) COMMENTS: Soil Volume <a></a> <350m3 <a>>350m3</a> ODWS Not Reportable "See note Dvoc Dvoc Field Filtered (Y/N) Suite RECORD OF SITE CONDITION (RSC) YES NO 1,4-□ PCS + BTEX Total □B(a)F Full Metals ICP Metals Pesticides Sewer Use: PAHS only only DABN DATE TIME # OF DABN SAMPLE IDENTIFICATION MATRIX SVOCs SAMPLED BOTTLES F1-F4 VOCS SAMPLED F1-F4 BTEX PCBs ☐(grit. (TW) BH 22-Oct 26,2 L PM 2 3 5 6 8 10 12 Observations/Comments/Special Instructions Pink Copy - Client (mm/dd/yy) Date: 10 / 26/ Yellow & White Copy Sampled By (NAME): Signature: har inner o any liftee a Copy

Relinquished by (NAME): Signature



## Appendix I-3 Water Well Survey







CA40073-JUN24 R1

20-169-106-36, King St, Bolton

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAIL:	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dsantos@dsconsultants.ca	SGS Reference	CA40073-JUN24
Project	20-169-106-36, King St, Bolton	Received	06/12/2024
Order Number		Approved	06/17/2024
Samples	Ground Water (1)	Report Number	CA40073-JUN24 R1
		Date Reported	06/17/2024

### COMMENTS

MAC - Maximum Acceptable Concentration

AO/OG - Aesthetic Objective / Operational Guideline

MDL - SGS Method Detection Limit

NDOGT - No Data: Overgrown with Target Bacteria

Temperature of Sample upon Receipt: 8 degrees C

Cooling Agent Present:YES Custody Seal Present:YES

Chain of Custody Number:038681

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

Jill Cumpbell

### CA40073-JUN24 R1

### **FINAL REPORT**



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CA40073-JUN24 R1

Client: DS Consultants

Project: 20-169-106-36, King St, Bolton

Project Manager: Dorothy Santos

Samplers: Ken Kim

MATRIX: WATER			Sample Nu	mber 9
			Sample N	ame 8068 King St
L1 = ODWS_MAC / WATER / Table 1,2 and 3 - E	= ODWS_MAC / WATER / Table 1,2 and 3 - Drinking Water - Reg O.169_03 Sample Matrix		latrix Ground Water	
			Sample	<b>Date</b> 12/06/2024
Parameter	Units	RL	L1	Result
Metals and Inorganics				
Nitrite (as N)	as N mg/L	0.003	1	0.003# <mdl< td=""></mdl<>
Nitrate (as N)	as N mg/L	0.006	10	0.006# <mdl< td=""></mdl<>
Nitrate + Nitrite (as N)	as N mg/L	0.006		0.006# <mdl< td=""></mdl<>
Microbiology				
Total Coliform	cfu/100mL	0	0	0
E. Coli	cfu/100mL	0	0	0



### **EXCEEDANCE SUMMARY**

No exceedances are present above the regulatory limit(s) indicated

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### QC SUMMARY

### Anions by IC

Method: EPA300/MA300-lons1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Dup	olicate	LC	LCS/Spike Blank			Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	·	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)			
						(%)		Low	High	(%)	Low	High		
Nitrate + Nitrite (as N)	DIO0284-JUN24	mg/L	0.006	<0.006	NA		NA			NA				
Nitrite (as N)	DIO0284-JUN24	mg/L	0.003	<0.003	ND	20	98	90	110	101	75	125		
Nitrate (as N)	DIO0284-JUN24	mg/L	0.006	<0.006	ND	20	99	90	110	103	75	125		
Nitrate + Nitrite (as N)	DIO0285-JUN24	mg/L	0.006	<0.006	NA		NA			NA				
Nitrite (as N)	DIO0285-JUN24	mg/L	0.003	<0.003	ND	20	98	90	110	101	75	125		
Nitrate (as N)	DIO0285-JUN24	mg/L	0.006	<0.006	0	20	98	90	110	96	75	125		

### Microbiology

### Method: OMOE MICROMFDC-E3407A | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.							
	Reference				Blank	Blank	RPD	AC (%)				Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)	
						(%)	Recovery (%)	Low	High	(%)	Low	High					
E. Coli	BAC9212-JUN24	cfu/100mL	-	ACCEPTED	ACCEPTE												
					D												
Total Coliform	BAC9212-JUN24	cfu/100mL	-	ACCEPTED	ACCEPTE												
					D												

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CA40073-JUN24 R1

### **QC SUMMARY**

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RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

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Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

20240617



### **LEGEND**

### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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This report supersedes all previous versions

-- End of Analytical Report --

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Honer

### Request for Laboratory Services and CHAIN OF CUSTODY

Laboratory Information Section - Lab use only

No: 038681

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment

Received By (signature):

- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Cooling Agent Present: Yes No Type: TVC
Temperature Upon Receipt (°C) LAB LIMS #: CA 400-73-JW20 Custody Seal Present: Yes Custody Seal Intact: Yes REPORT INFORMATION INVOICE INFORMATION Company: DS GonSu Hants Ltd (same as Report Information) Quotation #: Contact: borothy Santos
Address: 6221 Muy & unitle Site Location/ID: ting st. Company: Alcounting Project #: 20-169-106-36 TURNAROUND TIME (TAT) REQUIRED TAT's are quoted in business days (exclude statutory holidays & weekends). Regular TAT (5-7days) Samples received after 6pm or on weekends: TAT begins next business day RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION Email: DS notos @dsconsultanots Ca \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED Specify Due Date: WITH SGS DRINKING WATER CHAIN OF CUSTODY REGULATIONS **ANALYSIS REQUESTED** SVOC PCB PHC VOC SPLP TCLP O.Reg 153/04 O.Reg 406/19 M & I Pest Other (please specify) Other Regulations: Sewer By-Law: Table 1 Res/Park Soil Texture: Reg 347/558 (3 Day min TAT) Sanitary Specify Ind/Com Coarse Table 2 PWQO MMER Storm tests Agri/Other Medium/Fine Table 3 CCME Municipality: Sewer Use: Specify pkg: Water Characterization Pkg Table ☐Metals ☐M&I Metals & Inorganics Indicate (C), Na-water) 5tal 6/20m <350m3 ODWS Not Reportable \*See note >350m3 COMMENTS: □voc Field Filtered (Y/N) Full Metals Suite RECORD OF SITE CONDITION (RSC) YES ICP Metals only 1,4-+ BTEX OCP Pesticides PAHs only DATE TIME # OF BTEX only VOCs all incl BTEX MATRIX DABN SAMPLE IDENTIFICATION SAMPLED BOTTLES SAMPLED F1-F4 Dignit 8068 king st Jue 12, or PM Dieose Compay Gw results to obus 12 Observations/Comments/Special Instructions Date: Thre 1 12,24 Sampled By (NAME): Signature: (mm/dd/yy) Pink Copy - Client Relinquished by (NAME): andling and transportation of samples. (2) Submission of samples to SGS is of ate of Issue: 07 JUNE 2023 the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.







CA40131-JUN24 R---

20-169-106, 14091 Humber Station Rd, Bolton

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAIL	S	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dsantos@dsconsultants.ca	SGS Reference	CA40131-JUN24
Project	20-169-106, 14091 Humber Station Rd, Bolton	Received	06/19/2024
Order Number		Approved	06/21/2024
Samples	Ground Water (1)	Report Number	CA40131-JUN24 R
		Date Reported	06/21/2024

### COMMENTS

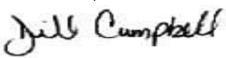
Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present:yes Custody Seal Present:yes

Chain of Custody Number:038519

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS





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CA40131-JUN24 R---

Client: DS Consultants

Project: 20-169-106, 14091 Humber Station Rd, Bolton

Project Manager: Dorothy Santos

Samplers: Ken Kim

MATRIX MATER			Sample Nur	mber 5
MATRIX: WATER			·	
			Sample N	
				Station Rd
L1 = ODWS_MAC / WATER / Table 1,2 and 3 -	Drinking Water - Reg O.169_03		Sample M	atrix Ground Water
			Sample	<b>Date</b> 19/06/2024
Parameter	Units	RL	L1	Result
Metals and Inorganics				
Nitrite (as N)	as N mg/L	0.03	1	< 0.03
Nitrate (as N)	as N mg/L	0.06	10	0.24
Nitrate + Nitrite (as N)	as N mg/L	0.06		0.24
Microbiology				
E. Coli	cfu/100mL	0	0	0
Total Coliform	cfu/100mL	0	0	520



### **EXCEEDANCE SUMMARY**

### 14091 Humber Station Rd

Total Coliform	SM 9222	cfu/100mL	520	0
Total Collidin	OW OZZZ	ora, roome	020	•

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### QC SUMMARY

### Anions by IC

Method: EPA300/MA300-lons1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
	Reference			Blank	RPD	AC	Spike	Recove	ry Limits %)	Spike Recovery	Recove	ry Limits %)	
						(%)	Recovery (%)	Low	High	(%)	Low	High	
Nitrate + Nitrite (as N)	DIO0437-JUN24	mg/L	0.06	<0.06	NA		NA			NA			
Nitrite (as N)	DIO0437-JUN24	mg/L	0.03	<0.03	ND	20	97	90	110	104	75	125	
Nitrate (as N)	DIO0437-JUN24	mg/L	0.06	<0.06	0	20	100	90	110	106	75	125	

### Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch	Units	RL	Method	Dupl	icate	LCS/Spike Blank			Matrix Spike / Ref.			
	Reference			Blank	RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery	Recovery Limits (%)		
								Low	High	(%)	Low	High	
E. Coli	BAC9318-JUN24	cfu/100mL	-	ACCEPTED	ACCEPTE								
					D								
Total Coliform	BAC9318-JUN24	cfu/100mL	-	ACCEPTED	ACCEPTE								
					D								

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CA40131-JUN24 R---



### **QC SUMMARY**

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Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

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Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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### **LEGEND**

### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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-- End of Analytical Report --

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No: 038519

Page

# Request for Laboratory Services and CHAIN OF CUSTODY

Request for Laboratory Services and Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-662-6365 Web: www.sgs.con/environment

London: 657 Consortium Court, London, ON, NGE 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

LAB LINS #CA - 40131- JUNO Site Location/ID: (Cod ( Flumber Statin PU Yellow & White Copy - SGS appear on this form or be retained on file in \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED COMMENTS: TAT's are quoted in business days (exclude statutory holidays weekends). Samples received after 6pm or on weekends: TAT begins next business day Pink Copy - Client WITH SGS DRINKING WATER CHAIN OF CUSTODY SPLP TCLP Dvoc Specify Docp tests DABN (mm/dd/yy) (mm/dd/yy) Water Characterization Pkg sbecity pkg: Other (please specify) 2 Days 3 Days 4 Days PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION Sewer Use: Date: Twe / (9 / 2096) TURNAROUND TIME (TAT) REQUIRED P.O. #: 23 July Date: Sure 1 09 ANALYSIS REQUESTED Pest Pesticides 1 Day VOC BTEX only NOC2 F1-F4 only PHC F1-F4 + BTEX Laboratory Information Section - Lab use only Cooling Agent Present: Yes RUSH TAT (Additional Charges May Apply): PCB Project #: 70 - 160-106 Aroclor ☐ lstoT **bcBs** Temperature Upon Receipt (°C) SVOCs Bill incl PAHs, ABNs, CPs SVOC Regular TAT (5-7days) ICP Metals only sb.ks.Ba.Be.B.Cd. Full Metals Suite CP metals plus B(HWS-soil only) Hg, CrVI Specify Due Date: M & I nci CrVI, CN, Hg pH, (B(HWS), EC, SAR-soll) (Cl, Na-water) Metals & Inorganics Field Filtered (Y/N) GE No MATRIX Sewer By-Law: Sanitary ints). (3) Results may be sent by **Municipality**: Custody Seal Intact: Yes Custody Seal Present: Yes SAMPLED BOTTLES Signature: Signature: INVOICE INFORMATION 4 Received By (signature): # OF ODWS Not Reportable \*See note Same as Report Information) Company: Alcount MC Reg 347/558 (3 Day min TAT) E m that you have been that you have been (3 1 MMER TIME Other: Other Regulations: No. Tweld 2074 DATE PWQO CCME Email Dearth S GALSCONSU (Hallfall). (O) MISA YES REGULATIONS DEN TAN HUNG CAROL the contract, or in an alternative (mm/dd/yy) (You) Humberstation Rd विकास वरेन RECORD OF SITE CONDITION (RSC) Sorter Surtes Medium/Fine O.Reg 406/19 Kiensy Harts Coarse Soil Texture: >350m3 Observations/Comments/Special Instructions SAMPLE IDENTIFICATION Agri/Other Res/Park Res/Park <350m3 Relinquished by (NAME): Sampled By (NAME): O.Reg 153/04 ite of Issue: 07 JUNE 2023 Soil Volume teceived Date: eceived Time Table 1 eceived By: Table 3 Company: Phone: Address: Table Contact: 6 10 7 3 2 9 œ 4







**FINAL REPORT** 

CA14269-JUL24 R1

20-169-106-36, 14389 The Gorre Rd Bolton ON

Prepared for

**DS Consultants** 



### First Page

CLIENT DETAILS	s	LABORATORY DETAIL	LS
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16	Address	185 Concession St., Lakefield ON, K0L 2H0
	Vaughan, Ontario		
	L4H 0K8. Canada		
Contact	Dorothy Santos	Telephone	2165
Telephone	905-329-2735	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	dsantos@dsconsultants.ca	SGS Reference	CA14269-JUL24
Project	20-169-106-36, 14389 The Gorre Rd Bolton ON	Received	07/04/2024
Order Number		Approved	07/10/2024
Samples	Solution (2)	Report Number	CA14269-JUL24 R1
		Date Reported	07/10/2024

### COMMENTS

MAC - Maximum Acceptable Concentration

AO/OG - Aesthetic Objective / Operational Guideline

NR - Not reportable under applicable Provincial drinking water regulations as per client.

Temperature of Sample upon Receipt: 6 degrees C

Cooling Agent Present:y

Custody Seal Present:y

Chain of Custody Number:038539

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

July Cumpbell

### CA14269-JUL24 R1

### **FINAL REPORT**



### **TABLE OF CONTENTS**

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QC Summary	6-7
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Annexes	9



CA14269-JUL24 R1

Client: DS Consultants

Project: 20-169-106-36, 14389 The Gorre Rd Bolton ON

Project Manager: Dorothy Santos

Samplers: Chaitanya

MATRIX: WATER			Sample No	umber	7	8
			Sample	Name	Tap-1	Tap-2 Filter
L1 = ODWS_MAC / WATER / Table 1,2 and 3 - D	rinking Water - Reg O.169_03		Sample	Matrix	Solution	Solution
			Sample	Date	04/07/2024	04/07/2024
Parameter	Units	RL	L1		Result	Result
Metals and Inorganics						
Nitrite (as N)	as N mg/L	0.03	1		< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06	10		1.39	1.40
Nitrate + Nitrite (as N)	as N mg/L	0.06			1.39	1.40
Microbiology						
Total Coliform	cfu/100mL	0	0		105	85
E. Coli	cfu/100mL	0	0			



### **EXCEEDANCE SUMMARY**

		·			
				ODWS_MAC /	
				WATER / Table	
				1,2 and 3 - Drinking	
				Water - Reg	
				O.169_03	
Parameter	Method	Units	Result	L1	,

### Tap-1

E.Coli	OMOE	cfu/100mL	1	0
	MICROMFDC-E3407A			
Total Coliform	OMOE	cfu/100mL	105	0
	MICROMFDC-E3407A			

### Tap-2 Filter

E.Coli	OMOE	cfu/100mL	1	0
	MICROMFDC-E3407A			
Total Coliform	OMOE	cfu/100mL	85	0
	MICROMFDC-E3407A			

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### QC SUMMARY

### Anions by IC

Method: EPA300/MA300-lons1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Du	Duplicate		S/Spike Blank		Matrix Spike / Ref.		
					Blank RPD	RPD AC (%)	•	Recovery Limits (%)		Spike Recovery	Recovery Limits	
								Low	High	(%)	Low	High
Nitrate + Nitrite (as N)	DIO0115-JUL24	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0115-JUL24	mg/L	0.03	<0.03	ND	20	100	90	110	81	75	125
Nitrate (as N)	DIO0115-JUL24	mg/L	0.06	<0.06	0	20	99	90	110	NV	75	125

### Microbiology

Method: OMOE MICROMFDC-E3407A | Internal ref.: ME-CA-IENVIMIC-LAK-AN-001

Parameter	QC batch	Units	RL	Method	Duplicate		LC	S/Spike Blank		Matrix Spike / Ref.		
	Reference			Blank	RPD	AC (%)	Spike	Recovery Limits (%)		Spike Recovery	Recovery Limits	
							Recovery (%)	Low	High	(%)	Low	High
E. Coli	BAC9102-JUL24	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							
Total Coliform	BAC9102-JUL24	cfu/100mL	-	ACCEPTED	ACCEPTE							
					D							

20240710 6 / 9



### **QC SUMMARY**

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

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### **LEGEND**

### **FOOTNOTES**

NSS Insufficient sample for analysis.

RL Reporting Limit.

- † Reporting limit raised.
- ↓ Reporting limit lowered.
- NA The sample was not analysed for this analyte
- ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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This report supersedes all previous versions.

-- End of Analytical Report --

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# SGS

# Request for Laboratory Services and CHAIN OF CUSTODY

No: 038539

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment -London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Company: DS  $\Rightarrow$ 10 Email: Phone: Contact: 16 to thy Table 3 Address: 622 Sampled By (NAME): Observations/Comments/Special Instructions Table 2 Received Time: Received Date: Received By: Table 1 O.Reg 153/04 Table Soil Volume Dantes a deconsultant 905 - 329 - 27 35 100 SAMPLE IDENTIFICATION RECORD OF SITE CONDITION (RSC) REPORT INFORMATION 100-<350m3 Consultants Hun-7, Unit-16 Agri/Other Ind/Com Res/Park N T, danto O.Reg 406/19 lter Medium/Fine Soil Texture: Coarse >350m3 (mm/dd/yy) REGULATIONS Contact: 714124 714124 Phone: Company: Asame as Report Information) Other Regulations: SAMPLED MISA PWQO CCME Reg 347/558 (3 Day min TAT) DATE ODWS Not Reportable \*See note YES Acounting INVOICE INFORMATION Other: MMER NO Custody Seal Present: Yes SAMPLED Received By (signature): 3 2 TIME BOTTLES Signature: # OF N N Sewer By-Law: Storm Sanitary tal bus MATRIX Laboratory Information Section - Lab use only I RUSH TAT (Additional Charges May Apply): 12 Specify Due Date Project #: PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION Quotation #: Field Filtered (Y/N) Metals & Inorganics Regular TAT (5-7days) incl CrVI, CN,Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water) ≥ Qo Cooling Agent Present: Yes Wo Full Metals Suite 8 Temperature Upon Receipt (°C) ICP Metals only Sb,As,Be,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,TI,U,V,Zn 1 169 PAHs only SVOC i SVOCs 0 PCB **PCBs** Total Aroclor 0 ANALYSIS REQUESTED F1-F4 + BTEX PHC W F1-F4 only \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED 10 BTEX **FURNAROUND TIME (TAT) REQUIRED** VOCs 1 Day VOC all Incl BTEX Date: BTEX only Pest 2 Days 3 Days 4 Days Pesticides ODWS WITH SGS DRINKING WATER CHAIN OF CUSTODY Samples received after 6pm or on weekends: TAT begins next business day TAT's are quoted in business days (exclude statutory holidays & weekends) 1 Site Location/ID: Other (please specify) Sewer Use: 14389 Specify pkg: (mm/dd/yy) Water Characterization Pkg LABLIMS# CAIU369-Extended Dioman DO 180, ON Dvoc DABN Поср SPLP TCLP tests The Dvoc DABN □B(a)f ПРСВ Good Pink Copy - Client Please the results 200 COMMENTS: 3 Cous of

Relinquished by (NAME):

ssion of samples of SGS is

ent that you have been

Signature:

provided direction on sample

collection/handling and transportation of samples. (2) Subm

sion of samples to SGS is co

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ion of work. Signatures may appear on this form or be retained on file in

Yellow & White Copy - SG:

24

(mm/dd/yy)

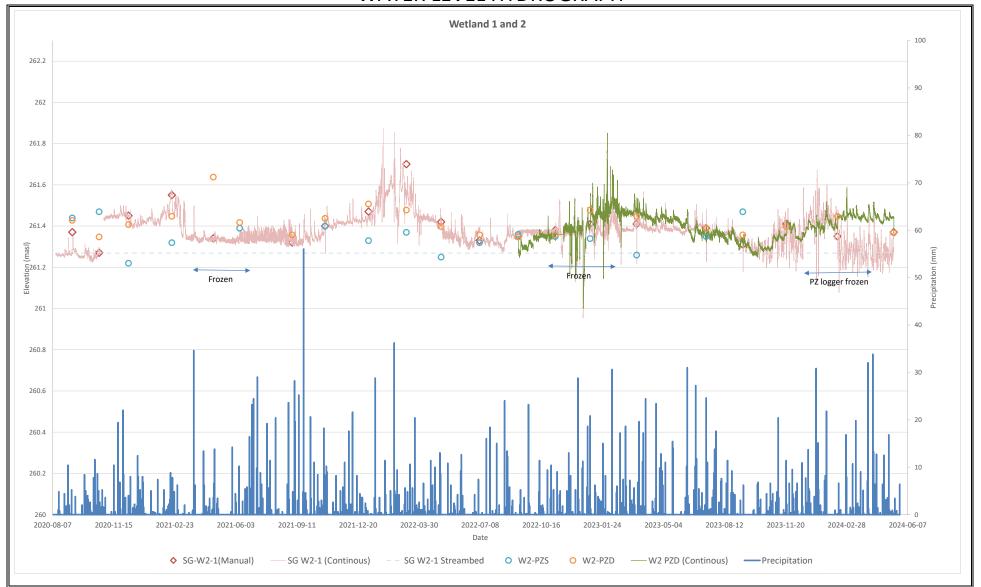
ISUE: 07 JUNE 2023

the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. http://www.sgs.com/lierms\_and\_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, inden



## **Appendix** J

### WATER LEVEL HYDROGRAPH





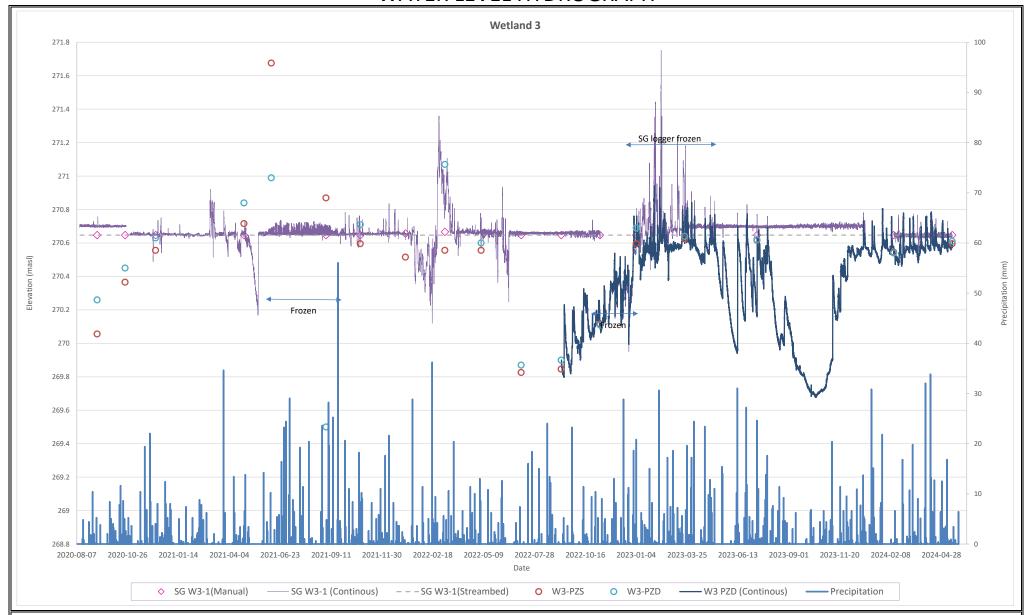
**Caledon Station** 

WETLAND 1 & 2 HYDROGRAPH

August 2020 -May 2024

J-1

### WATER LEVEL HYDROGRAPH

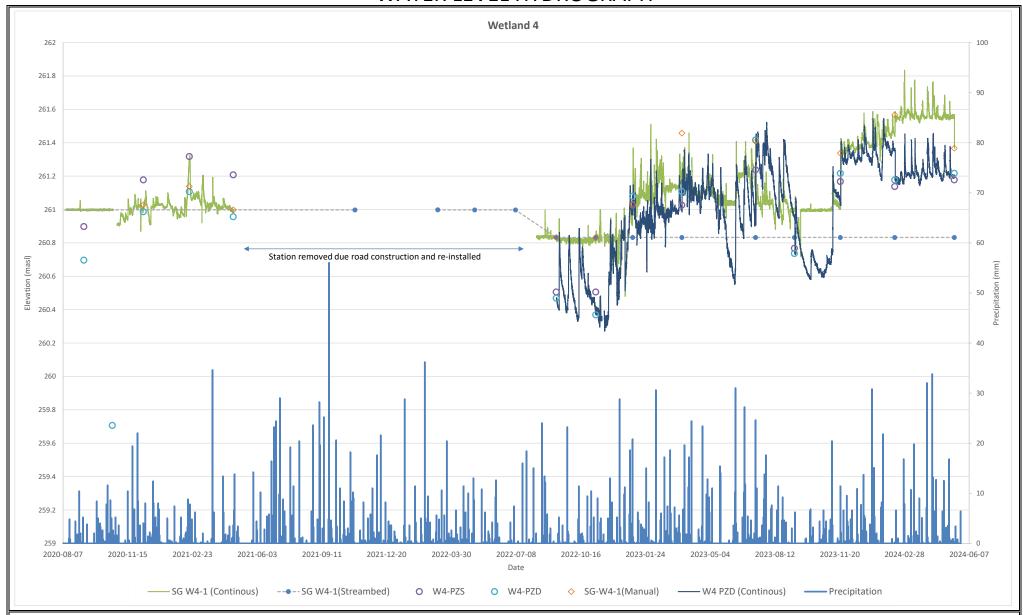




### **Caledon Station**

WETLAND 3 HYDROGRAPH

### WATER LEVEL HYDROGRAPH

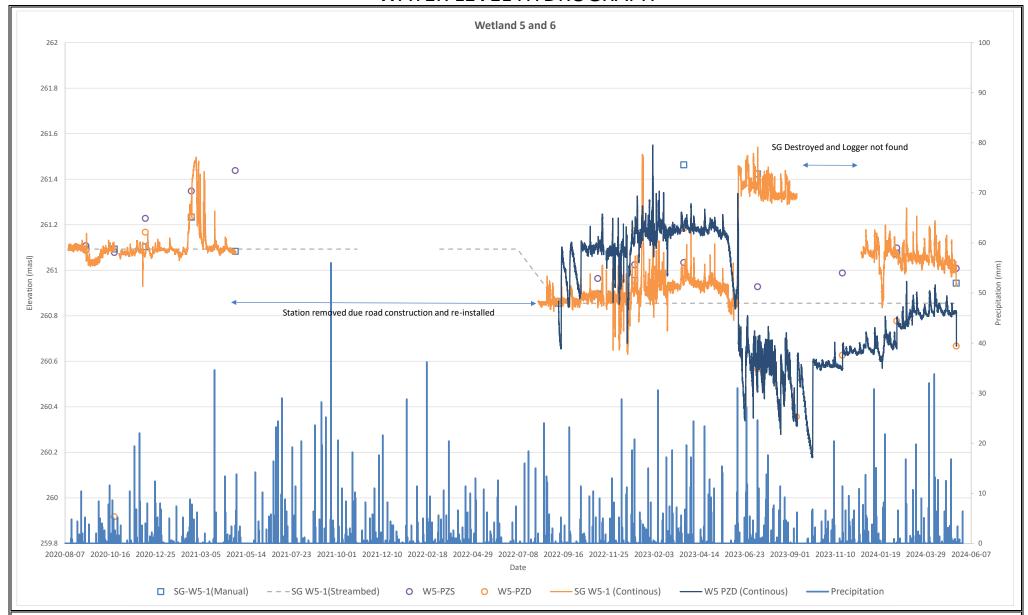




### **Caledon Station**

WETLAND 4 HYDROGRAPH

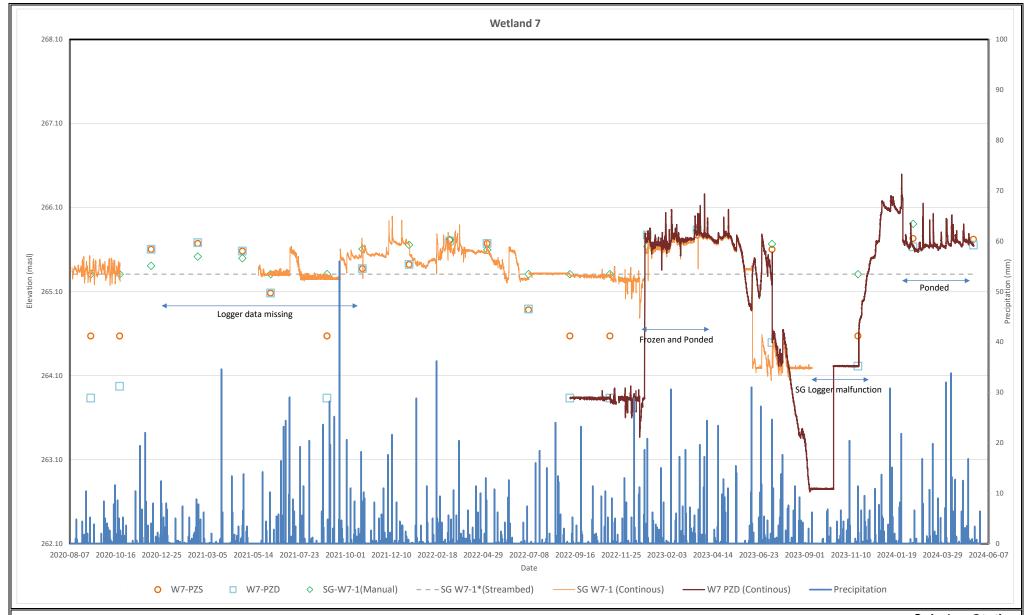
August 2020 - May 2024





#### Caledon Station

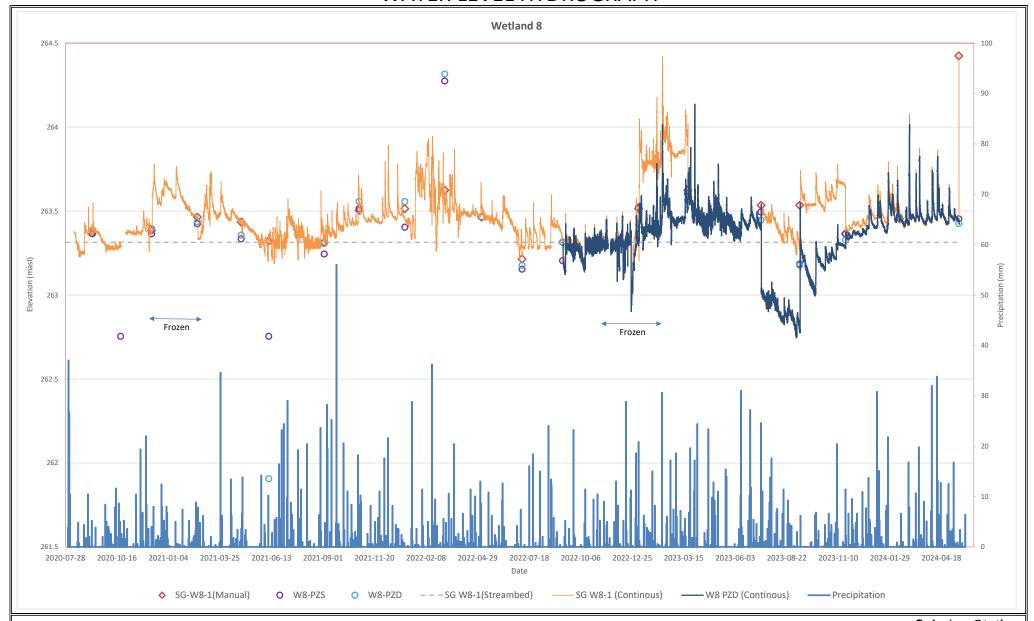
WETLANDS 5 & 6 HYDROGRAPH





### **Caledon Station**

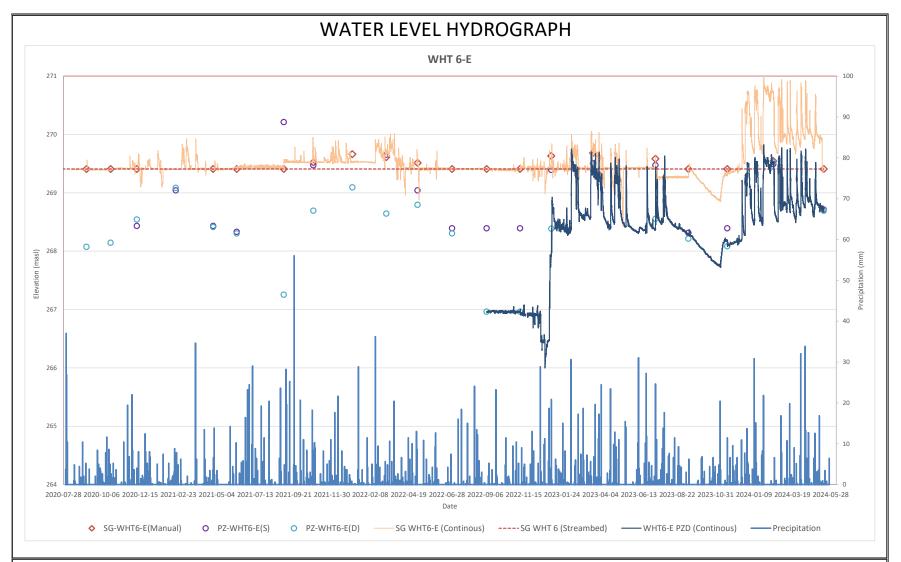
WETLAND 7 HYDROGRAPH





**Caledon Station** WETLAND 8 HYDROGRAPH

August 2020 - May 2024

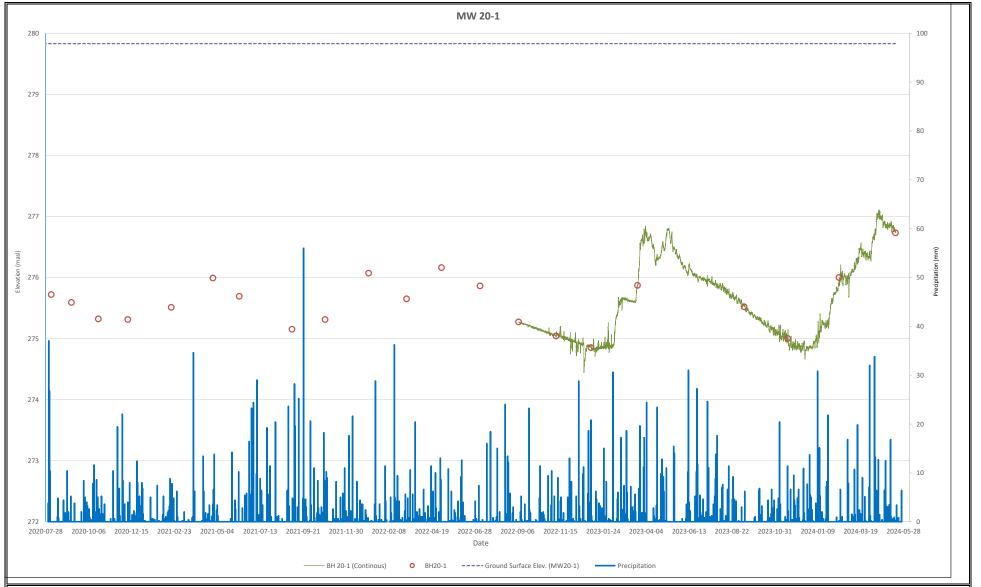




#### Caledon Station

WHT 6-E HYDROGRAPH

August 2020 - May 2024

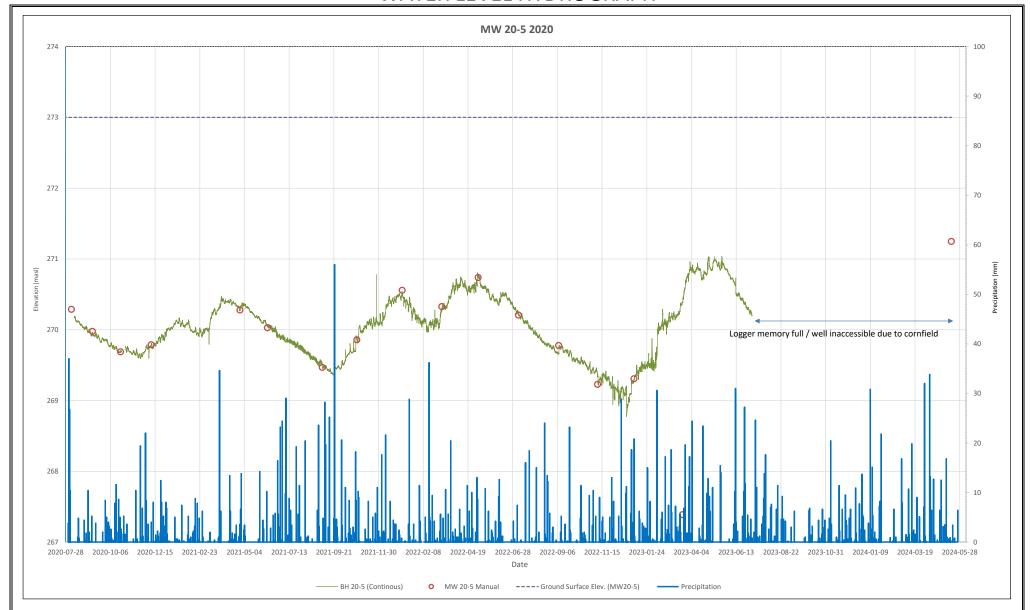




**Caledon Station** 

MW 20-1 HYDROGRAPH

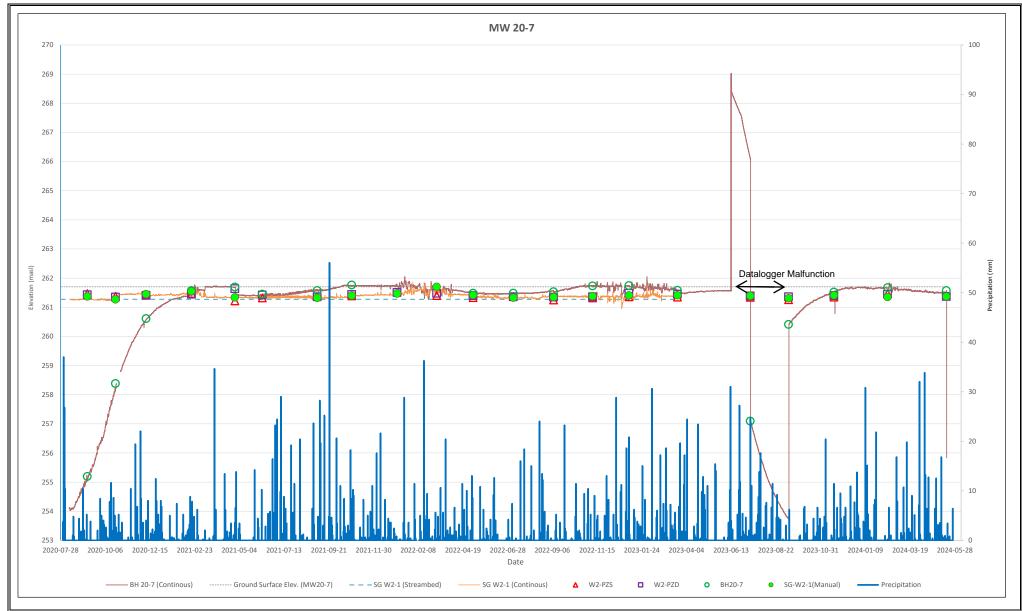
August 2020 - May 2024





### **Caledon Station**

MW 20-5 HYDROGRAPH



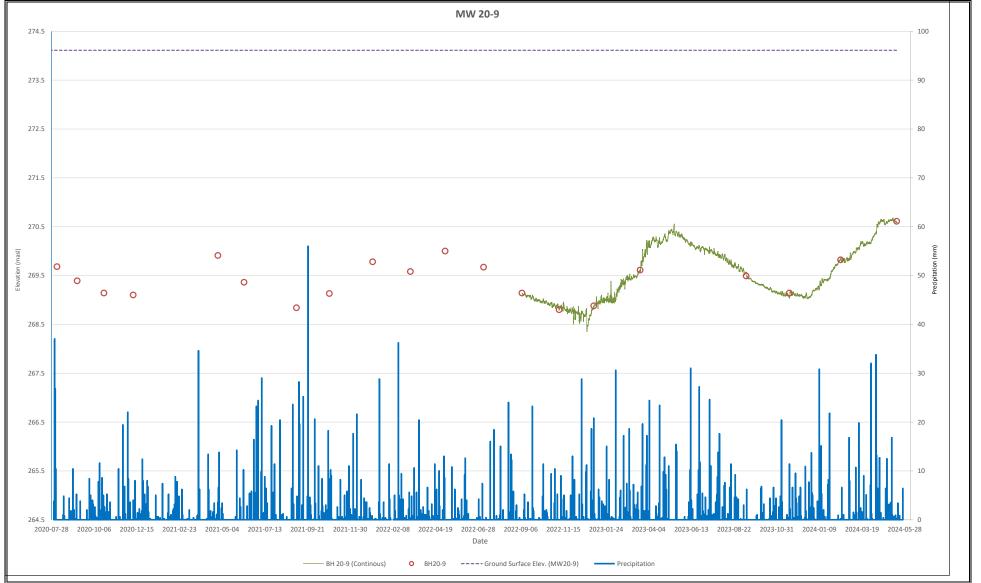


Caledon Station MW

20-7 HYDROGRAPH

August 2020 - May 2024

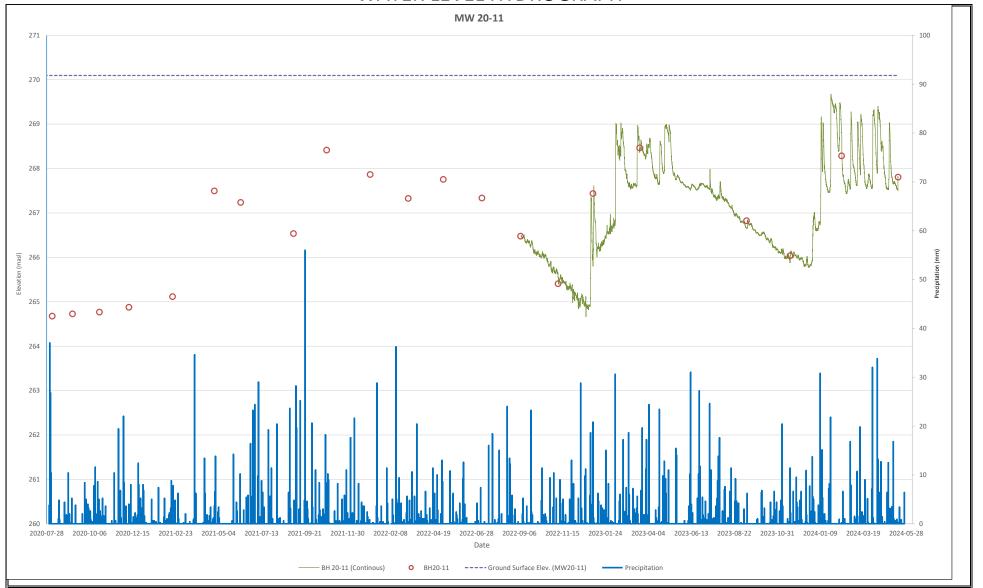
1-10





Caledon Station
MW 20-9 HYDROGRAPH

August 2020 -May 2024

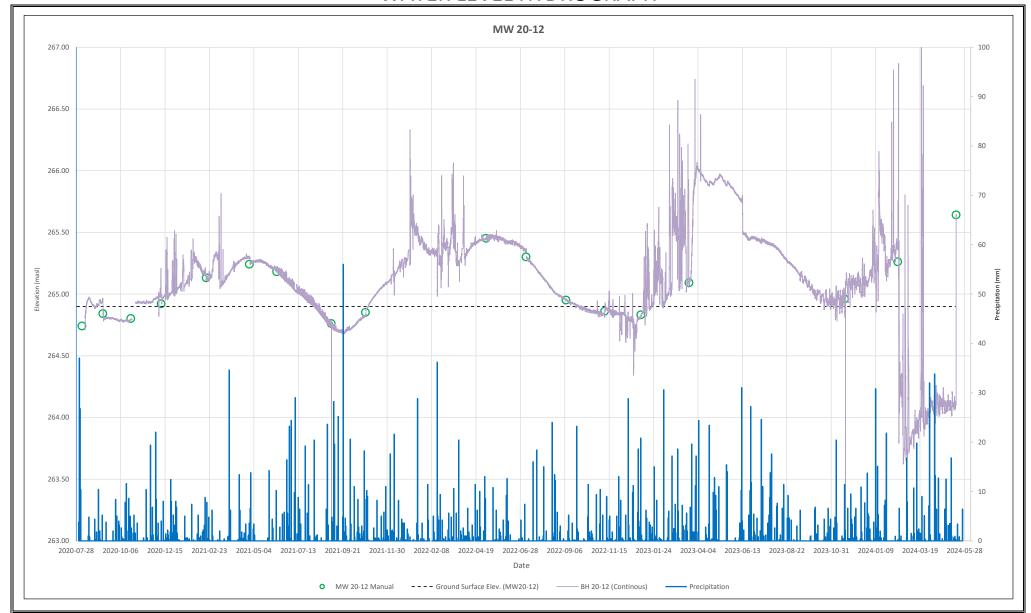




**Caledon Station** 

MW 20-11 HYDROGRAPH

August 2020 - May 2024

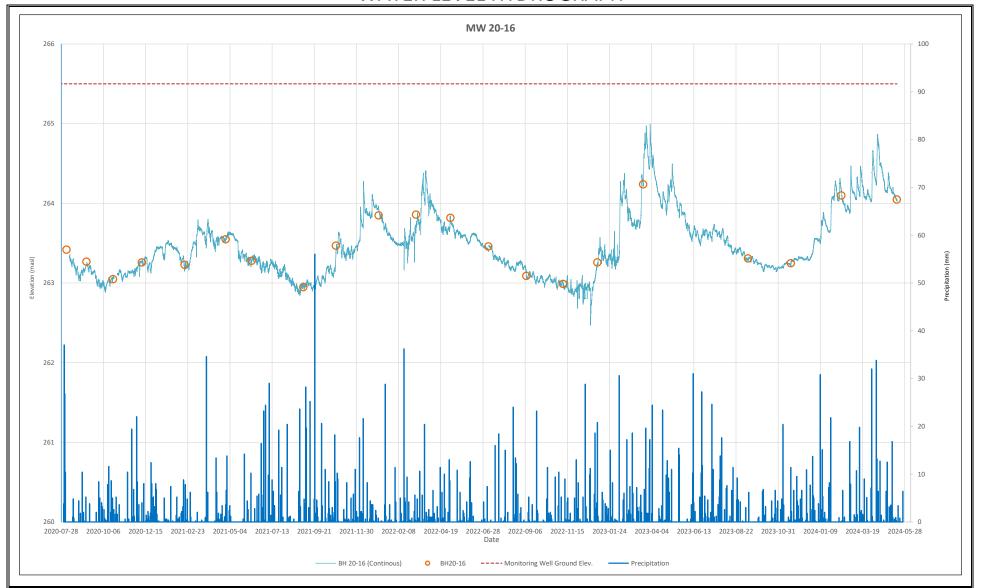




### **Caledon Station**

MW 20-12 HYDROGRAPH

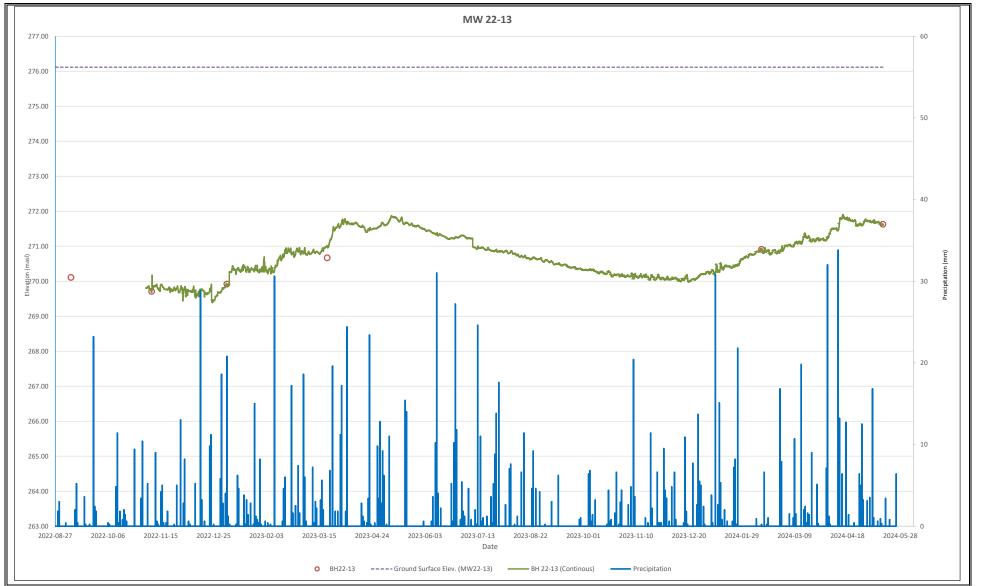
August 2020 -May 2024





#### **Caledon Station** MW 20-16 HYDROGRAPH

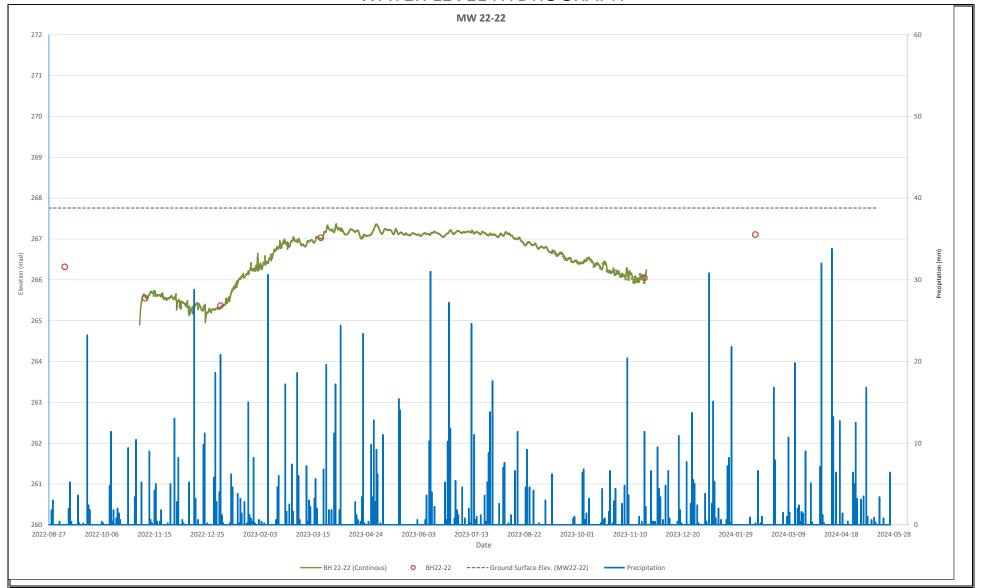
August 2020 - May 2024





Caledon Station
MW 22-13 HYDROGRAPH

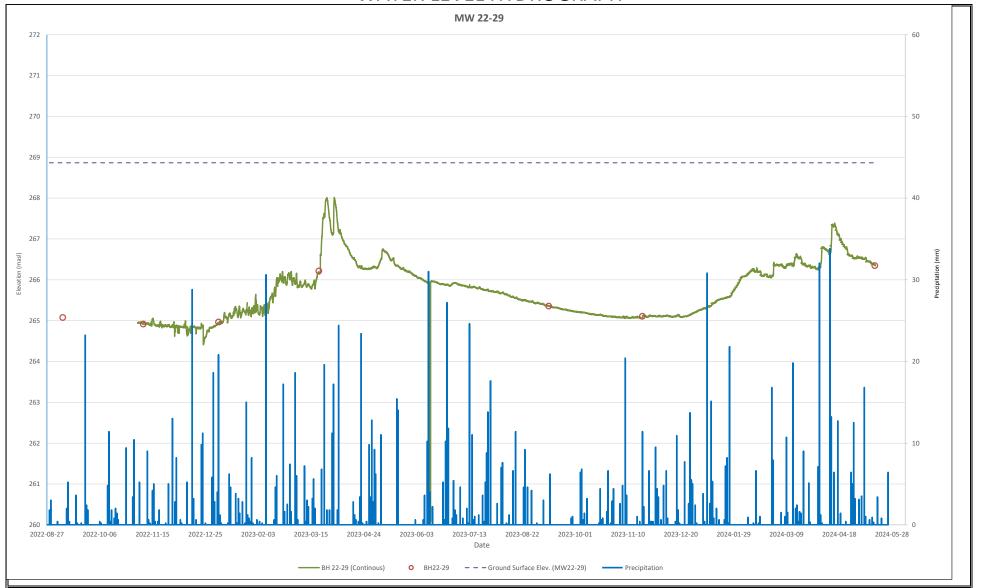
August 2022 - May 2024





Caledon Station
MW 22-22 HYDROGRAPH

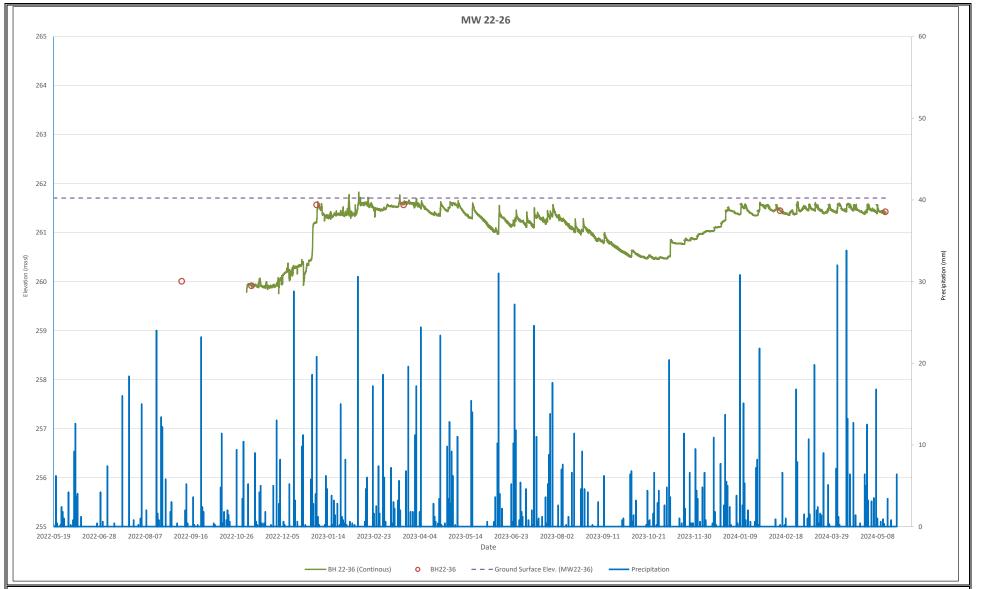
August 2022 - May 2024





Caledon Station
MW 22-29 HYDROGRAPH

August 2022 - May 2024

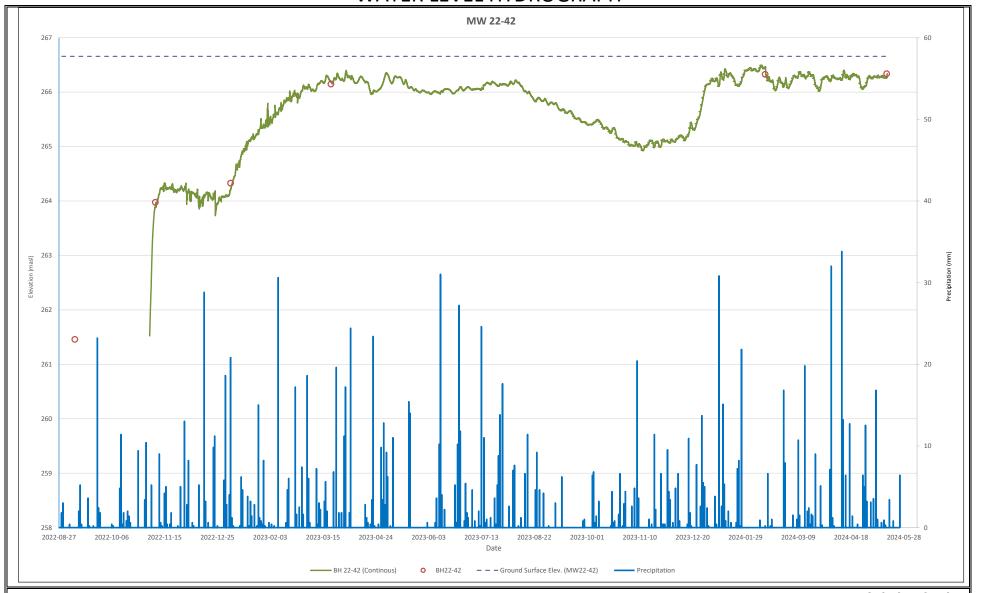




**Caledon Station** 

MW 22-26 HYDROGRAPH

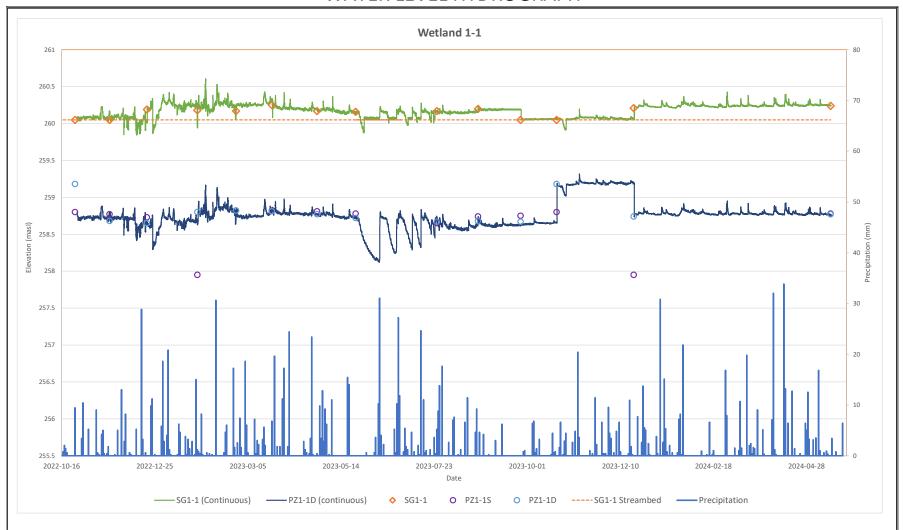
August 2022 - May 2024





Caledon Station
MW 22-42 HYDROGRAPH

August 2022 - May 2024

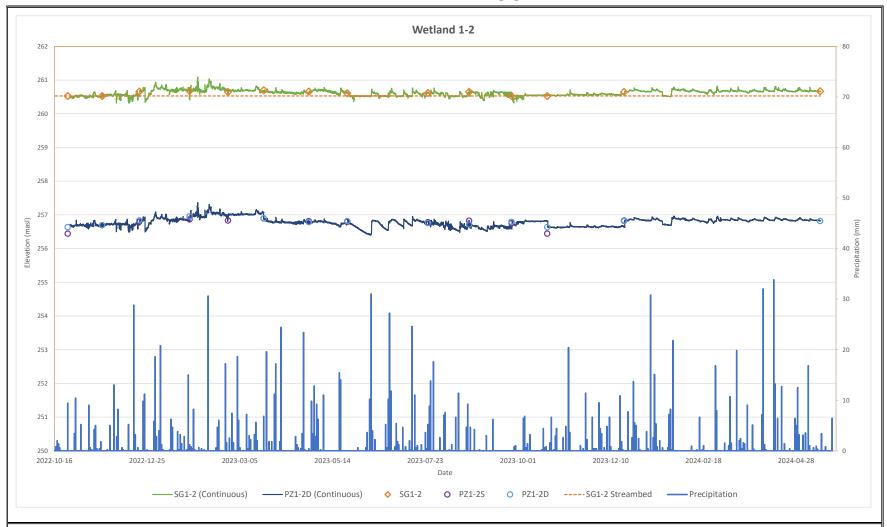






Argo King I & II
WETLAND 1-1 HYDROGRAPH

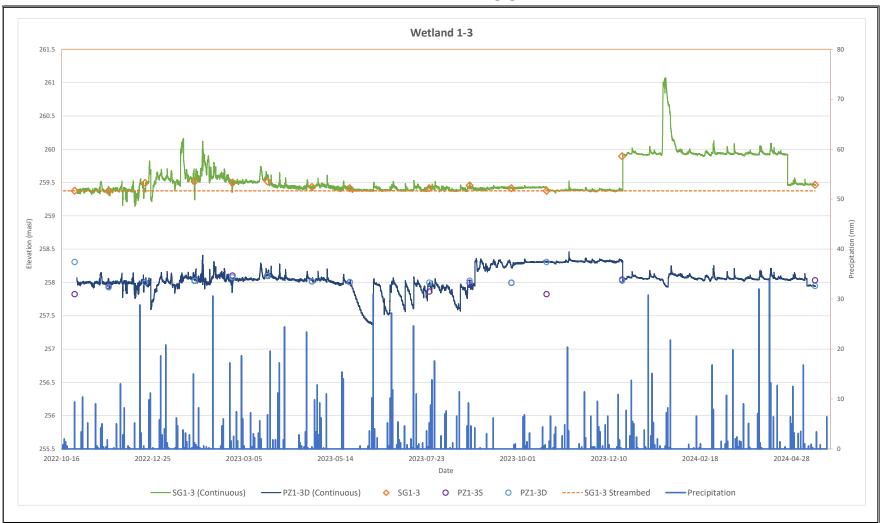
October 2022 - May 2024





Argo King I & II
WETLAND 1-2 HYDROGRAPH

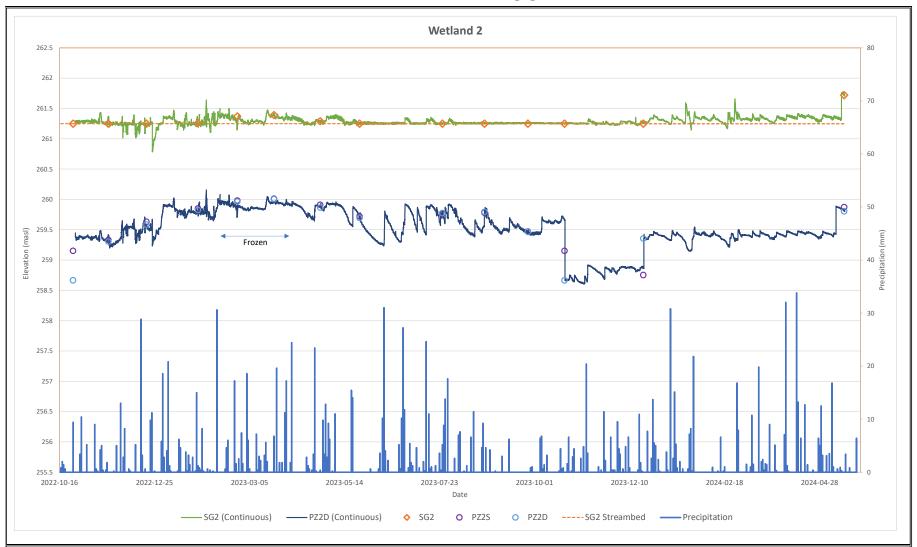
October 2022 - May 2024





Argo King I & II
WETLAND 1-3 HYDROGRAPH

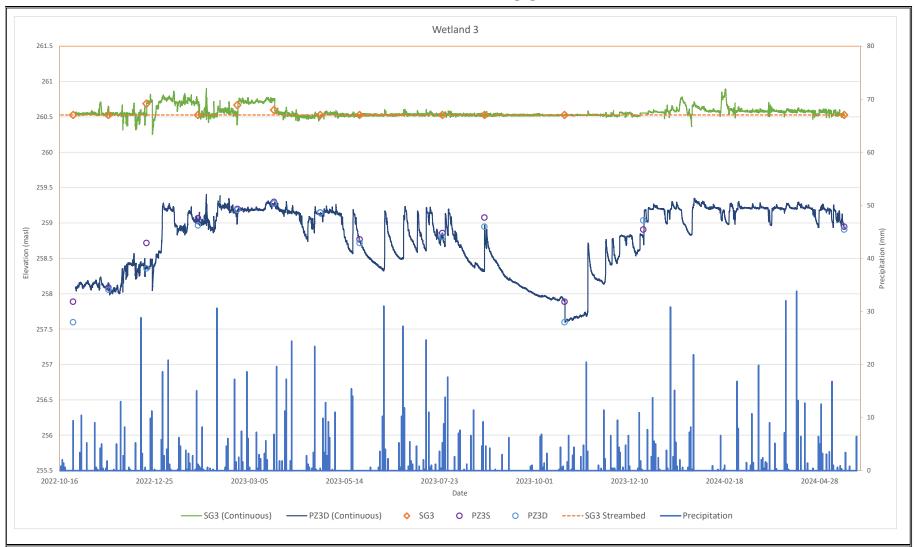
October 2022 - May 2024





Argo King I & II
WETLAND 2 HYDROGRAPH

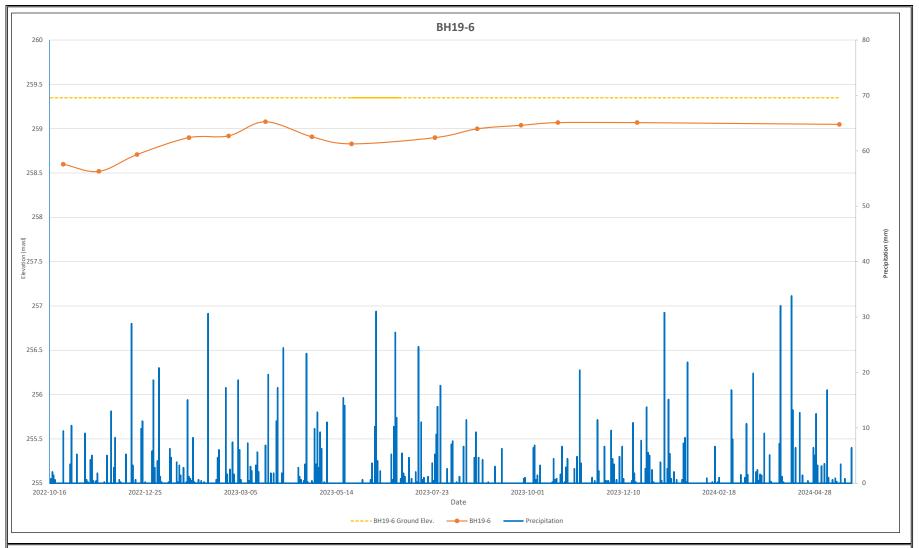
October 2022 - May 2024





Argo King I & II
WETLAND 3 HYDROGRAPH

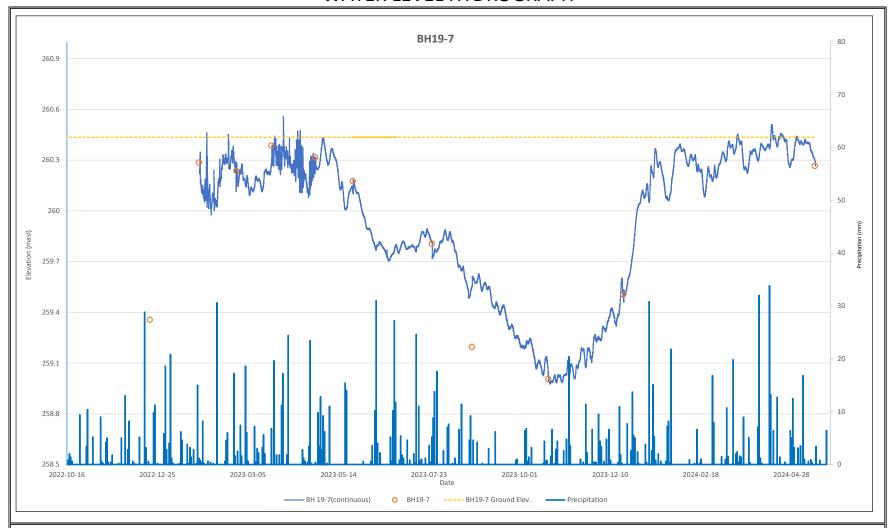
October 2022 - May 2024





Argo King I & II
BH19-6 HYDROGRAPH

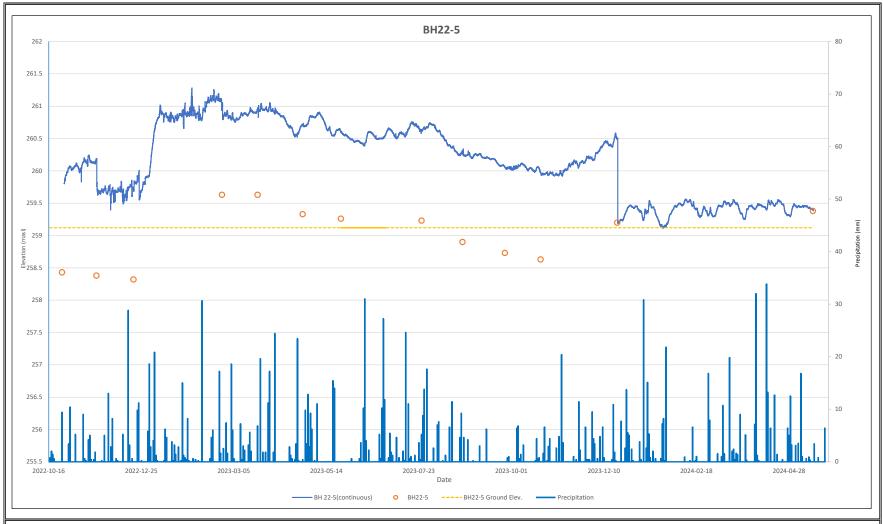
October 2022 - May 2022





Argo King I & II
BH19-7 HYDROGRAPH

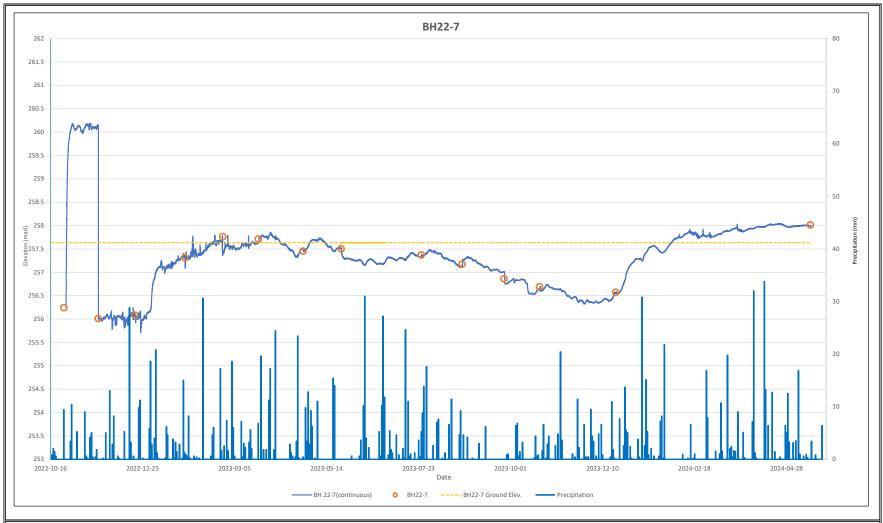
October 2022 - May 2024





Argo King I & II
BH22-5 HYDROGRAPH

October 2022 - May 2024





Argo King I & II
BH22-7 HYDROGRAPH

October 2022 - May 2024



# $\textbf{Appendix} \; \mathsf{K}$

			Thornthy	waite (1948)		
Month	Mean		Unadjusted Potential	Daylight	Adjusted Potential	Total Precipitation
	Temperature	Heat Index	Evapotranspiration	Correction	Evapotranspiration	(mm)
	(°C)		(mm)	Value	(mm)	(111111)
January	-5.5	0.0	0.0	0.78	0.0	51.8
February	-4.5	0.0	0.0	0.88	0.0	47.7
March	0.1	0.0	0.2	0.99	0.2	49.8
April	7.1	1.7	30.4	1.12	34.1	68.5
May	13.1	4.3	60.7	1.22	74.1	74.3
June	18.6	7.3	90.2	1.28	115.4	71.5
July	21.5	9.1	106.2	1.25	132.7	75.7
August	20.6	8.5	101.2	1.16	117.4	78.1
September	16.2	5.9	77.2	1.04	80.2	74.5
October	9.5	2.6	42.3	0.92	38.9	61.1
November	3.7	0.6	14.6	0.81	11.8	75.1
December	-2.2	0.0	0.0	0.75	0.0	57.9
TOTALS	·	40.1	522.9		604.8	786.0

Notes: Daylight Correction values obtained from Instruction and Tables For Computing Potential Evapotranspiration and The Water Balance (Thornthwaite & Mather, 1957)

	Catchments and	Hydrologic Components	March	April	May	June	July	Month August	September	October	November	December	January	February	1
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	60
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	7
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	1
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	
		Soil Moisture Storage (mm)	200.00	200.00	200.00	156.09	99.08	59.83	54.09	76.31	139.58	197.48	200.00	200.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	110.59	112.07	93.70	76.14	38.88	11.82	0.00	0.00	0.00	5
		P-AET (mm)	49.55	34.41	0.22	-39.09	-36.37	-15.60	-1.64	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-39.09	-75.46	-91.05	-92.69	-70.47	-7.19	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	39.09	36.37	15.60	1.64	-22.22	-63.28	-7.19	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	0.00	50.71	51.80	47.70	2
	Pasture/Shrub,	Infiltration Factor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	丄
	Silty Clay Soils	Run-Off Coefficient	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	_
		Infiltration (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90	23.85	1
		Run-Off (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90	23.85	1
		Catchment Area (m²) = 191092.70						Monthly Volume							1
		AET (m³)	47.05	6513.62	14156.19	21132.56	21415.29	17904.51	14548.87	7430.31	2258.85	0.00	0.00	0.00	105
		Infiltration (m³)	4734.68	3288.11	21.00	0.00	0.00	0.00	0.00	0.00	0.00	4845.15	4949.30	4557.56	22
		Run-Off (m <sup>3</sup> ) Soil Moisture Storage (mm)	4734.68	3288.11	21.00	0.00	0.00	0.00	0.00	0.00	0.00	4845.15	10.10100	4557.56	22
		Actual Evapotranspiration (mm)	150.00 0.25	150.00 34.09	150.00 74.08	106.09 108.98	49.08 105.19	9.83 85.81	4.09 74.77	26.31 38.88	89.58 11.82	147.48 0.00	150.00	150.00 0.00	5
		P-AET (mm)	49.55	34.09	0.22	-37.48	-29.49	-7.71	-0.27	22.22	63.28	57.90	51.80	47.70	一
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-37.48	-66.97	-74.68	-74.94	-52.73	0.00	0.00	0.00	0.00	$\vdash$
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	37.48	29.49	7.71	0.27	-32.73	-52.73	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	10.55	57.90	51.80	47.70	2
	Moderately	Infiltration Factor	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	广
	Rooted Crop,	Run-Off Coefficient	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	-
	Silty Clay Soils	Infiltration (mm)	22.30	15.49	0.10	0.00	0.00	0.00	0.00	0.00	4.75	26.06	23.31	21.47	1
		Run-Off (mm)	27.25	18.93	0.12	0.00	0.00	0.00	0.00	0.00	5.80	31.85	28.49	26.24	1
		Catchment Area (m <sup>2</sup> ) = 1168087.32						Monthly Volume	s						
		AET (m³)	287.62	39815.65	86532.17	127299.81	122868.25	100232.33	87333.65	45419.06	13807.62	0.00	0.00	0.00	623
		Infiltration (m <sup>3</sup> )	26047.41	18089.25	115.52	0.00	0.00	0.00	0.00	0.00	5546.41	30434.52	27228.12	25072.99	132
		Run-Off (m <sup>3</sup> )	31835.72	22109.08	141.20	0.00	0.00	0.00	0.00	0.00	6778.94	37197.74	33278.81	30644.77	161
		Soil Moisture Storage (mm)	150.00	150.00	150.00	106.09	49.08	9.83	4.09	26.31	89.58	147.48	150.00	150.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	108.98	105.19	85.81	74.77	38.88	11.82	0.00	0.00	0.00	5
		P-AET (mm)	49.55	34.41	0.22	-37.48	-29.49	-7.71	-0.27	22.22	63.28	57.90	51.80	47.70	_
Site		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-37.48	-66.97	-74.68	-74.94	-52.73	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	37.48	29.49	7.71	0.27	-22.22	-52.73	0.00	0.00	0.00	╙
	Tile Drained	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	10.55	57.90	51.80	47.70	2
	Cultivated lands,	Infiltration Factor	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	┷
	Silty Clay Soils	Run-Off Coefficient Infiltration (mm)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	₩.
		Run-Off (mm)	22.30	15.49	0.10	0.00	0.00	0.00	0.00	0.00	4.75	26.06	23.31	21.47	1
			27.25	18.93	0.12	0.00	0.00	0.00	0.00	0.00	5.80	31.85	28.49	26.24	1
		Catchment Area (m <sup>2</sup> ) = 388529.98  AET (m <sup>3</sup> )	95.67	13243.51	28782.39	42342.55	40868.52	Monthly Volume 33339.35	29048.98	15107.32	4592.70	0.00	0.00	0.00	207
		Infiltration (m <sup>3</sup> )	8663.91	6016.86	38.43	0.00	0.00	0.00	0.00	0.00	1844.85	10123.15	9056.63	8339.80	44
		Run-Off (m <sup>3</sup> )	10589.22	7353.94	46.96	0.00	0.00	0.00	0.00	0.00	2254.82	12372.74	11069.22	10193.08	53
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	<del>  "</del>
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	5
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	一
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	$\vdash$
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	$\Box$
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	2
	Urban Lawn -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Pervious Development	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Development	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	1
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	1
		Catchment Area (m²) 102064.98						Monthly Volume							
		AET (m³)	25.13	3479.01	7561.00	10467.29	8932.38	7971.28	7603.84	3968.62	1206.48	0.00	0.00	0.00	51
		Infiltration (m <sup>3</sup> )	2023.08	1404.98	8.97	0.00	0.00	0.00	0.00	0.00	1740.18	2363.82	2114.79	1947.40	11
		Run-Off (m³)	3034.62	2107.47	13.46	0.00	0.00	0.00	0.00	0.00	2610.27	3545.74	3172.18	2921.10	17
	Impervious	Catchment Area (m²) = 37177.65						Monthly Volume							
	Development	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	277.72	382.00	414.34	398.73	422.15	435.54	415.46	340.73	418.81	322.89	288.87	266.01	43
		Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	1573.73	2164.67	2347.95	2259.47	2392.20	2468.04	2354.27	1930.82	2373.24	1829.70	1636.93	1507.37	24
		,						al Catchment Vol							_
		Total ET (m³)	277.72	382.00	414.34	398.73	422.15	435.54	415.46	340.73	418.81	322.89	288.87	266.01	4
		Total AET (m³)	455.47	63051.79	137031.74	201242.21	194084.44	159447.46	138535.34	71925.30	21865.65	0.00	0.00	0.00	987
			41469.08	28799.20	183.92	0.00	0.00	0.00	0.00	0.00	9131.43	47766.64	43348.84	39917.75	210
		Total Infiltration (m³)  Total Runoff (m³)	51767.98	37023.27	2570.57	2259.47	2392.20	2468.04	2354.27	1930.82	14017.26	59791.06	54106.44	49823.88	28

NOTE:

1) PET and P Taken from Table 1

2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March

4) Actual Evaportanspiration (AET) is a function of Adjusted Potential Evaportanspiration (PET) and change in Groundwater Storage (a ST) for a given soil type



	Catalumanta an	d Hydrologic Components						Moi	nth						Total
	Catchments and	a Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
	l [	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Catchment 101	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 30912.00	Imperv coeff.	. 0.77				Monthly Volume	es						
		AET (m³)	7.61	1053.67	2289.97	3170.18	2705.31	2414.23	2302.94	1201.96	365.40	0.00	0.00	0.00	15511.28
		Infiltration (m <sup>3</sup> )	612.72	425.52	2.72	0.00	0.00	0.00	0.00	0.00	527.04	715.92	640.50	589.80	3514.22
		Run-Off (m <sup>3</sup> )	919.08	638.28	4.08	0.00	0.00	0.00	0.00	0.00	790.56	1073.88	960.74	884.70	5271.33
		Catchment Area (m2) = 103488.00						Monthly Volume	es						
	Development -	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	773.06	1063.34	1153.37	1109.91	1175.11	1212.36	1156.48	948.47	1165.79	898.79	804.10	740.46	12201.24
	Impervious Area	Run-Off from Imperv. (m³) - with 15% evap.	4380.65	6025.59	6535.78	6289.48	6658.94	6870.05	6553.38	5374.65	6606.16	5093.16	4556.58	4195.92	69140.33
							Tota	al Catchment Vol	lumes						
		Total ET (m³)	773.06	1063.34	1153.37	1109.91	1175.11	1212.36	1156.48	948.47	1165.79	898.79	804.10	740.46	12201.24
		Total AET (m³)	7.61	1053.67	2289.97	3170.18	2705.31	2414.23	2302.94	1201.96	365.40	0.00	0.00	0.00	15511.28
		Total Infiltration (m <sup>3</sup> )	612.72	425.52	2.72	0.00	0.00	0.00	0.00	0.00	527.04	715.92	640.50	589.80	3514.22
		Total Runoff (m³)	5299.73	6663.87	6539.86	6289.48	6658.94	6870.05	6553.38	5374.65	7396.72	6167.04	5517.32	5080.62	74411.66
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	301.73
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	204.21
	Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	<u> </u>
Catchment 102	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
Outoration 102		Run-Off (mm)	29.73	20.65	0.03	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 18360.00	Imperv coeff.		0.13	0.00		Monthly Volume		0.00	23.57	34.74	31.00	20.02	170.33
		AET (m³)	4.52	625.82	1360.11	1882.91	1606.81	1433.92	1367.82	713.90	217.03	0.00	0.00	0.00	9212.84
	-	Infiltration (m³)	363.92	252.73	1.61	0.00	0.00	0.00	0.00	0.00	313.03	425.22	380.42	350.31	2087.25
		Run-Off (m³)	545.88	379.10	2.42	0.00	0.00	0.00	0.00	0.00	469.55	637.83	570.63	525.46	3130.87
		Catchment Area (m²) = 89640.00	343.00	375.10	2.42	0.00		Monthly Volume		0.00	403.33	037.83	370.03	323.40	3130.87
	Development -	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	669.61	921.05	999.04	961.39	1017.86	1050.13	1001.73	821.55	1009.79	778.52	696,50	641.37	10568.56
		Evaporation noin imperv. (m j - 15% of P.		5219.29	5661.21	5447.87	5767.89	5950.75	5676.45	4655.45	5722.17	4411.63	3946.85	3634.45	59888.48
	Impervious Area	Pun Off from Import (m3) with 150/ area			3001.21	3447.67				4033.43	3/22.1/	4411.03	3940.03	3034.43	55000.48
		Run-Off from Imperv. (m³) - with 15% evap.	3794.46	-			Total	al Catchment Val							
								al Catchment Vol							
		Total ET (m³)	669.61	921.05	999.04	961.39	1017.86	1050.13	1001.73	821.55	1009.79	778.52	696.50	641.37	10568.56
		Total ET (m³) Total AET (m³)	669.61 4.52	921.05 625.82	1360.11	1882.91	1017.86 1606.81	1050.13 1433.92	1001.73 1367.82	713.90	217.03	0.00	0.00	0.00	9212.84
		Total ET (m³)	669.61	921.05			1017.86	1050.13	1001.73						

- 1) PET and P Taken from Table 1
- 2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- 3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type

	C-1-111	I the dead of a Community						Moi	nth						Total
	Catchments and	Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
	Barrella	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Catchment 103	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m <sup>2</sup> ) 23920.00	Imperv coeff.	. 0.80				Monthly Volume	ıs						
		AET (m³)	5.89	815.34	1772.00	2453.12	2093.40	1868.15	1782.04	930.09	282.75	0.00	0.00	0.00	12002.78
		Infiltration (m <sup>3</sup> )	474.13	329.27	2.10	0.00	0.00	0.00	0.00	0.00	407.83	553.99	495.62	456.39	2719.34
		Run-Off (m³)	711.20	493.91	3.15	0.00	0.00	0.00	0.00	0.00	611.74	830.98	743.43	684.59	4079.00
	Development -	Catchment Area (m <sup>2</sup> ) = 95680.00						Monthly Volume	!S						
	Impervious Area	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	714.73	983.11	1066.35	1026.17	1086.45	1120.89	1069.22	876.91	1077.84	830.98	743.43	684.59	11280.67
	Impervious / ir eu	Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	4050.13	5570.97	6042.67	5814.95	6156.53	6351.72	6058.94	4969.14	6107.73	4708.89	4212.79	3879.35	63923.81
							Tota	al Catchment Vol	umes						
		Total ET (m³)	714.73	983.11	1066.35	1026.17	1086.45	1120.89	1069.22	876.91	1077.84	830.98	743.43	684.59	11280.67
		Total AET (m³)	5.89	815.34	1772.00	2453.12	2093.40	1868.15	1782.04	930.09	282.75	0.00	0.00	0.00	12002.78
		Total Infiltration (m <sup>3</sup> )	474.13	329.27	2.10	0.00	0.00	0.00	0.00	0.00	407.83	553.99	495.62	456.39	2719.34
		Total Runoff (m³)	4761.33	6064.87	6045.82	5814.95	6156.53	6351.72	6058.94	4969.14	6719.48	5539.87	4956.22	4563.94	68002.81
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
	-	Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	- 502.75
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	<u> </u>
	-	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
	-	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Catchment 104	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 197019.00	Imperv coeff.	0.73	<u> </u>			Monthly Volume	ıs						
		AET (m³)	48.51	6715.63	14595.21	20205.31	17242.44	15387.18	14677.92	7660.74	2328.90	0.00	0.00	0.00	98861.85
		Infiltration (m <sup>3</sup> )	3905.21	2712.07	17.32	0.00	0.00	0.00	0.00	0.00	3359.11	4562.96	4082.23	3759.12	22398.03
		Run-Off (m <sup>3</sup> )	5857.82	4068.10	25.98	0.00	0.00	0.00	0.00	0.00	5038.67	6844.44	6123.35	5638.68	33597.05
		Catchment Area (m <sup>2</sup> ) = 532681.00						Monthly Volume	rs						
	Development -	Evaporation from Imperv. (m³) - 15% of P.	3979.13	5473.30	5936.73	5713.00	6048.59	6240.36	5952.71	4882.02	6000.65	4626.33	4138.93	3811.33	62803.09
	Impervious Area	Run-Off from Imperv. (m³) - with 15% evap.	22548.39	31015.35	33641.47	32373.69	34275.36	35362.03	33732.02	27664.79	34003.69	26215.90	23453.94	21597.55	355884.18
							Tota	al Catchment Vol	umes						
		Total ET (m³)	3979.13	5473.30	5936.73	5713.00	6048.59	6240.36	5952.71	4882.02	6000.65	4626.33	4138.93	3811.33	62803.09
		Total AET (m³)	48.51	6715.63	14595.21	20205.31	17242.44	15387.18	14677.92	7660.74	2328.90	0.00	0.00	0.00	98861.85
		Total Infiltration (m³)	3905.21	2712.07	17.32	0.00	0.00	0.00	0.00	0.00	3359.11	4562.96	4082.23	3759.12	22398.03
	-			_											
		Total Runoff (m³)	28406.21	35083.46	33667.45	32373.69	34275.36	35362.03	33732.02	27664.79	39042.36	33060.34	29577.29	27236.23	389481.23

- 1) PET and P Taken from Table 1
- 2) Coil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

  3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage ( $\Delta$  ST) for a given soil type

	Catalamanta and	Hydrologic Components						Moi	nth						Total
	Catchinients and	Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
	Davidanment	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Catchment 105		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m <sup>2</sup> ) 81780.00	Imperv coeff.					Monthly Volume	es						
		AET (m³)	20.14	2787.57	6058.28	8386.96	7157.11	6387.02	6092.61	3179.87	966.70	0.00	0.00	0.00	41036.26
		Infiltration (m³)	1621.00	1125.74	7.19	0.00	0.00	0.00	0.00	0.00	1394.32	1894.02	1694.48	1560.36	9297.13
		Run-Off (m³)	2431.50	1688.62	10.78	0.00	0.00	0.00	0.00	0.00	2091.49	2841.04	2541.72	2340.54	13945.69
	Development -	Catchment Area (m²) = 200220.00						Monthly Volume	es						
	Impervious Area	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	1495.64	2057.26	2231.45	2147.36	2273.50	2345.58	2237.46	1835.02	2255.48	1738.91	1555.71	1432.57	23605.94
		Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	8475.31	11657.81	12644.89	12168.37	12883.16	13291.60	12678.93	10398.43	12781.04	9853.83	8815.69	8117.92	133766.98
							Tota	I Catchment Vol	lumes						
		Total ET (m³)	1495.64	2057.26	2231.45	2147.36	2273.50	2345.58	2237.46	1835.02	2255.48	1738.91	1555.71	1432.57	23605.94
		Total AET (m³)	20.14	2787.57	6058.28	8386.96	7157.11	6387.02	6092.61	3179.87	966.70	0.00	0.00	0.00	41036.26
		Total Infiltration (m <sup>3</sup> )	1621.00	1125.74	7.19	0.00	0.00	0.00	0.00	0.00	1394.32	1894.02	1694.48	1560.36	9297.13
		Total Runoff (m³)	10906.82	13346.43	12655.68	12168.37	12883.16	13291.60	12678.93	10398.43	14872.53	12694.86	11357.41	10458.46	147712.68
	T	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Catchment 106	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m <sup>2</sup> ) 73444.00	Imperv coeff.	0.72				Monthly Volume	es	•					
		AET (m³)	18.08	2503.43	5440.75	7532.06	6427.57	5735.98	5471.58	2855.74	868.16	0.00	0.00	0.00	36853.35
		Infiltration (m <sup>3</sup> )	1455.77	1010.99	6.46	0.00	0.00	0.00	0.00	0.00	1252.20	1700.96	1521.76	1401.31	8349.45
		Run-Off (m <sup>3</sup> )	2183.66	1516.49	9.68	0.00	0.00	0.00	0.00	0.00	1878.30	2551.44	2282.64	2101.97	12524.18
		Catchment Area (m²) = 188856.00						Monthly Volume	es						
	Development -	Evaporation from Imperv. (m³) - 15% of P.	1410.75	1940.50	2104.80	2025.48	2144.46	2212.45	2110.47	1730.87	2127.46	1640.21	1467.41	1351.26	22266.12
	Impervious Area	Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	7994.27	10996.14	11927.20	11477.72	12151.94	12537.21	11959.31	9808.24	12055.62	9294.55	8315.33	7657.17	126174.69
							Tota	l Catchment Vol							
		Total ET (m³)	1410.75	1940.50	2104.80	2025.48	2144.46	2212.45	2110.47	1730.87	2127.46	1640.21	1467.41	1351.26	22266.12
		Total AET (m³)	18.08	2503.43	5440.75	7532.06	6427.57	5735.98	5471.58	2855.74	868.16	0.00	0.00	0.00	36853.35
		Total Infiltration (m³)	1455.77	1010.99	6.46	0.00	0.00	0.00	0.00	0.00	1252.20	1700.96	1521.76	1401.31	8349.45
		. ,													-
		Total Runoff (m³)	10177.93	12512.63	11936.89	11477.72	12151.94	12537.21	11959.31	9808.24	13933.92	11845.99	10597.97	9759.13	138698.88

- 1) PET and P Taken from Table 1
- 2) Coil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

  3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage ( $\Delta$  ST) for a given soil type

	Catchments and	Hydrologic Components						Moi	nth						Total
	Catcillients and	nyurologic components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
	Blaurent	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Channel 1 & 2		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m <sup>2</sup> ) 26640.00	Imperv coeff.	0.10				Monthly Volume							
		AET (m³)	6.56	908.06	1973.50	2732.07	2331.44	2080.58	1984.68	1035.85	314.90	0.00	0.00	0.00	13367.64
		Infiltration (m³)	528.04	366.71	2.34	0.00	0.00	0.00	0.00	0.00	454.20	616.98	551.98	508.29	3028.56
		Run-Off (m³)	792.07	550.07	3.51	0.00	0.00	0.00	0.00	0.00	681.31	925.47	827.97	762.44	4542.84
	Development -	Catchment Area (m²) = 2960.00						Monthly Volume	es						
	Impervious Area	Evaporation from Imperv. (m <sup>3</sup> ) - 15% of P.	22.11	30.41	32.99	31.75	33.61	34.68	33.08	27.13	33.34	25.71	23.00	21.18	348.98
		Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	125.30	172.35	186.94	179.89	190.46	196.50	187.44	153.73	188.95	145.68	130.33	120.01	1977.58
							Tota	I Catchment Vol	lumes						
		Total ET (m³)	22.11	30.41	32.99	31.75	33.61	34.68	33.08	27.13	33.34	25.71	23.00	21.18	348.98
		Total AET (m³)	6.56	908.06	1973.50	2732.07	2331.44	2080.58	1984.68	1035.85	314.90	0.00	0.00	0.00	13367.64
		Total Infiltration (m <sup>3</sup> )	528.04	366.71	2.34	0.00	0.00	0.00	0.00	0.00	454.20	616.98	551.98	508.29	3028.56
		Total Runoff (m³)	917.36	722.42	190.45	179.89	190.46	196.50	187.44	153.73	870.26	1071.15	958.30	882.45	6520.41
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22,22	75.00	75.00	75.00	75.00	0320.41
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	501.75
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
	I -	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
	-	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Pond 2A	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m <sup>2</sup> ) 0.00	Imperv coeff.	1.00				Monthly Volume	es						
		AET (m³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Infiltration (m³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Run-Off (m <sup>3</sup> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Catchment Area (m²) = 37300.00						Monthly Volume	es						
	Development -	Evaporation from Imperv. (m³) - 15% of P.	278.63	383.26	415.71	400.04	423.54	436.97	416.83	341.85	420.18	323.95	289.82	266.88	4397.67
	Impervious Area	Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	1578.91	2171.79	2355.68	2266.91	2400.07	2476.16	2362.02	1937.18	2381.05	1835.72	1642.32	1512.33	24920.13
							Tota	l Catchment Vol							
		Total ET (m³)	278.63	383.26	415.71	400.04	423,54	436.97	416.83	341.85	420.18	323.95	289.82	266.88	4397.67
		Total AET (m³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		, ,													
		Total Infiltration (m³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total Runoff (m³)	1578.91	2171.79	2355.68	2266.91	2400.07	2476.16	2362.02	1937.18	2381.05	1835.72	1642.32	1512.33	24920.13

- 1) PET and P Taken from Table 1
- 2) Coil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

  3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage ( $\Delta$  ST) for a given soil type

	Catalamanta and	Hudvelegie Commonante						Mo	nth						Total
	Catchments and	Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Iotai
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
	Development -	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
Catchment 108	-	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
	_	Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
	-	Catchment Area (m <sup>2</sup> ) 12726.00	Imperv coeff.					Monthly Volume							
		AET (m³)	3.13	433.78	942.74	1305.12	1113.74	993.90	948.09	494.83	150.43	0.00	0.00	0.00	6385.76
		Infiltration (m³)	252.25	175.18	1.12	0.00	0.00	0.00	0.00	0.00	216.97	294.73	263.68	242.81	1446.75
	-	Run-Off (m³)	378.37	262.77	1.68	0.00	0.00	0.00 Monthly Volume	0.00	0.00	325.46	442.10	395.52	364.22	2170.13
	Development -	Catchment Area (m²) = 78174.00	583.96		074.05	838.42			873.59	710.10	880.63				9216.71
	Impervious Area	Evaporation from Imperv. (m³) - 15% of P.		803.24	871.25		887.67	915.81		716.46		678.94 3847.33	607.41	559.33 3169.56	9216.71 52228.05
		Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	3309.11	4551.68	4937.08	4751.02	5030.11 <b>Tot</b> a	5189.58 Il Catchment Vol	4950.37 lumes	4059.97	4990.24	3847.33	3442.00	3109.50	52228.05
		Total ET (m³)	583.96	803.24	871.25	838.42	887.67	915.81	873.59	716.46	880.63	678.94	607.41	559.33	9216.71
		Total AET (m³)	3.13	433.78	942.74	1305.12	1113.74	993.90	948.09	494.83	150.43	0.00	0.00	0.00	6385.76
		Total Infiltration (m³)	252.25	175.18	1.12	0.00	0.00	0.00	0.00	0.00	216.97	294.73	263.68	242.81	1446.75
		Total Runoff (m³)	3687.48	4814.45	4938.76	4751.02	5030.11	5189.58	4950.37	4059.97	5315.70	4289.43	3837.53	3533.78	54398.18
		Soil Moisture Storage (mm)	200.00	200.00	200.00	156.09	99.08	59.83	54.09	76.31	75.00	132.90	135.42	135.42	34336.10
	-	Actual Evapotranspiration (mm)	0.25	34.09	74.08	110.59	112.07	93.70	76.14	38.88	11.82	0.00	0.00	0.00	551.60
		P-AET (mm)	49.55	34.41	0.22	-39.09	-36.37	-15.60	-1.64	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-39.09	-75.46	-91.05	-92.69	-70,47	-7.19	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	39.09	36.37	15.60	1.64	-22.22	-63.28	-7.19	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	0.00	50.71	51.80	47.70	234.40
	Pasture/Shrub,	Infiltration Factor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-
	Silty Clay Soils	Run-Off Coefficient	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-
NHS		Infiltration (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90	23.85	117.20
		Run-Off (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90	23.85	117.20
		Catchment Area (m²) 93152.63	Imperv coeff.	0.00				Monthly Volum	е						
		AET (m³)	22.94	3175.22	6900.77	10301.56	10439.39	8727.97	7092.19	3622.08	1101.13	0.00	0.00	0.00	51383.25
		Infiltration (m <sup>3</sup> )	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65	2221.69	10917.36
		Run-Off (m <sup>3</sup> )	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65	2221.69	10917.36
	Development -	Catchment Area (m²) = 0.00						Monthly Volum							
	Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Run-Off from Imperv. (m <sup>3</sup> ) - with 15% evap.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								al Catchment Vo							
		Total ET (m <sup>3</sup> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total AET (m³)	22.94	3175.22	6900.77	10301.56	10439.39	8727.97	7092.19	3622.08	1101.13	0.00	0.00	0.00	51383.25
		Total Infiltration (m³)	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65	2221.69	10917.36
		Total Runoff (m³)	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65	2221.69	10917.36
								Total Site Volum	ie						
			0007.00	13655.46	14811.69	14253.51	15090.78	15569.22	14851.56	12180.28	14971.17	11542.36	10326.32	9508.99	156688.98
		Total ET (m³)	9927.62	13033.40											
Total Site		Total ET (m³) Total AET (m³)	137.38	19018.52	41333.33	57969.29	51117.21	45028.93	41719.86	21695.06	6595.41	0.00	0.00	0.00	284615.00
Total Site		· :				57969.29 0.00	51117.21 0.00	45028.93 0.00	41719.86 0.00	21695.06 0.00	6595.41 7924.72	0.00 13126.67	0.00 12043.33	0.00 11090.09	284615.00 63758.10

- 1) PET and P Taken from Table 1
- 2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- 3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type



		Catchments and Hydrologic Components						Monti							То
		PET - Adjusted Potential Evapotranspiration (mm)	March	April	May	June	July	August	September	October	November	December	January	February	-
		PET - Adjusted Potential Evapotranspiration (mm P - Total Precipitation (mm	0.25 49.80	34.09 68.50	74.08 74.30	115.41 71.50	132.71 75.70	117.35 78.10	80.24 74.50	38.88 61.10	11.82 75.10	0.00 57.90	0.00 51.80	0.00 47.70	604 786
		P - Total Precipitation (mm) P-PET (mm)	49.80	34.41	0.22	-43.91	-57.01	78.10 -39.25	-5.74	22.22	75.10 63.28	57.90	51.80	47.70	181
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-57.01	-39.25	-5.74	-123.69	-60.42	-2.52	0.00	0.00	181
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	301
		Actual Soil Moisture Deficit (mm	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	28
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Unconnected Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Landscape	Infiltration (mm	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	11
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	17
		Catchment Area (m²) 28252.00						Monthly Volume	3			****			-
		AET (m²	6.96	963.00	2092.91	2897.39	2472.52	2206.48	2104.77	1098.53	333.96	0.00	0.00	0.00	141
		Infiltration (m <sup>3</sup>	560.00	388.90	2.48	0.00	0.00	0.00	0.00	0.00	481.69	654.32	585.38	539.05	321
		Run-Off (m <sup>3</sup>	840.00	583.36	3.73	0.00	0.00	0.00	0.00	0.00	722.53	981.47	878.07	808.57	481
	Development -	Catchment Area (m²) = 94548.00	Imperv coeff	. 0.77				Monthly Volume							
	Unconnected	Evaporation from Imperv. (m <sup>2</sup> ) - 15% of P.	706.27	971.48	1053.74	1014.03	1073.59	1107.63	1056.57	866.53	1065.08	821.15	734.64	676.49	111
	Impervious Area	Run-Off from Imperv. (m²) - with 15% evap.	4002.22	5505.06	5971.18	5746.15	6083.69	6276.57	5987.25	4910.35	6035.47	4653.18	4162.95	3833.45	631
		Soil Moisture Storage (mm	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	50
		P-AET (mm	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	28
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Mitigation - Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Area to Infiltration Tank (Block Retention)	Infiltration (mm	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	11
	Turik (Diock Neterition)	Run-Off (mm	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	17
		Catchment Area (m²) 2484.00						Monthly Volume							
		AET (m³	0.61	84.67	184.02	254.75	217.39	194.00	185.06	96.59	29.36	0.00	0.00	0.00	124
		Infiltration (m <sup>3</sup>	49.24	34.19	0.22	0.00	0.00	0.00	0.00	0.00	42.35	57.53	51.47	47.39	28
		Run-Off Directed to Infiltration Tank (m <sup>3</sup>	73.85	51.29	0.33	0.00	0.00	0.00	0.00	0.00	63.53	86.29	77.20	71.09	42
hment 101		Infiltration via Tank (Sized for 15mm capture) (m <sup>3</sup>	60.56	42.06	0.27	0.00	0.00	0.00	0.00	0.00	52.09	70.76	63.31	58.30	34
nment 101		Run-Off (m <sup>3</sup>	13.29	9.23	0.06	0.00	0.00	0.00	0.00	0.00	11.43	15.53	13.90	12.80	71
		Catchment Area (m²) = 8316.00	Imperv coeff	. 0.77				Monthly Volume							
	Mitigation -	Evaporation from Imperv. (m³) - 15% of P.	62.12	85.45	92.68	89.19	94.43	97.42	92.93	76.22	93.68	72.22	64.62	59.50	98
	Impervious Area to Infiltration Tank (Block	Run-Off Directed to Infiltration Tank (m <sup>3</sup>	352.02	484.20	525.20	505.40	535.09	552.06	526.61	431.89	530.85	409.27	366.15	337.17	555
	Retention)	Infiltration via Tank (Sized for 15mm capture) (m <sup>3</sup>	288.65	397.04	430.66	414.43	438.78	452.69	431.82	354.15	435.30	335.60	300.25	276.48	45
		Run-Off (m <sup>3</sup>	63.36	87.16	94.54	90.97	96.32	99.37	94.79	77.74	95.55	73.67	65.91	60.69	100
		Soil Moisture Storage (mm	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	50
		P-AET (mm	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	28
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
			0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Mitigation ROWs -	Run-Off Coefficient	0.00					0.00	0.00	0.00	17.05	23.16	20.72	19.08	11
	Mitigation ROWs - Pervious Area to Silva Cells	Run-Off Coefficient Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00			25.57	34.74	31.08	28.62	17
	Pervious Area to Silva			13.77 20.65	0.09	0.00	0.00	0.00	0.00	0.00	23.37				
	Pervious Area to Silva	Infiltration (mm	19.82 29.73				0.00			0.00	23.37				
	Pervious Area to Silva	Infiltration (mm) Run-Off (mm) Catchment Area (m <sup>2</sup> ) 176.00  AET (m <sup>2</sup> )	19.82 29.73	20.65	0.13	0.00	0.00	0.00 Monthly Volume 13.75	13.11	6.84	2.08	0.00	0.00	0.00	_
	Pervious Area to Silva	Infiltration (mm) Run-Off (mm) Catchment Area (m²) 176.00	19.82 29.73	20.65	0.13 13.04 0.02	0.00	0.00	0.00 Monthly Volume			2.08	0.00	3.65	3.36	-
	Pervious Area to Silva	Infiltration (mm) Rum-Off (mm) Catchment Area (m²) 176.00 AFT (m²) Infiltration (m²) Run-Off (brected to Silva Cels (m²)	19.82 29.73 0.04 3.49 5.23	20.65 6.00 2.42 3.63	0.13 13.04 0.02 0.02	0.00 18.05 0.00 0.00	0.00 15.40 0.00 0.00	0.00 Monthly Volume 13.75 0.00 0.00	13.11 0.00 0.00	6.84 0.00 0.00	2.08 3.00 4.50	4.08	3.65 5.47	3.36 5.04	20
	Pervious Area to Silva	Infiltration (mm) Run-Off (mm) Catchment Area (m <sup>2</sup> ) 176.00  AET (m <sup>2</sup> Infiltration (m <sup>2</sup> Run-Off Directed to Silva Cells (fill) Infiltration via Silva Cells (Silva (for 25mm capture) (m <sup>2</sup> Infiltration via Silva Cells (Silva (for 25mm capture) (m <sup>2</sup>	19.82 29.73 0.04 3.49	20.65 6.00 2.42 3.63 3.42	0.13 13.04 0.02 0.02 0.02	0.00 18.05 0.00 0.00 0.00	0.00 15.40 0.00	0.00 Monthly Volume 13.75 0.00 0.00	13.11 0.00 0.00 0.00	6.84 0.00 0.00 0.00	2.08 3.00 4.50 4.23	4.08 6.11 5.75	3.65 5.47 5.14	3.36 5.04 4.73	21 31
	Pervious Area to Silva	Infiltration (non Ruu-Off (om) Catchment Area (m <sup>2</sup> ) 176.00 AET (m <sup>2</sup> Infiltration fon Ruu-Off Directed to Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Silva Cells (m <sup>2</sup> Infiltration via Si	19.82 29.73 0.04 3.49 5.23 4.92 0.31	20.65 6.00 2.42 3.63 3.42 0.22	0.13 13.04 0.02 0.02	0.00 18.05 0.00 0.00	0.00 15.40 0.00 0.00 0.00 0.00	0.00 Monthly Volume 13.75 0.00 0.00 0.00	13.11 0.00 0.00	6.84 0.00 0.00	2.08 3.00 4.50	4.08	3.65 5.47	3.36 5.04	21 31
	Pervious Area to Silva	Infiltration (mm) Run-Off (mm) Catchment Area (m <sup>2</sup> ) 176.00  AET (m <sup>2</sup> Infiltration (m <sup>2</sup> Run-Off Directed to Silva Cells (fill) Infiltration via Silva Cells (Silva (for 25mm capture) (m <sup>2</sup> Infiltration via Silva Cells (Silva (for 25mm capture) (m <sup>2</sup>	19.82 29.73 0.04 3.49 5.23 4.92	20.65 6.00 2.42 3.63 3.42 0.22	0.13 13.04 0.02 0.02 0.02 0.02	0.00 18.05 0.00 0.00 0.00 0.00	0.00 15.40 0.00 0.00 0.00 0.00	0.00 Monthly Volume 13.75 0.00 0.00	13.11 0.00 0.00 0.00 0.00	6.84 0.00 0.00 0.00 0.00	2.08 3.00 4.50 4.23 0.27	4.08 6.11 5.75	3.65 5.47 5.14 0.33	3.36 5.04 4.73 0.30	20 30 28
	Pervious Area to Silva Cells  Mitigation ROWs -	Infiltration (non Run-Off (non) Catchment Area (m²) 176.00  AET (m²) Infiltration (non Run-Off Directed to Stan Catch Infiltration via Siva Cells (Sixed for Zsmm capture) (m²) Run-Off Directed to Stan Cells (m²)  Catchment Area (m²) = 624.00  Evaporation from Imperv. (m²) - 15% of P	19.82 29.73 0.04 3.49 5.23 4.92 0.31	20.65 6.00 2.42 3.63 3.42 0.22	0.13 13.04 0.02 0.02 0.02 0.00	0.00 18.05 0.00 0.00 0.00 0.00	0.00 15.40 0.00 0.00 0.00 0.00 7.09	0.00  Monthly Volume  13.75  0.00  0.00  0.00  0.00  Monthly Volume  7.31	13.11 0.00 0.00 0.00 0.00 0.00	6.84 0.00 0.00 0.00 0.00 5.72	2.08 3.00 4.50 4.23	4.08 6.11 5.75 0.37	3.65 5.47 5.14 0.33	3.36 5.04 4.73 0.30	2i 3i 2i 1
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (non Run-Off (non) Catchment Area (m²) 176.00  AFT (m²) Infiltration (non) Run-Off (non) Run-Off (non) Run-Off Directed to Silva Cells (m²) Infiltration via Silva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 624.00 Evaporation from Imperv. (m²) - 15% of P Run-Off Directed to Silva Cells (m²)	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff	20.65 6.00 2.42 3.63 3.42 0.22	0.13 13.04 0.02 0.02 0.02 0.02	0.00 18.05 0.00 0.00 0.00 0.00	0.00 15.40 0.00 0.00 0.00 0.00	0.00  Monthly Volume  13.75  0.00  0.00  0.00  0.00  Monthly Volume	13.11 0.00 0.00 0.00 0.00	6.84 0.00 0.00 0.00 0.00	2.08 3.00 4.50 4.23 0.27	4.08 6.11 5.75 0.37	3.65 5.47 5.14 0.33	3.36 5.04 4.73 0.30	2 3 2 1
	Pervious Area to Silva Cells  Mitigation ROWs -	Infiltration (non Run-Off (non) Catchment Area (m²) 176.00  AET (m²) Infiltration (non Run-Off Directed to Stan Catch Infiltration via Siva Cells (Sixed for Zsmm capture) (m²) Run-Off Directed to Stan Cells (m²)  Catchment Area (m²) = 624.00  Evaporation from Imperv. (m²) - 15% of P	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff 4.66 26.41 24.83	20.65 6.00 2.42 3.63 3.42 0.22 5.0.78	0.13 13.04 0.02 0.02 0.02 0.00 0.00 6.95 39.41 37.04	0.00 18.05 0.00 0.00 0.00 0.00 0.00 6.69 37.92 35.65	0.00 15.40 0.00 0.00 0.00 0.00 7.09	0.00  Monthly Volume  13.75  0.00  0.00  0.00  0.00  Monthly Volume  7.31	13.11 0.00 0.00 0.00 0.00 0.00	6.84 0.00 0.00 0.00 0.00 5.72	2.08 3.00 4.50 4.23 0.27 7.03 39.83 37.44	4.08 6.11 5.75 0.37 5.42 30.71 28.87	3.65 5.47 5.14 0.33 4.85 27.47 25.83	3.36 5.04 4.73 0.30 4.46 25.30 23.78	20 30 20 11 73 41 39
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (non Run-Off (non) Catchment Area (m²) 176.00  AFT (m²) Infiltration (non) Run-Off (non) Run-Off (non) Run-Off Directed to Silva Cells (m²) Infiltration via Silva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 624.00 Evaporation from Imperv. (m²) - 15% of P Run-Off Directed to Silva Cells (m²)	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff 4.66 26.41	20.65 6.00 2.42 3.63 3.42 0.22 5.0.78 6.41 36.33	0.13 13.04 0.02 0.02 0.02 0.00 0.00 6.95 39.41	0.00 18.05 0.00 0.00 0.00 0.00 0.00	0.00 15.40 0.00 0.00 0.00 0.00 7.09 40.15 37.74 2.41	0.00 Monthly Volume 13.75 0.00 0.00 0.00 0.00 Monthly Volume 7.31 41.42 38.94 2.49	13.11 0.00 0.00 0.00 0.00 0.00 0.00 6 6.97 39.51 37.14 2.37	6.84 0.00 0.00 0.00 0.00 5.72 32.41	2.08 3.00 4.50 4.23 0.27 7.03 39.83	4.08 6.11 5.75 0.37 5.42 30.71	3.65 5.47 5.14 0.33 4.85 27.47	3.36 5.04 4.73 0.30 4.46 25.30	20 30 20 11 73 41 39
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (nom, Run-Off (nom, Run-Off (nom, Catchment Area (m') 176.00  AET (m') Infiltration (m') Run-Off Directed to Six Cells (Sized for 25mm capture) (m') Run-Off (m') Catchment Area (m') = 624.00  Evaporation from Imperv. (m') - 15% of P Run-Off Directed to Six Cells (Sized for 25mm capture) (m') Infiltration via Six Cells (Sized for 25mm capture) (m') Infiltration via Six Cells (Sized for 25mm capture) (m')	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff 4.66 26.41 24.83	20.65 6.00 2.42 3.63 3.42 0.22 5.0.78 6.41 36.33 34.15	0.13 13.04 0.02 0.02 0.02 0.00 0.00 6.95 39.41 37.04	0.00 18.05 0.00 0.00 0.00 0.00 0.00 6.69 37.92 35.65	0.00 15.40 0.00 0.00 0.00 0.00 7.09 40.15 37.74 2.41	0.00 Monthly Volume 13.75 0.00 0.00 0.00 0.00 Monthly Volume 7.31 41.42 38.94	13.11 0.00 0.00 0.00 0.00 0.00 0.00 6 6.97 39.51 37.14 2.37	6.84 0.00 0.00 0.00 0.00 5.72 32.41 30.46	2.08 3.00 4.50 4.23 0.27 7.03 39.83 37.44	4.08 6.11 5.75 0.37 5.42 30.71 28.87	3.65 5.47 5.14 0.33 4.85 27.47 25.83	3.36 5.04 4.73 0.30 4.46 25.30 23.78	20 30 20 11 73 41 39
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (nom, Run-Off (nom, Run-Off (nom, Catchment Area (m') 176.00  AET (m') Infiltration (m') Run-Off Directed to Six Cells (Sized for 25mm capture) (m') Run-Off (m') Catchment Area (m') = 624.00  Evaporation from Imperv. (m') - 15% of P Run-Off Directed to Six Cells (Sized for 25mm capture) (m') Infiltration via Six Cells (Sized for 25mm capture) (m') Infiltration via Six Cells (Sized for 25mm capture) (m')	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff 4.66 26.41 24.83	20.65 6.00 2.42 3.63 3.42 0.22 5.0.78 6.41 36.33 34.15	0.13 13.04 0.02 0.02 0.02 0.00 0.00 6.95 39.41 37.04	0.00 18.05 0.00 0.00 0.00 0.00 0.00 6.69 37.92 35.65	0.00 15.40 0.00 0.00 0.00 0.00 7.09 40.15 37.74 2.41	0.00 Monthly Volume 13.75 0.00 0.00 0.00 0.00 Monthly Volume 7.31 41.42 38.94 2.49	13.11 0.00 0.00 0.00 0.00 0.00 0.00 6 6.97 39.51 37.14 2.37	6.84 0.00 0.00 0.00 0.00 5.72 32.41 30.46	2.08 3.00 4.50 4.23 0.27 7.03 39.83 37.44	4.08 6.11 5.75 0.37 5.42 30.71 28.87	3.65 5.47 5.14 0.33 4.85 27.47 25.83	3.36 5.04 4.73 0.30 4.46 25.30 23.78	20 30 20 11 73 411 39
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (nom Run-Off (nom) Catchment Area (m²) 176.00  AET (m²) Infiltration (nom) Infiltration (nom) Run-Off (nom) Run-Off Directed to Six Qets (m²) Infiltration via Sixu Cets (m²) Run-Off Directed to Sixu Cets (m²) Run-Off (m²) Catchment Area (m²) = 624.00  Evaporation from Imperv. (m²) - 15% of P Run-Off Directed to Sixu Cets (m²) Infiltration via Sixu Cets (sixu Cets (m²) Infiltration via Sixu Cets (sixu Cets (m²) Run-Off (m²) Run-Off (m²)	19.82 29.73 0.04 3.49 5.23 4.92 0.31 Imperv coeff 4.66 26.41 24.83 1.58	20.65  6.00 2.42 3.63 3.42 0.22  0.78  6.41 36.33 34.15 2.18	0.13 13.04 0.02 0.02 0.02 0.00 6.95 39.41 37.04 2.36	0.00 18.05 0.00 0.00 0.00 0.00 6.69 37.92 35.65 2.28	0.00  15.40 0.00 0.00 0.00 0.00  7.09 40.15 37.74 2.41	0.00  Monthly Volume  13.75  0.00  0.00  0.00  0.00  Monthly Volume  7.31  41.42  38.94  2.49	13.11 0.00 0.00 0.00 0.00 0.00 0.00 6.97 39.51 37.14 2.37	6.84 0.00 0.00 0.00 0.00 0.00 5.72 32.41 30.46 1.94	2.08 3.00 4.50 4.23 0.27 7.03 39.83 37.44 2.39	4.08 6.11 5.75 0.37 5.42 30.71 28.87 1.84	3.65 5.47 5.14 0.33 4.85 27.47 25.83 1.65	3.36 5.04 4.73 0.30 4.46 25.30 23.78 1.52	20 30 28 1 1 73 41 39 29
	Pervious Area to Silva Cells  Mitigation ROWs - Impervious Area to	Infiltration (nom Run-Off (nom) Catchment Area (m²) 176.00  AET (m²) Infiltration (nom) Infiltration (nom) Infiltration (nom) Infiltration (nom) Infiltration (nom) Infiltration via Sivu Celis (Sized for Zismu capture) (m²) Catchment Area (m²) = 624.00  Evaporation from Imperv. (m²) - 15% of P Run-Off (n²) Infiltration via Sivu Celis (Sized for Zismu capture) (m²) Infiltration via Sivu Celis (Sized for Zismu capture) (m²) Run-Off (n²) Total ET (m²)	19.82 29.73 0.04 3.49 5.23 4.92 0.31 imperv coeff 4.66 26.41 24.83 1.58	20.65  6.00 2.42 3.63 3.42 0.22 0.22 0.78  6.41 36.33 34.15 2.18	0.13 13.04 0.02 0.02 0.02 0.00 0.00 6.95 39.41 37.04 2.36	0.00 18.05 0.00 0.00 0.00 0.00 6.69 37.92 35.65 2.28	0.00  15.40 0.00 0.00 0.00 0.00 7.09 40.15 37.74 2.41 Total	0.00 Monthly Volume 13.75 0.00 0.00 0.00 0.00 Monthly Volume 7.31 41.42 38.94 2.49 I Catchment Vol 1212.36	13.11 0.00 0.00 0.00 0.00 0.00 39.51 37.14 2.37 Junes	6.84 0.00 0.00 0.00 0.00 5.72 32.41 30.46 1.94	2.08 3.00 4.50 4.23 0.27 7.03 39.83 37.44 2.39	4.08 6.11 5.75 0.37 5.42 30.71 28.87 1.84	3.65 5.47 5.14 0.33 4.85 27.47 25.83 1.65	3.36 5.04 4.73 0.30 4.46 25.30 23.78 1.52	88 20 30 28 1. 73 416 391 25 1220 1551 883

NOTES:

J PET and P Taken from Table 1

J Soil Molsture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

J Soil Molsture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

J Water Holding Capacity (mm) of Soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March

4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ.5T) for a given soil type

		Catalana and a said Hadrada de Companya ta						Mont	h						Tot
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	100
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170
		Catchment Area (m²) 8469.00						Monthly Volume	s						
		AET (m³)	2.09	288.68	627.39	868.54	741.18	661.43	630.94	329.30	100.11	0.00	0.00	0.00	4249
		Infiltration (m³)	167.87	116.58	0.74	0.00	0.00	0.00	0.00	0.00	144.39	196.14	175.48	161.59	962
		Run-Off (m³)	251.80	174.87	1.12	0.00	0.00	0.00	0.00	0.00	216.59	294.21	263.22	242.38	1444
		Catchment Area (m²) = 54231.00	Imperv coeff	. 0.83				Monthly Volume	s						
	Development - Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	405.11	557.22	604.40	581.63	615.79	635.32	606.03	497.03	610.91	471.00	421.37	388.02	6393
	impervious Area	Run-Off from Imperv. (m³) - with 15% evap.	2295.60	3157.60	3424.96	3295.89	3489.49	3600.12	3434.18	2816.49	3461.84	2668.98	2387.79	2198.80	3623
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Mitigation - Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Area to Infiltration	Infiltration (mm)	19.82	13.77	0.00	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113
	Tank (Block Retention)	Run-Off (mm)	29.73	20.65	0.09	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170
			29.73	20.65	0.13	0.00	0.00	Monthly Volume		0.00	25.57	34.74	31.06	28.02	1/0
		Catchment Area (m²) 7191.00  AET (m²)	1.77	245.11	532.71	737.47	629.33	561.62	535.73	279.61	85.00	0.00	0.00	0.00	360
		Infiltration (m <sup>2</sup> )	1.77	98.99	0.63	0.00	0.00	0.00	0.00	0.00	122.60	166.54	149.00	137.20	817
		Run-Off Directed to Infiltration Tank (m <sup>2</sup>		148.48											_
		Infiltration via Tank (Sized for 15mm capture) (m²)	213.80		0.95	0.00	0.00	0.00	0.00	0.00	183.91	249.82	223.50	205.81	1226
atchment 102		Run-Off (m²)	175.32 38.48	121.76	0.78	0.00	0.00	0.00	0.00	0.00	150.80	204.85	183.27	168.76 37.05	1009
			38.48 Imperv coeff	26.73	0.17	0.00	0.00	Monthly Volume	0.00	0.00	33.10	44.9/	40.23	37.05	220
	Mitigation -	Catchment Area (m²) = 35109.00 Evaporation from Imperv. (m²) - 15% of P.	262.26	360.74	391.29	376.54	398.66	411.30	392.34	321.77	395.50	304.92	272.80	251.20	413
	Impervious Area to		1486 16	2044 22	2217 31	2133.75	2259.00	2330.71	2223 28	1823 39	2741 18	1727.89			_
							2259.09		1823.09	1823.39	2241.18				
	Infiltration Tank (Block	Run-Off Directed to Infiltration Tank (m²)											1545.85	1423.49	
	Infiltration Tank (Block Retention)	Infiltration via Tank (Sized for 15mm capture) (m²)	1218.65	1676.26	1818.19	1749.67	1852.45	1911.18			1837.77	1416.87	1267.60	1167.27	1923
		Infiltration via Tank (Sized for 15mm capture) (m³) Run-Off (m²)	1218.65 267.51	1676.26 367.96	1818.19 399.12	384.07	406.64	419.53	400.19	328.21	403.41	311.02	1267.60 278.25	1167.27 256.23	1923
		Infiltration via Tank (Sized for 15mm capture) (m²) Run-Olf (m²) Soil Moisture Storage (mm)	1218.65 267.51 75.00	1676.26 367.96 75.00	1818.19 399.12 75.00	384.07 31.09	406.64	419.53 0.00	400.19	328.21 22.22	403.41 75.00	311.02 75.00	1267.60 278.25 75.00	1167.27 256.23 75.00	1923
		infiltration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evaptornaspiration (mm)	1218.65 267.51 75.00 0.25	1676.26 367.96 75.00 34.09	1818.19 399.12 75.00 74.08	384.07 31.09 102.56	406.64 0.00 87.52	419.53 0.00 78.10	400.19 0.00 74.50	328.21 22.22 38.88	403.41 75.00 11.82	311.02 75.00 0.00	1267.60 278.25 75.00 0.00	1167.27 256.23 75.00 0.00	1923
		Infiltration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P-AET (mm)	1218.65 267.51 75.00 0.25 49.55	1676.26 367.96 75.00 34.09 34.41	1818.19 399.12 75.00 74.08 0.22	384.07 31.09 102.56 -31.06	406.64 0.00 87.52 -11.82	419.53 0.00 78.10 0.00	400.19 0.00 74.50 0.00	328.21 22.22 38.88 22.22	403.41 75.00 11.82 63.28	311.02 75.00 0.00 57.90	1267.60 278.25 75.00 0.00 51.80	1167.27 256.23 75.00 0.00 47.70	1923
		Infiltration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P-AET (mm) Actual Soil Moisture Deficit (mm) Actual Soil Moisture (Deficit (mm)	1218.65 267.51 75.00 0.25 49.55 0.00	1676.26 367.96 75.00 34.09 34.41 0.00	1818.19 399.12 75.00 74.08 0.22 0.00	384.07 31.09 102.56 -31.06	406.64 0.00 87.52 -11.82 -42.87	419.53 0.00 78.10 0.00 -42.87	400.19 0.00 74.50 0.00 -42.87	328.21 22.22 38.88 22.22 -20.66	403.41 75.00 11.82 63.28 0.00	311.02 75.00 0.00 57.90 0.00	1267.60 278.25 75.00 0.00 51.80	1167.27 256.23 75.00 0.00 47.70 0.00	1923
		Inflitration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P.AET (mm) Actual Soil Moisture Deficit (mm) Change in Soil Moisture Deficit (mm)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00	1676.26 367.96 75.00 34.09 34.41 0.00 0.00	1818.19 399.12 75.00 74.08 0.22 0.00 0.00	384.07 31.09 102.56 -31.06 -31.06 31.06	406.64 0.00 87.52 -11.82 -42.87 11.82	419.53 0.00 78.10 0.00 -42.87 0.00	400.19 0.00 74.50 0.00 -42.87 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22	403.41 75.00 11.82 63.28 0.00 -20.66	311.02 75.00 0.00 57.90 0.00 0.00	1267.60 278.25 75.00 0.00 51.80 0.00	1167.27 256.23 75.00 0.00 47.70 0.00 0.00	1923 422 501
		Infiltration via Tank (Sized for 15mm capture) (m²)  Ru-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00	1676.26 367.96 75.00 34.09 34.41 0.00 0.00	1818.19 399.12 75.00 74.08 0.22 0.00 0.00	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62	311.02 75.00 0.00 57.90 0.00 0.00 57.90	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70	1923 422 501
	Retention)	Infiltration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P-AET (mm) Actual Soil Moisture Deficit (mm) Change in Soil Moisture Deficit (mm) Precipitation Surplus (mm) MOECC Infiltration Factor	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.00	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40	1923 422 501
		Infiltration via Tank (Sized for 15mm capture) (m)  Run Off (m)  Soil Moisture Storage (m)  Actual Potential Evapotranspiration (m)  Actual A Potential Evapotranspiration (m)  Actual Soil Moisture Deficit (m)  Change in Soil Moisture Deficit (m)  Change in Soil Moisture Deficit (m)  Morce Confirmation Factor  MORC Multination Factor  MORC Multination Factor  Coefficient	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.60	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40	192: 422 50:
	Retention)  Mitigation LNPARK 3 -	Infiltration via Tank (Sized for 15mm capture) (m²) Rw-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P-AET (mm) Actual Soil Moisture Deficit (mm) Change in Soil Moisture Deficit (mm) Precipitation Surplus MOSEC Infiltration Factor Run-Off Coefficien Infiltration (mm)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.60 23.16	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.60 20.72	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08	1923 422 503 284
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²) Run-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) P-AET (mm) Actual Soil Moisture Deficit (mm) Change in Soil Moisture Deficit (mm) Precipitation surplus (mm) MOECC Infiltration Factor Run-Off Coefficient Infiltration Factor	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.60	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40	1923 422 501
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²)  Ru-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Evapotranspiration (mm)  Actual Potential Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  MOEC Emfiltration Factor  Ru-Off Cedificient  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.40 0.60 23.16	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 501 284 113
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²)  Run-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Evapotranspiration (nmm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Chang in Soil Moisture Deficit (mm)  Precipitation Supulus (mm)  Precipitation Supulus (mm)  MOECC Infiltration Factor  Run-Off Coefficient  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.40 10.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13	384.07 31.09 102.56 -31.06 -31.06 0.00 0.40 0.60 0.00 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.40 0.60 0.00 0.00 s	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57	311.02 75.00 0.00 57.90 0.00 0.00 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 501 284 113 170
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m)  Run-Off (m)  Soil Moisture (Sized for 15mm capture) (m)  Actual Potential Exapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Foreign Soil Moisture Deficit (mm)  MOCC Infiltration Surplus  MOCC Infiltration (mm)  Run-Off (mm)  Catchment Area (m) 2700.00  Act (m)  Actual Soil Moisture Deficit (mm)  Catchment Area (m) 2700.00	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13	384.07 31.09 102.56 -31.06 -31.06 0.00 0.40 0.60 0.00 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00 0.00 236.29 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.40 0.60 0.00 0.00 Monthly Volume 210.87 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 s	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 51.80 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 501 284 113 170
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²) Rw-Off (m²) Rw-Off (m²) Soil Moisture Storage (mm) Actual Potential Evapotranspiration (mm) Actual Soil Moisture Deficit (mm) Actual Soil Moisture Deficit (mm) Actual Soil Moisture Deficit (mm) Precipitation Surplus (mm) Precipitation Surplus (mm) Rw-Off Coefficient Infiltration factor Rw-Off Coefficient Infiltration factor Rw-Off (mm) Catchment Area (m²) 2700.00 AET (m²) Ru-Off Directed to Siku Cels (m²) Ru-Off Directed to Siku Cels (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 3.4.41 0.40 0.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60 0.00 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00 0.00 236.29 0.00 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.60 0.00 Monthly Volume 210.87 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 s	328.21 22.22 38.88 -22.22 -20.66 -22.22 0.00 0.40 0.60 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 503 284 113 170 135 306 460
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²)  Run Off (m²)  Actual Potential Evapotranspiration (min)  Actual Sol Moisture Deficit (min)  Actual Sol Moisture Deficit (min)  Actual Sol Moisture Deficit (min)  Change in Soll Moisture Deficit (min)  Change in Soll Moisture Deficit (min)  Precipitation Surplus (min)  MORCo Minimum Surplus (min)  MORCo Minimum Surplus (min)  Run Off (min)  Run Off (min)  Run Off (min)  Run Off Directed to Silva Cels (Sized for 25mm capture) (m²)  Infiltration (m²)	1218.65 267.51 75.00 0.05 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73 0.66 53.52	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65 92.03 37.17 55.75 52.41	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.00 0.50 0.60 0.09 0.13 200.02 0.24 0.36 0.33	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60 0.00 0.00 276.90 0.00 0.00	406.64 0.00 87.52 -11.82 -42.87 11.82 -0.00 0.40 0.60 0.00 0.00 0.00 236.29 0.00 0.00 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 Monthly Volume 210.87 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.40 0.60 0.00 s 201.15 0.00 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 -0.00 0.40 0.60 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 0.60 17.05 25.57 31.92 46.03 69.05 64.91	311.02 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08 28.62	192: 422 50: 28: 11: 17: 135 30: 46: 43:
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²)  Ru-Off (m²)  Soil Mositure Storage (mm)  Actual Potential Evapotranspiration (mm)  Actual Potential Evapotranspiration (mm)  Actual Soil Mositure Deficit (mm)  Change in Soil Mositure Deficit (mm)  Precipitation Supriae (mm)  MOSC Lanfiltration Factor  Ru-Off Cedificient  Infiltration (mm)  Catchment Area (m²) 2700.00  AET (m²)  Infiltration (m²)  Ru-Off (m²)  Infiltration via Siva Cels (Sized for 25mm capture) (m²)  Infiltration via Siva Cels (Sized for 25mm capture) (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 49.55 0.40 0.60 19.82 29.73	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.40 13.77 20.65 92.03 37.17 55.75 52.41 3.35	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13	384.07 31.09 102.56 -31.06 -31.06 31.06 0.00 0.40 0.60 0.00 0.00	406.64 0.00 87.52 -11.82 -0.00 0.40 0.60 0.00 0.00 236.29 0.00 0.00 0.00	419.53 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	328.21 22.22 38.88 -22.22 -20.66 -22.22 0.00 0.40 0.60 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 501 284 113 170 135 306 460
	Retention)  Mitigation LNPARK 3 - Connected Pervious	Infiltration via Tank (Sized for 15mm capture) (m²)  Run-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Evapotranspiration (mm)  Actual Soil Moisture Storage (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  MOECC Infiltration Factor  Run-Off Coefficient  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00  AET (m²)  Run-Off Directed to Six Cells (m²)  Infiltration via Siva Cells (sixed for 25mm capture) (m²)  Infiltration via Siva Cells (Sixed for 25mm capture) (m²)  Catchment Area (m²) 2 000.00	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.60 19.82 29.73 0.66 53.52 80.28 75.46 4.82 Imperv coeff	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65 92.03 37.17 55.75 52.41 3.35	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13 200.02 0.24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.50 0.00 0.00 276.90 0.00 0.00	406.64 .0.00 87.52 -11.82 -42.87 11.82 -40.00 0.40 0.60 0.00 0.00 236.29 0.00 0.00	419.53 0.00 78.10 0.00 42.87 0.00 0.40 0.50 0.00 0.	400.19 .0.00 74.50 .0.00 -42.87 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00 .0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 -0.00 0.40 0.60 0.00 104.98 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57 31.92 46.03 69.05 64.91	311.02 75.00 0.00 0.00 0.00 0.00 0.00 0.40 0.60 23.16 34.74 0.00 62.53 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 51.80 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62	1923 422 503 284 113 170 1355 300 460 433 27
	Retention)  Mitigation INPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation INPARK 3	Infiltration via Tank (Sized for 15mm capture) (m)  Run-Ort (m)  Run-Ort (m)  Soil Moisture (m)  Actual Potential Exaptoranspiration (m)  Actual Potential Exaptoranspiration (m)  Actual Soil Moisture Deficit (mn)  Actual Soil Moisture Deficit (mn)  Change in Soil Moisture Deficit (mn)  Find Moisture Deficit (mn)  MECC Infiltration (mn)  Run-Off (mn)  Catchment Area (m¹) 2700.00  Actual Soil Moisture Soil Moisture (mn)  Infiltration (mn)  Run-Off (mn)  Catchment Area (m¹) 2700.00  Actual Soil Moisture (mn)  Infiltration via Sivo Cells (Sized for 25mm capture) (mn)  Infiltration via Sivo Cells (Sized for 25mm capture) (mn)  Catchment Area (m²) 2 300.00  Exaptoration from Imperv. (m²) - 15% of P.  Exaptoration from Imperv. (m²) - 5% of P.	1218.65 267.51 75.00 0.25 49.55 0.00 49.55 0.40 0.60 19.82 29.73 0.66 53.52 80.28 73.46 4.82	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.00 34.41 0.40 0.60 13.77 20.65 92.03 37.17 55.75 52.41 3.35 0.10	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13 200.02 0.24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 0.00 0.40 0.60 0.0	406.64 0.00 87.52 -11.82 -42.87 11.82 -0.00 0.40 0.60 0.0	419.53 0.00 78.10 0.00 42.87 0.00 0.00 0.40 0.60 0.60 0.00 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 5 201.15 0.00 0.00 0.00 0.00 0.00 0.00 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 -20.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 40.40 0.60 17.05 25.73 31.92 46.03 69.05 64.91 4.14	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.60 20.72 31.08 0.00 0.00 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08 28.62 77.27 72.64 4.64	192: 422 50: 50: 284 11: 17: 135 30: 46: 43: 27
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) (m²)  Rw-Off (m²)  Rw-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Expotranspiration (mm)  Actual Potential Expotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  MOECC Infiltration Factor  Rw-Off Coefficient  Infiltration (mm)  Catchment Area (m²) 2700.00  AET 10m²  Run-Off (mm)  Run-Off (mm)  Gatchment Area (m²) 2700.00  Exporation via Silva Celis (sized for 25mm capture) (m²)  Catchment Area (m²) 200.00  Exporation from Imperu. (m²) - 15% of P.  Run-Off Directed to Silva Celis (m²)  Catchment Area (m²) - 200.00  Exporation from Imperu. (m²) - 15% of P.  Run-Off Directed to Silva Celis (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.60 19.82 2.72 80.28 75.46 4.82 impervoeff 2.24	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.00 34.41 0.40 0.60 13.77 20.73 37.17 55.75 52.41 3.35 0.00 3.00	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13 200.02 0.24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.60 0.00 0	406.64 .000 87.52 -11.82 -42.87 11.82 -0.00 0.40 0.60 0.0	419.53 0.00 78.10 0.00 42.87 0.00 0.40 0.60 0.00 0.	400.19 .0.00 7.4.50 .0.00 -42.87 .0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.0	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 175.00 120.00 120.66 120.00 120.66 120.00 17.05 17.05 17.05 17.05 18.05	311.02 75.00 0.00 57.90 0.00 0.00 0.00 0.40 0.60 23.16 34.74 0.00 62.53 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.60 20.72 31.08 0.00 55.94 83.92 76.88 5.03	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62 0.00 51.52 77.27 72.64 4.64	19232422 422 503 286 113 170 135 300 466 432 277
	Retention)  Mitigation INPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation INPARK 3	Infiltration via Tank (Sized for 15mm capture) (m²)  Run Off (m²)  Soil Moisture Porter (m²)  Actual Potential Exapotranspiration (m²)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplux (mm)  MOCC Hunfiltration Fortice  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00  Actual Soil Moisture Soil Actual (m²)  Infiltration (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Infiltration via Sika Cells (Sixed for 25mm capture) (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 49.55 0.40 0.60 19.82 29.73 0.66 53.52 80.28 73.46 4.82	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.00 34.41 0.40 0.60 13.77 20.65 92.03 37.17 55.75 52.41 3.35 0.10	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.05 0.01 3 200.02 24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 0.00 0.40 0.60 0.0	406.64 0.00 87.52 -11.82 -42.87 11.82 -0.00 0.40 0.60 0.0	419.53 0.00 78.10 0.00 42.87 0.00 0.00 0.40 0.60 0.60 0.00 0.00 0.00	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.60 0.00 0.00 5 201.15 0.00 0.00 0.00 0.00 0.00 0.00 0.00	328.21 22.22 38.88 22.22 -20.66 -22.22 -20.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 40.40 0.60 17.05 25.73 31.92 46.03 69.05 64.91 4.14	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74 0.00 62.31 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 0.00 51.80 0.00 0.00 51.80 0.00 20.72 31.08 0.00 0.00 31.08 53.92 78.88 5.03	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.00 47.70 0.60 19.08 28.62 77.27 72.64 4.64	1923 422 422 505 505 505 505 505 505 505 505 505 5
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) (m²)  Rw-Off (m²)  Rw-Off (m²)  Soil Moisture Storage (mm)  Actual Potential Expotranspiration (mm)  Actual Potential Expotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  MOECC Infiltration Factor  Rw-Off Coefficient  Infiltration (mm)  Catchment Area (m²) 2700.00  AET 10m²  Run-Off (mm)  Run-Off (mm)  Gatchment Area (m²) 2700.00  Exporation via Silva Celis (sized for 25mm capture) (m²)  Catchment Area (m²) 200.00  Exporation from Imperu. (m²) - 15% of P.  Run-Off Directed to Silva Celis (m²)  Catchment Area (m²) - 200.00  Exporation from Imperu. (m²) - 15% of P.  Run-Off Directed to Silva Celis (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.60 19.82 2.72 80.28 75.46 4.82 impervoeff 2.24	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.00 34.41 0.40 0.60 13.77 20.73 37.17 55.75 52.41 3.35 0.00 3.00	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.60 0.09 0.13 200.02 0.24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.60 0.00 0	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00	419.53 0.00 78.10 0.00 42.87 0.00 0.	400.19 .0.00 7.4.50 .0.00 -42.87 .0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.0	328.21 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 175.00 120.00 120.66 120.00 120.66 120.00 17.05 17.05 17.05 17.05 18.05	311.02 75.00 0.00 57.90 0.00 0.00 0.00 0.40 0.60 23.16 34.74 0.00 62.53 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.60 20.72 31.08 0.00 55.94 83.92 76.88 5.03	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.40 0.60 19.08 28.62 0.00 51.52 77.27 72.64 4.64	1923 422 422 505 505 505 505 505 505 505 505 505 5
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) (m²)  Run Off (m²)  Soil Moisture Porter (m²)  Actual Potential Exapotranspiration (m²)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplux (mm)  MOCC Hunfiltration Fortice  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00  Actual Soil Moisture Soil Actual (m²)  Infiltration (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Infiltration via Sika Cells (Sixed for 25mm capture) (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 0.00 0.60 19.82 29.73 0.66 53.52 80.28 75.46 4.82 12.70 11.94	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.05 0.01 3 200.02 24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00	419.53 0.00 78.10 0.00 42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	378.21 22.22 23.888 22.22 -20.66 -20.60 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57 31.92 46.03 69.05 64.91 4.14	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74 0.00 62.31 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 0.00 51.80 0.00 0.00 51.80 0.00 20.72 31.08 0.00 0.00 31.08 53.92 78.88 5.03	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.00 47.70 0.60 19.08 28.62 77.27 72.64 4.64	1923 422 422 505 505 505 505 505 505 505 505 505 5
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) (m²)  Run Off (m²)  Soil Moisture Porter (m²)  Actual Potential Exapotranspiration (m²)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplux (mm)  MOCC Hunfiltration Fortice  Infiltration (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00  Actual Soil Moisture Soil Actual (m²)  Infiltration (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)  Run-Off (m²)  Catchment Area (m²) = 300.00  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Exaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Sika Cells (sical for 25mm capture) (m²)  Infiltration via Sika Cells (Sixed for 25mm capture) (m²) - 15% of P.  Run-Off Directed to Sika Cells (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 0.00 0.60 19.82 29.73 0.66 53.52 80.28 75.46 4.82 12.70 11.94	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.05 0.01 3 200.02 24 0.36 0.33 0.02	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1	406.64 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.60 0.00	419.53 0.00 78.10 0.00 42.87 0.00 0.	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	378.21 22.22 23.888 22.22 -20.66 -20.60 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57 31.92 46.03 69.05 64.91 4.14	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74 0.00 62.31 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.00 0.00 0.00 51.80 0.00 0.00 51.80 0.00 20.72 31.08 0.00 0.00 31.08 53.92 78.88 5.03	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.00 47.70 0.60 19.08 28.62 77.27 72.64 4.64	1922 422 422 5055 1284 1284 1284 1284 1284 1284 1284 1284
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) (m²)  Run Off (m²)  Soil Moisture Morage (m²)  Actual Potential Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  MORC Hoffill (mm)  Frecipitation Surplus (mm)  Run Offill (mm)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73 0.66 53.52 80.28 175.46 42.70 11.94 0.76	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.60 13.77 20.65 92.03 37.17 55.75 52.41 3.35 0.10 3.08 17.47 16.42 1.05	1818.19 399-12 75.00 74.08 0.22 0.00 0.00 0.02 0.40 0.60 0.09 0.13 200.02 0.24 0.36 0.33 0.02 1.895 17.81	384.07 31.09 102.56 -31.06 -31.06 -31.06 -0.00 -0.40 -0.60 -0.0	406.64 0.00 87.52 -11.82 -42.87 -11.82 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00	419.53 0.00 78.10 0.00 78.10 0.00 42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	400.19 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.40 0.60 0.00 0.00 s 201.15 0.00 0.00 0.00 s 1 201.15 1	378.21 22.22 22.22 -20.66 -20.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.60 17.05 25.57 31.92 46.03 69.05 64.91 4.14 4.18	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.40 0.60 23.16 34.74 0.00 62.53 93.80 88.17 14.76 11.88	1267.60 278.25 775.00 0.00 51.80 0.00 0.00 0.00 0.00 51.80 0.40 0.60 20.72 31.08	1167.27 256.23 75.00 0.00 47.70 0.00 47.70 0.00 47.70 0.40 0.60 19.08 18.62 77.27 72.64 4.64 2.15 12.16 11.43 0.73	1923 422 501 113 170 135 306 460 433 277 202 202 188 122
	Retention)  Mitigation LNPARK 3 Connected Pervious Park Area to Silva Cells  Mitigation LNPARK 3 Impervious Area to	Infiltration via Tank (Sized for 15mm capture) [m²]  Run-Ort [m²]  Soil Moisture (Sort [m²])  Actual Potential Evapotranspiration (mm)  Actual Potential Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Chang in Soil Moisture Deficit (mm)  Moisture Deficit (mm)  Moisture Deficit (mm)  Moisture Deficit (mm)  Run-Off (mm)  Catchment Area (m²) 2700.00  Act (m²) 2700.00  Act (m²)  Run-Off (mm)  Guide (m²) 2700.00  Catchment Area (m²) 2700.00  Catchment Area (m²) 2700.00  Catchment Area (m²) 2700.00  Catchment Area (m²) 2700.00  Evaporation from Imperv. (m²) - 15% of P.  Run-Off (m²)  Evaporation from Imperv. (m²) - 15% of P.  Run-Off (m²)  Infiltration via Silva Cells (Sized for 25mm capture) (m²)  Evaporation from Imperv. (m²) - 15% of P.  Run-Off (m²)  Run-Off (m²)  Total ET (m²)	1218.65 267.51 75.00 0.25 49.55 0.00 0.00 0.00 0.00 0.00 19.82 29.73 0.66 33.52 80.28 73.46 4.82 impervoeff 2.24 12.70 12.70 669.61	1676.26 367.96 75.00 34.09 34.41 0.00 0.00 0.00 13.41 0.40 0.50 13.77 20.65 92.03 37.17 55.75 52.41 3.35 0.10 3.08 17.47 16.55	1818.19 399.12 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.00 0.00 0	384.07 31.09 102.56 -31.06 -31.06 -31.06 0.00 0.40 0.60 0.00 0	406.64 0.00 87.52 -11.8	419.53 0.00 78.10 0.00 42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	400.19 0.00 74.50 0.00 42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	378.21 22.22 38.88 38.28 22.22 0.00 0.40 0.60 0.00 0.00 0.00 0.00 0.00	403.41 75.00 11.82 63.28 63.28 63.28 64.62 64.62 64.62 64.62 64.62 17.05 125.57 31.92 46.03 66.05 64.91 4.14	311.02 75.00 0.00 57.90 0.00 57.90 0.00 57.90 0.00 0.40 0.60 23.16 0.40 62.53 93.80 88.17 5.63	1267.60 278.25 75.00 0.00 51.80 0.40 0.60 0.60 0.60 20.72 31.08 0.00 0.51.80 0.40 0.60 20.72 31.08 0.00 0.00 13.80 0.0	1167.27 256.23 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.60 19.08 28.62 0.00 51.52 77.27 72.64 4.64	234542 1923 4222 501 284 113 170 1356 432 27. 200 1888 121 121 122 122 122 122 122 122 12

NOTES:

J PET and P Taken from Table 1

J Soll Molsture Deflot (min) is a function of P-Pet, once there is a shortage of P to satisfy PET

J Soll Molsture Deflot (min) is a function of P-Pet, once there is a shortage of P to satisfy PET

J Water Holding Capacity (min) of Solis types taken from Table 3.1,5WM Planning & Design Manual (MOE, March 2003) and applied to March

4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ.5T) for a given soil type



		Catch words and District Community						Mont	1						Total
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm) Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm) Precipitation Surplus (mm)	0.00 49.55	0.00 34.41	0.00	31.06	11.82 0.00	0.00	0.00	-22.22	-20.66 42.62	0.00 57.90	0.00 51.80	0.00 47.70	284.21
	Development -	Precipitation Surplus (mm)	0.40	0.40	0.22	0.00	0.40	0.40	0.00	0.00	0.40	0.40	0.40	0.40	284.21
	Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.40	0.60	0.60	
		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 10960.00						Monthly Volume	s						
		AET (m³)	2.70	373.58	811.92	1124.00	959.18	855.98	816.52	426.16	129.55	0.00	0.00	0.00	5499.60
		Infiltration (m <sup>2</sup> )	217.24	150.87	0.96	0.00	0.00	0.00	0.00	0.00	186.86	253.83	227.09	209.12	1245.98
		Run-Off (m²)	325.87	226.31	1.45	0.00	0.00	0.00	0.00	0.00	280.30	380.75	340.64	313.68	1868.98
	Development -	Catchment Area (m²) = 43840.00	Imperv coeff.					Monthly Volume							
	Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	327.48	450.46	488.60	470.18	497.80	513.59	489.91	401.79	493.86	380.75	340.64	313.68	5168.74
		Run-Off from Imperv. (m³) - with 15% evap.	1855.75	2552.58	2768.72	2664.38	2820.88	2910.32	2776.17	2276.83	2798.53	2157.59	1930.28	1777.49	29289.50
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm) P-AET (mm)	0.25	34.09 34.41	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00 57 90	0.00	0.00	501.79
		P-AET (mm) Actual Soil Moisture Deficit (mm)	49.55 0.00	34.41 0.00	0.22	-31.06 -31.06	-11.82 -42.87	0.00	0.00 -42 87	22.22 -20.66	63.28	57.90	51.80 0.00	47.70 0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06 31.06	-42.87 11.82	-42.87 0.00	-42.87 0.00	-20.66 -22.22	-20.66	0.00	0.00	0.00	-
		Change in Soil Moisture Dencit (mm) Precipitation Surplus (mm)	49.55	34.41	0.00	0.00	0.00	0.00	0.00	0.00	-20.66 42.62	57.90	51.80	47.70	284.21
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	204.21
	Mitigation - Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
	Area to Infiltration Tank (Block Retention)	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
	Turk (block neterition)	Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 12820.00						Monthly Volume	s						
		AET (m²)	3.16	436.99	949.71	1314.76	1121.96	1001.24	955.09	498.48	151.54	0.00	0.00	0.00	6432.93
		Infiltration (m²)	254.11	176.47	1.13	0.00	0.00	0.00	0.00	0.00	218.58	296.91	265.63	244.61	1457.44
		Run-Off Directed to Infiltration Tank (m²)	381.17	264.71	1.69	0.00	0.00	0.00	0.00	0.00	327.87	445.37	398.45	366.91	2186.16
Catchment 103		Infiltration via Tank (Sized for 15mm capture) (m <sup>3</sup> )	312.56	217.06	1.39	0.00	0.00	0.00	0.00	0.00	268.85	365.20	326.73	300.86	1792.65
		Run-Off (m³)	68.61	47.65	0.30	0.00	0.00	0.00	0.00	0.00	59.02	80.17	71.72	66.04	393.51
	Mitigation -	Catchment Area (m²) = 51280.00 Evaporation from Imperv. (m²) - 15% of P.	Imperv coeff. 383.06	526.90	571.52	549.98	582.28	Monthly Volume 600.75	573.05	469.98	577.67	445.37	398.45	366.91	6045.91
	Impervious Area to	Run-Off Directed to Infiltration Tank (m <sup>3</sup> )	383.06 2170.68	526.90 2985.78	3238 59	3116 54	3299.61	3404.22	3747 31	469.98 2663.23	3273.46	2523.75	398.45 2257.86	366.91 2079.15	34260.17
	Infiltration Tank (Block Retention)	Infiltration via Tank (Sized for 15mm capture) (m³	1779 96	2985.78	2655.64	2555 56	2705.68	2791.46	2662 79	2183.85	2684.24	2069.47	1851.44	1704.90	28093.34
	Retention)	Run-Off (m <sup>3</sup> )	390.72	537.44	582.95	560.98	593.93	612.76	584 52	479 38	589.22	454.27	406.41	374.25	6166.83
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Mitigation ROWs -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Pervious Area to Silva	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
	Cells	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 140.00  AET (m²)						Monthly Volume							
		AEI (m²) Infiltration (m³)	0.03 2.78	4.77 1.93	10.37 0.01	14.36	12.25	0.00	10.43 0.00	5.44	1.65 2.39	0.00 3.24	0.00 2.90	0.00 2.67	70.25 15.92
			4.16	2.89	0.01	0.00	0.00	0.00	0.00	0.00	3.58	4.86	4.35	4.01	23.87
		Run-Off Directed to Silve Cells (m <sup>3</sup> )		2.03	0.02	0.00	0.00	0.00	0.00	0.00	3.38	4.80	4.33	3.77	22.44
		Run-Off Directed to Silva Cells (m²) Infiltration via Silva Cells (Sized for 25mm capture) (m²)	3.91	2 72	0.02								4.05	0.74	1.43
		Run-Off Directed to Silva Cells (m²) Infiltration via Silva Cells (Sized for 25mm capture) (m²) Run-Off (m²)		2.72 0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.21	0.29	0.26		
		Infiltration via Silva Cells (Sized for 25mm capture) (m³) Run-Off (m²)	3.91 0.25	0.17			0.00			0.00	0.21	0.29	0.26	0.14	
	Mitigation ROWs -	Infiltration via Silva Cells (Sized for 25mm capture) (m²)	3.91	0.17			0.00	0.00		0.00 5.13	6.31	0.29	0.26	4.01	66.02
	Impervious Area to	Infiltration via Silva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 560.00	3.91 0.25 Imperv coeff.	0.17	0.00	0.00	0.00	0.00 Monthly Volume	s						66.02 374.14
		Inflitration via Silva Cells (Steed for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 560.00 Evaporation from Imperv. (m²) - 15% of P.	3.91 0.25 Imperv coeff. 4.18	0.17 . 0.80 5.75	0.00	0.00	0.00	0.00 Monthly Volume 6.56	s 6.26	5.13	6.31	4.86	4.35	4.01	
	Impervious Area to	Infiltration via Silva Cells (Sized for 25mm capture) (m²)  Run-Off (m²)  Catchment Area (m²) = 560.00  Evaporation from Imperv. (m²) - 15% of P.  Run-Off Directed to Silva Cells (m²)	3.91 0.25 Imperv coeff 4.18 23.70	0.17 . 0.80 5.75 32.61	0.00 6.24 35.37	0.00 6.01 34.03	0.00 6.36 36.03 33.87 2.16	0.00 Monthly Volume 6.56 37.18 34.95 2.23	6.26 35.46	5.13 29.08	6.31 35.75	4.86 27.56	4.35 24.66	4.01	374.14
	Impervious Area to	infiltration via Silva Cells (Sized for 25mm capture) (m²)  Rw-Off (m²)  Catchment Area (m²) = 560.00  Evaporation from imperv. (m²) - 15% of P.  Run Off Directed to Silva Cells (m²)  Infiltration via Silva Cells (Sized for 25mm capture) (m²)  Rw-Off (m²)	3.91 0.25 Imperv coeff. 4.18 23.70 22.28	0.17 . 0.80 5.75 32.61 30.65	0.00 6.24 35.37 33.24	0.00 6.01 34.03 31.99 2.04	0.00 6.36 36.03 33.87 2.16	0.00 Monthly Volume 6.56 37.18 34.95	6.26 35.46 33.33	5.13 29.08 27.34	6.31 35.75 33.60	4.86 27.56 25.91	4.35 24.66 23.18 1.48	4.01 22.71 21.34 1.36	374.14 351.69 22.45
	Impervious Area to	Infiltration via Siva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 560.00 Evaporation from Imperv. (m²) - 15% of P Run-Off Directed to Siva Cells (sized for 25mm capture) (m²) Infiltration via Siva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Total ET (m²)	3.91 0.25 Imperv coeff 4.18 23.70 22.28 1.42	0.17 0.80 5.75 32.61 30.65 1.96	0.00 6.24 35.37 33.24 2.12	0.00 6.01 34.03 31.99 2.04	0.00 6.36 36.03 33.87 2.16 Tot	0.00 Monthly Volume 6.56 37.18 34.95 2.23 al Catchment Vol	6.26 35.46 33.33 2.13 umes 1069.22	5.13 29.08 27.34 1.75	6.31 35.75 33.60 2.14	4.86 27.56 25.91 1.65	4.35 24.66 23.18 1.48	4.01 22.71 21.34 1.36	374.14 351.69 22.45 11280.67
	Impervious Area to	Infiltration via Silva Cells (Sized for 25mm capture) (m')  Catchment Area (m') = 560.00  Evaporation from Imperv. (m') - 15% of P.  Run-Off (m')  Run-Off (m')  Infiltration via Silva Cells (Sized for 25mm capture) (m')  Run-Off (m')  Total ET (m')  Total ATT (m')	3.91 0.25 Imperv coeff 4.18 23.70 22.28 1.42 714.73 5.89	0.17 0.80 5.75 32.61 30.65 1.96 983.11 815.34	0.00 6.24 35.37 33.24 2.12 1066.35 1772.00	0.00 6.01 34.03 31.99 2.04 1026.17 2453.12	0.00 6.36 36.03 33.87 2.16 Tot 1086.45 2093.40	0.00 Monthly Volume 6.56 37.18 34.95 2.23 al Catchment Vol 1120.89 1868.15	6.26 35.46 33.33 2.13 umes 1069.22 1782.04	5.13 29.08 27.34 1.75 876.91 930.09	6.31 35.75 33.60 2.14 1077.84 282.75	4.86 27.56 25.91 1.65 830.98	4.35 24.66 23.18 1.48 743.43 0.00	4.01 22.71 21.34 1.36	374.14 351.69 22.45 11280.67 12002.78
	Impervious Area to	Infiltration via Siva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Catchment Area (m²) = 560.00 Evaporation from Imperv. (m²) - 15% of P Run-Off Directed to Siva Cells (sized for 25mm capture) (m²) Infiltration via Siva Cells (Sized for 25mm capture) (m²) Run-Off (m²) Total ET (m²)	3.91 0.25 Imperv coeff 4.18 23.70 22.28 1.42	0.17 0.80 5.75 32.61 30.65 1.96	0.00 6.24 35.37 33.24 2.12	0.00 6.01 34.03 31.99 2.04	0.00 6.36 36.03 33.87 2.16 Tot	0.00 Monthly Volume 6.56 37.18 34.95 2.23 al Catchment Vol	6.26 35.46 33.33 2.13 umes 1069.22	5.13 29.08 27.34 1.75	6.31 35.75 33.60 2.14	4.86 27.56 25.91 1.65	4.35 24.66 23.18 1.48	4.01 22.71 21.34 1.36	374.14 351.69 22.45

NOTES:

1) PET and P Taken from Table 1
2) Soil Molsture Defloit (min) is a function of P-Pet, once there is a shortage of P to satisfy PET
2) Soil Molsture Defloit (min) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Water Holding Capachy' (min) of Soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (AST) for a given soil type

#### TABLE K-4 POST-DEVELOPMENT WATER BALANCE WITH MITIGATION MACVILLE COMMUNITY

								Month	h .						Total
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Iotai
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2
	Development - Unconnected Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5
		Catchment Area (m²) 151699.00						Monthly Volume:	s						
		AET (m³)	37.35	5170.84	11237.90	15557.51	13276.19	11847.69	11301.58	5898.55	1793.19	0.00	0.00	0.00	76120.
		Infiltration (m²)	3006.90	2088.22	13.34	0.00	0.00	0.00	0.00	0.00	2586.42	3513.35	3143.20	2894.42	17245.
		Run-Off (m³)	4510.35	3132.32	20.00	0.00	0.00	0.00	0.00	0.00	3879.63	5270.02	4714.80	4341.63	25868.
	Development -	Catchment Area (m²) = 408901.00	Imperv coeff					Monthly Volume:	s						
	Unconnected	Evaporation from Imperv. (m <sup>2</sup> ) - 15% of P.	3054.49	4201.46	4557.20	4385.46	4643.07	4790.28	4569.47	3747.58	4606.27	3551.31	3177.16	2925.69	48209
	Impervious Area	Run-Off from Imperv. (m³) - with 15% evap.	17308.78	23808.26	25824.14	24850.96	26310.73	27144.89	25893.66	21236.27	26102.20	20124.06	18003.91	16578.89	273186
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	<u> </u>
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.7
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	<u> </u>
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	<del>-</del>
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	<u> </u>
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42 62	57.90	51.80	47 70	284.3
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Mitigation - Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	<del></del>
	Area to Infiltration	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.6
	Tank 2	Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5
		Catchment Area (m²) 15318.00						Monthly Volume:							
		AET (m²)	3.77	522.13	1134.76	1570.94	1340.58	1196.34	1141.19	595.61	181.07	0.00	0.00	0.00	7686.3
Catchment 104		Infiltration (m²)	303.63	210.86	135	0.00	0.00	0.00	0.00	0.00	261 17	354.76	317.39	292.27	1741.4
		Run-Off Directed to Tank 2 (m³)	455.44	316.29	2.02	0.00	0.00	0.00	0.00	0.00	391.75	532.15	476.08	438.40	2612.
		Infiltration via Tank 2 (Sized for 15mm capture) (m²)	428 11	297.31	1.90	0.00	0.00	0.00	0.00	0.00	368 25	500.22	447.52	412.10	2455
		Run-Off (m³)	27.33	18.98	0.12	0.00	0.00	0.00	0.00	0.00	23.51	31.93	28.57	26.30	156.7
		Catchment Area (m²) = 51282.00	Imperv coeff			0.00		Monthly Volume:		0.00	23.31	32.33	20.57	20.30	130.7
	Mitigation -	Evaporation from Imperv. (m³) - 15% of P.	383.08	526.92	571.54	550.00	582.31	600.77	573.08	470.00	577.69	445.38	398.46	366.92	6046.
	Impervious Area to	Run-Off Directed to Tank 2 (m³)	2170.77	2985.89	3238.71	3116.66	3299.74	3404.36	3247.43	2663.33	3273.59	2523.84	2257.95	2079.23	34261
	Infiltration Tank 2	Infiltration via Tank 2 (Sized for 25mm capture) (m³)	2040.52	2806.74	3044.39	2929.66	3101.76	3200.09	3052.59	2503.53	3077.17	2372.41	2122.47	1954.47	32205
	-	Run-Off (m <sup>3</sup> )	130.25	179.15	194.32	187.00	197.98	204.26	194.85	159.80	196.42	151.43	135.48	124.75	2055.
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	2055
	-	Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	301.7
	-	Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	<del>⊢</del>
	-	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-20.00	-20.66	0.00	0.00	0.00	<del>⊢</del>
		Precipitation Surplus (mm)	49.55	34.41	0.00	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2
	-	Infiltration Factor	0.40	0.40	0.22	0.00	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.40	284.
	Mitigation - Pervious	Run-Off Coefficient	0.40	0.40	0.60	0.40	0.40	0.60	0.40	0.40	0.40	0.40	0.60	0.40	<del>⊢</del>
	Area to Infiltration	Infiltration (mm)	19.82	13.77	0.60	0.60	0.60	0.60	0.60	0.60	17.05	23.16	20.72	19.08	113.
	Tank 3	Run-Off (mm)	29.73	20.65	0.09	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.
	-	Catchment Area (m²) 8717.00	25.73	20.03	0.13	0.00		Monthly Volume		0.00	23.31	34.74	31.00	20.02	170.
		Catchment Area (m <sup>-</sup> ) 8/17.00 AET (m <sup>3</sup> )	2.15	297 13	645.76	893 97	762.88	680.80	649.42	338 95	103.04	0.00	0.00	0.00	4374
		AEI (m ) Infiltration (m <sup>2</sup> )	172.78	119.99	0.77	0.00	0.00	0.00	0.00	0.00	103.04	201.89	180.62	166.32	990.
		Run-Off Directed to Tank 3 (m <sup>3</sup> )	259.18	179.99	1.15		0.00	0.00	0.00		222.93	302.83	270.92	249.48	1486
		Infiltration via Tank 3 (Sized for 25mm capture) (m <sup>3</sup> )	259.18 243.63	179.99	1.15	0.00		0.00	0.00	0.00	222.93	302.83 284.66	270.92 254.67	249.48	
		Infiltration via Tank 3 (Sized for 25mm capture) (m²)  Run-Off (m²)	243.63 15.55	169.19	0.07	0.00	0.00	0.00	0.00	0.00	209.56	284.66	254.67 16.26	234.51	1397
					0.07	0.00	0.00	Monthly Volume		0.00	13.38	18.17	16.26	14.9/	89.:
		Catchment Area (m²) = 29183.00	Imperv coeff		225.24	242.00				267.46	220.75	353.45	226.75	200.00	1 2000
	Mitigation - Impervious Area to	Evaporation from Imperv. (m²) - 15% of P. Run-Off Directed to Tank 3 (m²)	218.00	299.86	325.24	312.99	331.37	341.88	326.12	267.46	328.75	253.45	226.75	208.80	3440
	Impervious Area to Infiltration Tank 3	Infiltration via Tank 3 (Sized for 25mm capture) (m <sup>3</sup> )	1235.32	1699.18 1597.23	1843.05	1773.60 1667.18	1877.78	1937.31	1848.01	1515.62 1424.68	1862.90	1436.24	1284.93	1183.22	19497
				1 1597 23	1732.47	1667.18	1765.11	1821.07	1737.13	1 1424.68	1751.12	1350.07	1 1207.83	1112.23	18327

NOTES:

J PET and P Taken from Table 1

J Soal Mosture Deficit (mm) is quintion of P-Pet, once there is a shortage of P to satisfy PET

3J Water Holding Capachy (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March

4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type

								Monti	1						
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.7
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	<u> </u>
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2
	Mitigation - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	<u> </u>
	Area to Infiltration	Run-Off Coefficient Infiltration (mm)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
	Tank (Block Retention)	Run-Off (mm)	19.82 29.73	13.77 20.65	0.09	0.00	0.00	0.00	0.00	0.00	17.05 25.57	23.16 34.74	20.72	19.08 28.62	113.6
		Catchment Area (m²) 6345.00	29.73	20.05	0.13	0.00		Monthly Volume		0.00	25.57	34.74	31.08	28.02	170.
		Catchment Area (m.) 6949.00 AET (m²)	1.56	216.28	470.04	650.71	555.29	495.54	472.70	246.71	75.00	0.00	0.00	0.00	3183.
		Infiltration (m³)	125.77	87.34	0.56	0.00	0.00	0.00	0.00	0.00	108.18	146.95	131.47	121.06	721.3
		Run-Off Directed to Tank 2 (m²)	188 65	131.01	0.84	0.00	0.00	0.00	0.00	0.00	162.27	220.43	197.20	181.59	1081.
		Infiltration via Tank 2 (Sized for 15mm capture) (m²)	154.69	107.43	0.69	0.00	0.00	0.00	0.00	0.00	133.06	180.75	161.71	148.91	887.2
		Run-Off (m²)	33.96	23.58	0.15	0.00	0.00	0.00	0.00	0.00	29.21	39.68	35.50	32.69	194.7
		Catchment Area (m²) = 17155.00	Imperv coeff	0.73				Monthly Volume	s						
	Mitigation -	Evaporation from Imperv. (m³) - 15% of P.	128.15	176.27	191.19	183.99	194.80	200.97	191.71	157.23	193.25	148.99	133.29	122.74	2022.
	Impervious Area to Infiltration Tank (Block	Run-Off Directed to Tank 2 (m³)	726.17	998.85	1083.42	1042.60	1103.84	1138.83	1086.34	890.94	1095.09	844.28	755.33	695.55	11461
	Retention)	Infiltration via Tank 2 (Sized for 15mm capture) (m²)	595.46	819.06	888.41	854.93	905.15	933.84	890.80	730.57	897.97	692.31	619.37	570.35	9398.
		Run-Off (m²)	130.71	179.79	195.02	187.67	198.69	204.99	195.54	160.37	197.12	151.97	135.96	125.20	2063.
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.7
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	<u> </u>
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2
	Mitigation LNPARK 1.2	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	<u> </u>
	- Connected Pervious	Infiltration (mm)	0.60	0.60 13.77	0.60	0.60	0.60	0.60	0.60	0.60	0.60 17.05	0.60 23.16	0.60 20.72	0.60 19.08	113.6
	Park Area to Silva Cells	Run-Off (mm)	29.73	20.65	0.09	0.00	0.00	0.00	0.00	0.00	25.57	23.1b 34.74	31.08	19.08 28.62	170.5
		Catchment Area (m²) 8640.00	29.73	20.05	0.13	0.00		Monthly Volume		0.00	25.57	34.74	31.08	28.02	1/0.5
		Catchment Area (m ) 8640.00 AET (m <sup>3</sup> )	2.13	294.50	640.05	886.08	756.14	674,78	643.68	335.95	102.13	0.00	0.00	0.00	4335.4
Catchment 104		Infiltration (m³)	171.26	118.93	0.76	0.00	0.00	0.00	0.00	0.00	147.31	200.10	179.02	164.85	982.2
(continued)		Run-Off Directed to Silva Cells (m <sup>2</sup> )	256.89	178.40	1.14	0.00	0.00	0.00	0.00	0.00	220.96	300.15	268.53	247.28	1473.
		Infiltration via Silva Cells (Sized for 25mm capture) (m²)	241.47	167.70	1.07	0.00	0.00	0.00	0.00	0.00	207.71	282.14	252.42	232.44	1384.
		Run-Off (m³)	15.41	10.70	0.07	0.00	0.00	0.00	0.00	0.00	13.26	18.01	16.11	14.84	88.4
		Catchment Area (m²) = 960.00	Imperv coeff	. 0.10				Monthly Volume	s						
	Mitigation LNPARK 1,2-	Evaporation from Imperv. (m³) - 15% of P.	7.17	9.86	10.70	10.30	10.90	11.25	10.73	8.80	10.81	8.34	7.46	6.87	113.1
	Impervious Area to	Run-Off Directed to Silva Cells (m²)	40.64	55.90	60.63	58.34	61.77	63.73	60.79	49.86	61.28	47.25	42.27	38.92	641.3
	Silva Cells	Infiltration via Silva Cells (Sized for 25mm capture) (m³)	38.20	52.54	56.99	54.84	58.06	59.91	57.14	46.87	57.60	44.41	39.73	36.59	602.8
		Run-Off (m³)	2.44	3.35	3.64	3.50	3.71	3.82	3.65	2.99	3.68	2.83	2.54	2.34	38.4
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	<u> </u>
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.7
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	<del>-</del>
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	<del>-</del>
		Change in Soil Moisture Deficit (mm) Precipitation Surplus (mm)	0.00 49.55	0.00 34.41	0.00	31.06 0.00	11.82	0.00	0.00	-22.22	-20.66 42.62	0.00 57.90	0.00 51.80	0.00 47.70	284.2
		Precipitation Surplus (mm)	49.55 0.40	34.41 0.40	0.22	0.00	0.00	0.00	0.00	0.00	42.62 0.40	57.90 0.40	51.80 0.40	47.70 0.40	284.2
	Mitigation ROWs -	Intitration Factor Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	⊢ ÷
	Pervious Area to Silva	Infiltration (mm)	19.82	13.77	0.60	0.00	0.60	0.60	0.60	0.60	17.05	23.16	20.72	19.08	113.0
	Cells	Run-Off (mm)	29.73	20.65	0.09	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5
		Catchment Area (m²) 6300.00	25.75	20.05	0.13	0.00		Monthly Volume	s	0.00	23.37	34.74	32.00	20.02	1,0.5
		AET (m²)	1.55	214.74	466.71	646.10	551.35	492.03	469.35	244.96	74.47	0.00	0.00	0.00	3161.
		Infiltration (m²)	124.88	86.72	0.55	0.00	0.00	0.00	0.00	0.00	107.41	145.91	130.54	120.20	716.2
		Run-Off Directed to Silva Cells (m <sup>2</sup> )	187.31	130.08	0.83	0.00	0.00	0.00	0.00	0.00	161.12	218.86	195.80	180.31	1074
		Infiltration via Silva Cells (Sized for 25mm capture) (m³)	176.07	122.28	0.78	0.00	0.00	0.00	0.00	0.00	151.45	205.73	184.06	169.49	1009
		Run-Off (m²)	11.24	7.81	0.05	0.00	0.00	0.00	0.00	0.00	9.67	13.13	11.75	10.82	64.4
		Catchment Area (m²) = 25200.00	Imperv coeff	. 0.80				Monthly Volume	s						
	Mitigation ROWs -	Evaporation from Imperv. (m³) - 15% of P.	188.24	258.93	280.85	270.27	286.15	295.22	281.61	230.96	283.88	218.86	195.80	180.31	2971
	Impervious Area to	Run-Off Directed to Silva Cells (m²)	1066.72	1467.27	1591.51	1531.53	1621.49	1672.90	1595.79	1308.76	1608.64	1240.22	1109.56	1021.73	16836
	Silva Cells	Infiltration via Silva Cells (Sized for 25mm capture) (m²)	1002.71	1379.23	1496.02	1439.64	1524.20	1572.53	1500.04	1230.24	1512.12	1165.80	1042.98	960.43	15825
	Silva Celis		64.00	88.04	95.49	91.89	97.29	100.37	95.75	78.53	96.52	74.41	66.57	61.30	1010
	Silva Celis	Run-Off (m³)					Total	al Catchment Vol	umes						
	Silva Celis														
	Silva Celis	Total ET (m³)	3979.13	5473.30	5936.73	5713.00	6048.59	6240.36	5952.71	4882.02	6000.65	4626.33	4138.93	3811.33	
	Sava Celis	Total ET (m²) Total AET (m²)	48.51	6715.63	14595.21	20205.31	6048.59 17242.44	15387.18	14677.92	7660.74	2328.90	0.00	0.00	0.00	98861
	sava cers	Total ET (m³)					6048.59								62803. 98861. 105893 305986

NOTES:

J PET and P Taken from Table 1

J Soil Mobiture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

3J Water Holding Capachy (mm) of Soils types taken from Table 3.1. SWM Planning & Design Manual (MOE, March 2003) and applied to March

4J Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ.5T) for a given soil type



		Catchments and Hydrologic Components						Monti	h						Total				
		* * *	March	April	May	June	July	August	September	October	November	December	January	February					
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83				
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00				
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17				
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	<u> </u>				
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	<u> </u>				
		Actual Evapotranspiration (mm) P-AET (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79				
		P-AET (mm) Actual Soil Moisture Deficit (mm)	49.55	34.41	0.22	-31.06	-11.82 -42.87	0.00 -42.87	0.00	22.22 -20.66	63.28	57.90	51.80	47.70	<u> </u>				
	-	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06 31.06	-42.87 11.82	0.00	-42.87	-20.66	-20.66	0.00	0.00	0.00	<u> </u>				
	-	Precipitation Surplus (mm)	49.55	34.41	0.00	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2				
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	204.2				
	Unconnected Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60					
	Landscape	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.6				
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5				
		Catchment Area (m²) 35762.00						Monthly Volume	s					<u>'</u>					
		AET (m³)	8.81	1218.99	2649.26	3667.58	3129.77	2793.01	2664.27	1390.54	422.73	0.00	0.00	0.00	17944.				
		Infiltration (m²)	708.86	492.28	3.14	0.00	0.00	0.00	0.00	0.00	609.73	828.25	740.99	682.34	4065.5				
		Run-Off (m²)	1063.29	738.42	4.72	0.00	0.00	0.00	0.00	0.00	914.60	1242.37	1111.48	1023.51	6098.3				
	Development -	Catchment Area (m²) = 102338.00	Imperv coeff					Monthly Volume											
	Unconnected Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	764.46	1051.52	1140.56	1097.58	1162.05	1198.89	1143.63	937.93	1152.84	888.81	795.17	732.23	12065.				
	Impervious Area	Run-Off from Imperv. (m³) - with 15% evap.	4331.97	5958.63	6463.16	6219.59	6584.94	6793.71	6480.55	5314.92	6532.75	5036.56	4505.94	4149.29	68372.				
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	<del>-</del>				
		Actual Evapotranspiration (mm) P-AET (mm)	0.25 49.55	34.09 34.41	74.08	102.56	87.52 -11.82	78.10	74.50	38.88	11.82 63.28	0.00 57 90	0.00 51.80	0.00	501.7				
		P-AET (mm) Actual Soil Moisture Deficit (mm)	49.55 0.00	34.41 0.00	0.22	-31.06 -31.06	-11.82 -42.87	-42.87	0.00 -42 87	-20.66	63.28	57.90	51.80	47.70 0.00	<del>-</del>				
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06 31.06	-42.87 11.82	-42.87 0.00	-42.87 0.00	-20.66 -22.22	-20.66	0.00	0.00	0.00	<del>-</del>				
		Precipitation Surplus (mm)	49.55	34.41	0.00	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2				
		Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	204.2				
	Mitigation - Pervious	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60					
	Area to Infiltration Tank 1	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.6				
	Talik 1	Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5				
		Catchment Area (m²) 43758.00						Monthly Volume	s										
		AET (m³)	10.77	1491.54	3241.60	4487.61	3829.55	3417.50	3259.97	1701.45	517.25	0.00	0.00	0.00	21957.2				
		Infiltration (m²)	867.35	602.35	3.85	0.00	0.00	0.00	0.00	0.00	746.06	1013.44	906.67	834.90	4974.6				
		Run-Off (m²)	1301.02	903.53	5.77	0.00	0.00	0.00	0.00	0.00	1119.09	1520.15	1360.00	1252.35	7461.9				
atchment 105		Infiltration via Tank 1 (Sized for 15mm capture) (m³)	1066.84	740.89	4.73	0.00	0.00	0.00	0.00	0.00	917.65	1246.53	1115.20	1026.93	6118.7				
		Run-Off (m²)	234.18	162.63	1.04	0.00	0.00	0.00	0.00	0.00	201.44	273.63	244.80	225.42	1343.1				
		Catchment Area (m²) = 88842.00 Evaporation from Imperv. (m²) - 15% of P.	Imperv coeff 663.65	912.85	990.14	952.83	1008.80	Monthly Volume 1040.78	992.81	814.24	1000.81	771.59	690.30	635.66	10474.				
	Mitigation - Impervious Area to	Run-Off Directed to Silva Cells (m <sup>3</sup> )	3760 68	912.85 5172.83	990.14 5610.82	952.83 5399.37	1008.80 5716.54	1040.78	992.81 5625.92	814.24 4614.01	1000.81	4372.36	3911.71	3602.10	59355				
	Infiltration Tank 1	Infiltration via Tank 1 (Sized for 15mm capture) (m²)	3/00.08	4741 77	4600.87	4427.49	3/10.54 4687.56	4836.18	4613.25	3783.49	4650 41	3585 33	3911./1	2953.72	48671.				
		Run-Off (m <sup>3</sup> )	676.92	931 11	1009.95	971.89	1028 98	1061.60	1012.67	830.52	1020.82	787 02	704.11	648 38	10683.				
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-				
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.7				
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	1				
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-				
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00					
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.2				
	Mitigation - Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	<u> </u>				
	ROW Area to Silva	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	<u> </u>				
	Cells	Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.6				
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.5				
		Catchment Area (m²) 2260.00  AET (m²)	0.56	77.03	167.42	231.77	197 79	Monthly Volume 176.51	s 168.37	87.88	26.71	0.00	0.00	0.00	1134.0				
	-	Infiltration (m²)	0.56 44.80	31.11	0.20	0.00	0.00	0.00	0.00	0.00	38.53	52.34	46.83	43.12	256.9				
		Run-Off (m <sup>3</sup> )	67.19	31.11 46.67	0.20	0.00	0.00	0.00	0.00	0.00	57.80	78.51	46.83 70.24	64.68	385.3				
		Infiltration via Silva Cells (Sized for 25mm capture) (m²	63.16	40.07	0.30	0.00	0.00	0.00	0.00	0.00	54.33	73.80	66.03	60.80	362.2				
		Run-Off (m²)	4.03	2.80	0.02	0.00	0.00	0.00	0.00	0.00	34.33	4.71		3.88	23.1				
		Catchment Area (m²) = 9040.00	Imperv coeff	. 0.80			0.00	Monthly Volume	0.00					4.21 3.88					
	Mitigation -	Evaporation from Imperv. (m³) - 15% of P.	67.53	92.89	100.75	96.95	102.65	105.90	101.02	82.85	101.84	78.51	70.24	64.68	1065.1				
	Impervious ROW Area	Run-Off Directed to Silva Cells (m³)	382.66	526.35	570.92	549.41	581.68	600.12	572.46	469.49	577.07	444.90	398.03	366.53	6039.				
	to Silva Cells	Infiltration via Silva Cells (Sized for 25mm capture) (m³)	359.70	494.77	536.67	516.44	546.78	564.11	538.11	441.32	542.44	418.21	374.15	344.54	5677.				
		Run-Off (m²)	22.96	31.58	34.26	32.96	34.90	36.01	34.35	28.17	34.62	26.69	23.88	21.99	362.3				
								I Catchment Vol	umes										
		Total ET (m³)	1495.64	2057.26	2231.45	2147.36	2273.50	2345.58	2237.46	1835.02	2255.48	1738.91	1555.71	1432.57	23605				
		Total AET (m³)	20.14	2787.57	6058.28	8386.96	7157.11	6387.02	6092.61	3179.87	966.70	0.00	0.00	0.00	41036.				
		Total NET (M )  Total Infiltration (m²)  Total Runoff (m²)	6194.47 6333.35	6646.99 7825.18	5149.74 7513.13	4943.93 7224.44	5234.34 7648.82	5400.29 7891.32	5151.36 7527.57	4224.81 6173.62	7559.16 8707.69	7217.90 7370.99	6457.46 6594.43	5946.35 6072.48	70126.8 86883.0				

NOTES:

1) PET and P Taken from Table 1
2) Soil Molsture Defloit (min) is a function of P-Pet, once there is a shortage of P to satisfy PET
2) Soil Molsture Defloit (min) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Water Holding Capachy' (min) of Soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (AST) for a given soil type

								Mont	h						Total
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	Total
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
	Development - Unconnected Pervious	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
Catchment 106		Catchment Area (m²) 73444.00						Monthly Volume							
		AET (m³)	18.08	2503.43	5440.75	7532.06	6427.57	5735.98	5471.58	2855.74	868.16	0.00	0.00	0.00	36853.35
		Infiltration (m³)	1455.77	1010.99	6.46	0.00	0.00	0.00	0.00	0.00	1252.20	1700.96	1521.76	1401.31	8349.45
		Run-Off (m³)	2183.66	1516.49	9.68	0.00	0.00	0.00	0.00	0.00	1878.30	2551.44	2282.64	2101.97	12524.18
	Development -	Catchment Area (m²) = 188856.00	Imperv coeff					Monthly Volume							
	Unconnected Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	1410.75	1940.50	2104.80	2025.48	2144.46	2212.45	2110.47	1730.87	2127.46	1640.21	1467.41	1351.26	22266.12
	ipervious Area	Run-Off from Imperv. (m³) - with 15% evap.	7994.27	10996.14	11927.20	11477.72	12151.94	12537.21 Il Catchment Vol	11959.31	9808.24	12055.62	9294.55	8315.33	7657.17	126174.69
		Total ET (m³)	1410.75	1940.50	2104.80	2025.48	2144.46	2212.45	2110.47	1730.87	2127.46	1640.21	1467.41	1351.26	22266.12
		Total AET (m³)	18.08	2503.43	5440.75	7532.06	6427.57	5735.98	5471.58	2855.74	868.16	0.00	0.00	0.00	36853.35
		Total Infiltration (m²)	1455.77	1010.99	6.46	0.00	0.00	0.00	0.00	0.00	1252.20	1700.96	1521.76	1401.31	8349.45
	-	Total Runoff (m²)  Soil Moisture Storage (mm)	10177.93	12512.63	11936.89	11477.72	12151.94	12537.21	11959.31	9808.24	13933.92	11845.99	10597.97	9759.13	138698.88
		Actual Evapotranspiration (mm)	75.00 0.25	75.00 34.09	75.00 74.08	31.09 102.56	0.00 87.52	0.00 78.10	0.00 74.50	22.22 38.88	75.00 11.82	75.00	75.00	75.00	501.79
		Actual Evapotranspiration (mm)	49.55	34.09	0.22	-31.06	-11.82	78.10	0.00	38.88	63.28	57.90	51.80	47.70	501.79
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.22	-31.06	-11.82	-42.87	-42.87	-20.66	03.28	0.00	0.00	0.00	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	-42.87	-20.00	-20.66	0.00		0.00	
		Precipitation Surplus (mm)	49.55	34.41	0.00	0.00	0.00	0.00	0.00	0.00	-20.00 42.62	57.90		0.00 0.00 51.80 47.70 0.40 0.40	284 21
	Development -	Infiltration Factor	0.40	0.40	0.22	0.40	0.40	0.40	0.00	0.00	0.40	0.40			284.21
	Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Infiltration (mm)	19.82	13.77	0.00	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72	19.08	113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
		Catchment Area (m²) 26640.00	Imperv coeff		0.13	0.00		Monthly Volume		0.00	23.37	34.74	31.00	20.02	1/0.33
Channel 1 & 2		Catchment Area (m.) 20040.00  AFT (m <sup>3</sup> )	6.56	908.06	1973.50	2732.07	2331.44	2080 58	1984 68	1035.85	314.90	0.00	0.00	0.00	13367.64
		Infiltration (m²)	528.04	366.71	2.34	0.00	0.00	0.00	0.00	0.00	454.20	616.98	551.98	508.29	3028.56
		Run-Off (m³)	792.07	550.07	3.51	0.00	0.00	0.00	0.00	0.00	681.31	925.47	827.97	762.44	4542.84
		Catchment Area (m²) 2960.00						Monthly Volume	s						
	Development -	Evaporation from Imperv. (m³) - 15% of P.	22.11					34.68	33.08	27.13	33.34				
	Impervious Area			30.41	32 99	31.75	33.61					25 71	23.00	21 18	348.98
			125.30	30.41 172.35	32.99 186.94	31.75 179.89	33.61 190.46		187.44	153.73	188.95	25.71 145.68	23.00	21.18 120.01	348.98 1977.58
		Run-Off from Imperv. (m³) - with 15% evap.			32.99 186.94	31.75 179.89	190.46	196.50 al Catchment Vol	187.44 umes	153.73	188.95	25.71 145.68	23.00 130.33		348.98 1977.58
							190.46	196.50		153.73 27.13	188.95 33.34				
		Run-Off from Imperv. (m²) - with 15% evap.	125.30	172.35	186.94	179.89	190.46 Tota	196.50 al Catchment Vol	umes			145.68	130.33	120.01	1977.58
		Run-Off from Imperv. (m³) - with 15% evap.  Total ET (m³)	125.30	172.35 30.41	186.94 32.99	179.89 31.75	190.46 Tota 33.61	196.50 al Catchment Vol 34.68	umes 33.08	27.13	33.34	145.68 25.71	130.33	120.01 21.18	1977.58 348.98
		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)	125.30 22.11 6.56	30.41 908.06	186.94 32.99 1973.50	179.89 31.75 2732.07	190.46 Tota 33.61 2331.44	196.50 al Catchment Vol 34.68 2080.58	33.08 1984.68	27.13 1035.85	33.34 314.90	145.68 25.71 0.00	23.00 0.00	21.18 0.00	1977.58 348.98 13367.64
		Run-Off from Impers. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Infiltration (m²)	22.11 6.56 528.04	30.41 908.06 366.71	32.99 1973.50 2.34	31.75 2732.07 0.00	190.46 Tota 33.61 2331.44 0.00	196.50 al Catchment Vol 34.68 2080.58 0.00	33.08 1984.68 0.00	27.13 1035.85 0.00	33.34 314.90 454.20	25.71 0.00 616.98	23.00 0.00 551.98	21.18 0.00 508.29	1977.58 348.98 13367.64 3028.56
		Run-Off from Imperv. (m²) – with 15% evap.  Total ET (m²)  Total AET (m²)  Total infiltration (m²)  Total sinoff (m²)	22.11 6.56 528.04 917.36	30.41 908.06 366.71 722.42	32.99 1973.50 2.34 190.45	179.89 31.75 2732.07 0.00 179.89	190.46 Tota 33.61 2331.44 0.00 190.46	196.50 al Catchment Vol 34.68 2080.58 0.00 196.50	33.08 1984.68 0.00 187.44	27.13 1035.85 0.00 153.73	33.34 314.90 454.20 870.26	25.71 0.00 616.98 1071.15	23.00 0.00 551.98 958.30	21.18 0.00 508.29 882.45	1977.58 348.98 13367.64 3028.56
		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)	125.30 22.11 6.56 528.04 917.36 75.00	30.41 908.06 366.71 722.42 75.00	32.99 1973.50 2.34 190.45 75.00	31.75 2732.07 0.00 179.89 31.09	190.46  Total 33.61 2331.44 0.00 190.46 0.00	196.50 al Catchment Vol 34.68 2080.58 0.00 196.50 0.00	33.08 1984.68 0.00 187.44 0.00	27.13 1035.85 0.00 153.73 22.22	33.34 314.90 454.20 870.26 75.00	25.71 0.00 616.98 1071.15 75.00	23.00 0.00 551.98 958.30 75.00	21.18 0.00 508.29 882.45 75.00	348.98 13367.64 3028.56 6520.41
		Run-Off from Imperv. (m²) – with 15% evap.  Total ET (m²)  Total AET (m²)  Total influsion (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)	125.30 22.11 6.56 528.04 917.36 75.00 0.25	30.41 908.06 366.71 722.42 75.00 34.09	186.94 32.99 1973.50 2.34 190.45 75.00 74.08	179.89 31.75 2732.07 0.00 179.89 31.09 102.56	190.46  Total 33.61 2331.44 0.00 190.46 0.00 87.52	196.50 al Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10	33.08 1984.68 0.00 187.44 0.00 74.50	27.13 1035.85 0.00 153.73 22.22 38.88	33.34 314.90 454.20 870.26 75.00 11.82	25.71 0.00 616.98 1071.15 75.00 0.00	23.00 0.00 551.98 958.30 75.00	21.18 0.00 508.29 882.45 75.00 0.00	348.98 13367.64 3028.56 6520.41
		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspirátion (mm)  P-AET (mm)	22.11 6.56 528.04 917.36 75.00 0.25 49.55	30.41 908.06 366.71 722.42 75.00 34.09	32.99 1973.50 2.34 190.45 75.00 74.08 0.22	179.89 31.75 2732.07 0.00 179.89 31.09 102.56 -31.06	190.46  Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82	196.50 al Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10 0.00	33.08 1984.68 0.00 187.44 0.00 74.50 0.00	27.13 1035.85 0.00 153.73 22.22 38.88 22.22	33.34 314.90 454.20 870.26 75.00 11.82 63.28	25.71 0.00 616.98 1071.15 75.00 0.00 57.90	23.00 0.00 551.98 958.30 75.00 0.00 51.80	21.18 0.00 508.29 882.45 75.00 0.00 47.70	348.98 13367.64 3028.56 6520.41
		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Inflitzion (m²)  Total Runoff (m²)  Soil Molisture Storage (mm)  Actual Evapotranspiration (mm)  P.AET (mm)  Actual Soil Molisture Deficit (mm)	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00	30.41 908.06 366.71 722.42 75.00 34.09 34.41	32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00	179.89 31.75 2732.07 0.00 179.89 31.09 102.56 -31.06	190.46  Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87	196.50 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00	23.00 0.00 551.98 958.30 75.00 0.00 51.80	21.18 0.00 508.29 882.45 75.00 0.00 47.70	348.98 13367.64 3028.56 6520.41
	Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Influsion (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  Influsion Factor	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00	30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00	186.94 32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00	179.89 31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 31.06	190.46  Tot:  33.61  2331.44  0.00  190.46  0.00  87.52  -11.82  -42.87  11.82	196.50 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00	1984.68 0.00 187.44 0.00 74.50 0.00 -42.87	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 0.00	23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00	21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00	1977.58 348.98 13367.64 3028.56 6520.41 - 501.79
	Development - Pervious Landscape	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  P-AET (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  Infiltration Factor  Bun-Off Coefficient	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 49.55	30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00	186.94 32.99 1973.50 2.34 190.45 75.00 0.00 0.00 0.22	179.89 31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 -31.06 31.06 0.00	190.46  Tot: 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00	196.50  34.68  2080.58  0.00  196.50  0.00  78.10  0.00  -42.87  0.00  0.00	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 57.90	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80	21.18 0.00 508.29 882.45 75.00 47.70 0.00 47.70	1977.58 348.98 13367.64 3028.56 6520.41 - 501.79
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Inflation (m²)  Total Inflation (m²)  Soil Moisture Storage (mm)  Actual Evapotransipiration (mm)  PAET (mm)  Actual Soil Moisture Delick (mm)  Change in Soil Moisture Delick (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  Infilitation Factor  Run-Off Coefficient  Infilitation (mm)	22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60	30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 34.41 0.40	32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.40 0.09	179.89  31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 31.06 0.00 0.40 0.40 0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.40 0.00	196.50  34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.40 0.4	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.40	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40	25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 57.90 0.40 0.40 23.16	23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 0.00 0.00 0.00	21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40	1977.58 348.98 13367.64 3028.56 6520.41 501.79 284.21
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  P-AET (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  Precipitation Surplus (mm)  Infiltration Factor  Bun-Off Coefficient	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60	30.41 908.06 908.06 722.42 75.00 34.09 34.41 0.00 0.00 34.41 0.40	32.99 1973.50 2.34 190.45 75.00 0.00 0.00 0.00 0.22 0.40 0.40	179.89  31.75  2732.07  0.00  179.89  31.09  102.56  -31.06  -31.06  0.00  0.40  0.40	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.40 0.00 0.00	196.50 al Catchment Vol 3.4.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.40 0.40 0.40 0.00 0.0	33.08 1984.68 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.40 0.00	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 -0.00 0.40	33.34 314.90 454.20 457.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 0.00 57.90 0.40 0.40	23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 51.80 0.40	21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 0.00 47.70 0.40	1977.58 348.98 13367.64 3028.56 6520.41 
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Inflitzion (m²)  Total Inflitzion (m²)  Soil Molisture Storage (mm)  Actual Evapotranspiration (mm)  P-AET (mm)  Actual Soil Molisture Deficit (mm)  Change in Soil Molisture Deficit (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Autual Soil Molisture Deficit (mm)  Projection Supplies (mm)  Projection Supplies (mm)  Autual Soil Molisture Deficit (mm)  Projection Supplies (mm)  Run-Off (mm)  Catchment Area (m²) 0.00	22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60	30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00 34.41 0.40 0.40 13.77 13.77	32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.22 0.40 0.40 0.09	179.89  31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 31.06 0.00 0.40 0.40 0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.40 0.00 0.00	196.50  1 Catchment Vol  34.68 2.080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.40 0.40 0.40 0.40 0.00 Monthly Volume	33.08 1984.68 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.40 0.00	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.40	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40	25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 57.90 0.40 0.40 23.16	23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 0.00 0.00 0.00	21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40	1977.58 348.98 13367.64 3028.56 6520.41 501.79 284.21
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Influsion (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Policit (mm)  Actual Soil Moisture Deficit (mm)  PAET (mm)  Precipitation Surplus (mm)  Influsion Factor  Run-Off Coefficient  Influsion (mm)  Run-Off (mm)  Catchment Area (m²) 0.00  AET (m²)	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 49.55 0.40 0.60 19.82 29.73 Improv coeff	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.40 0.40 13.77 13.77 1.00	186.94  32.99  1973.50  2.34  190.45  75.00  74.08  0.22  0.00  0.00  0.22  0.40  0.09  0.09	179.89  31.75  2732.07  0.00  179.89  31.09  102.56  -31.06  -31.06  0.00  0.40  0.40  0.00  0.00	190.46 Total Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.40 0.00 0.00	196.50 I Catchment Vol 24.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.00 0.40 0.00 0.40 0.00 0.00 0.0	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.00 0.00	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40 17.05 17.05	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 57.90 0.40 0.40 23.16 23.16	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 0.00 0.00 0.40 0.40 0.40 20.72 20.72	120.01 21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08	1977.58 348.98 13367.64 3028.56 6520.41 - - - - - - - - - - - - -
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total ATT (m²)  Total Infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Defice (mm)  Actual Soil Moisture Defice (mm)  Change in Soil Moisture Defice (mm)  Precipitation Surplus (mm)  Infiltration Factor  Run-Off Coefficient  Infiltration (mm)  Catchment Area (m²) 0.00  AET (m²)  Infiltration (mm)	125.30  22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73 imper coeff	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00 0.40 0.40 0.40 13.77 1.77 1.00 0.00	186.94  32.99 1973.50 2.34 1990.45 75.00 74.08 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75  2732.07  .0.00  179.89  31.09  102.56  -31.06  -31.06  31.09  0.40  0.40  0.40  0.00  0.00	190.46 Toti 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 0.00 0.40 0.40 0.40 0.40 0.00	196.50 I Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.40 0.40 0.40 0.00 0.00 Monthly Volume	33.08 1984.68 0.00 187.44 0.00 -42.87 0.00 0.00 0.40 0.40 0.40 0.00	27.13 1035.85 0.00 153.73 22.22 -20.66 -22.22 -0.00 0.40 0.40 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40 17.05 17.05	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 0.00 0.00 0.00 0.00 0.40 0.40 0.40 0.23.16	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.40 20.72 20.72	120.01 21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08 19.08	1977.58  348.98 13367.64 3028.56 6520.41
Pond 2A		Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Influsion (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Policit (mm)  Actual Soil Moisture Deficit (mm)  PAET (mm)  Precipitation Surplus (mm)  Influsion Factor  Run-Off Coefficient  Influsion (mm)  Run-Off (mm)  Catchment Area (m²) 0.00  AET (m²)	125.30 22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 49.55 0.40 0.60 19.82 29.73 Improv coeff	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.40 0.40 13.77 13.77 1.00	186.94  32.99  1973.50  2.34  190.45  75.00  74.08  0.22  0.00  0.00  0.22  0.40  0.09  0.09	179.89  31.75  2732.07  0.00  179.89  31.09  102.56  -31.06  -31.06  0.00  0.40  0.40  0.00  0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 0.00 0.40 0.40 0.40 0.00 0.00 0.00	196.50 I Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.00 0.00 0.00 Monthly Volume 0.00 0.00	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.00 s	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 -20.66 -22.22 0.00 0.40 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40 17.05 17.05	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 57.90 0.00 57.90 0.40 0.40 23.16 23.16	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 0.00 0.00 0.40 0.40 0.40 20.72 20.72	120.01 21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08	1977.58 348.98 13367.64 3028.56 6520.41 - - - - - - - - - - - - -
Pond 2A	Pervious Landscape	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total ATT (m²)  Total Infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Defice (mm)  Actual Soil Moisture Defice (mm)  Change in Soil Moisture Defice (mm)  Precipitation Surplus (mm)  Infiltration Factor  Run-Off Coefficient  Infiltration (mm)  Catchment Area (m²) 0.00  AET (m²)  Infiltration (mm)	125.30  22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73 imper coeff	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00 0.40 0.40 0.40 13.77 1.77 1.00 0.00	186.94  32.99 1973.50 2.34 1990.45 75.00 74.08 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75  2732.07  .0.00  179.89  31.09  102.56  -31.06  -31.06  31.09  0.40  0.40  0.40  0.00  0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 0.00 0.40 0.40 0.40 0.00 0.00 0.00	196.50 I Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.40 0.40 0.40 0.00 0.00 Monthly Volume	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.00 s	27.13 1035.85 0.00 153.73 22.22 -20.66 -22.22 -0.00 0.40 0.40 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40 17.05 17.05	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 0.00 0.00 0.00 0.00 0.40 0.40 0.40 0.23.16	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.40 20.72 20.72	120.01 21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08 19.08	1977.58  348.98  13367.64  3028.56  6520.41
Pond 2A	Pervious Landscape  Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²) Total AET (m²) Total Inflitration (m²) Total Inflitration (m²) Total Runoff (m²) Soil Molisture Storage (mm) Actual Evapotranspiration (mm) P-AET (mm) Actual Soil Molisture Delicit (mm) Change in Soil Molisture Delicit (mm) Precipitation Surplus (mm) Precipitation Surplus (mm) Precipitation Folicien Inflitration Folicien Inflitration Folicien Inflitration (mm) Catchment Area (m²) 0.00 AET (m²) Inflitration (m²) Inflitration (m²) Run-Off (m²) Run-Off (m²) Run-Off (m²)	125.30  22.11 6.56 528.04 917.36 75.00 0.25 49.55 0.00 0.00 49.55 0.40 0.60 19.82 29.73 imper coeff	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.00 0.00 0.40 0.40 0.40 13.77 1.77 1.00 0.00	186.94  32.99 1973.50 2.34 1990.45 75.00 74.08 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75  2732.07  .0.00  179.89  31.09  102.56  -31.06  -31.06  31.09  0.40  0.40  0.40  0.00  0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 0.00 0.40 0.40 0.40 0.00 0.00 0.00	196.50 I Catchment Vol 34.68 2080.58 0.00 196.50 0.00 78.10 0.00 -42.87 0.00 0.00 0.00 0.00 Monthly Volume 0.00 0.00	33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.40 0.40 0.00 s	27.13 1035.85 0.00 153.73 22.22 -20.66 -22.22 -0.00 0.40 0.40 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 0.40 17.05 17.05	145.68 25.71 0.00 616.98 1071.15 75.00 0.00 0.00 0.00 0.00 0.00 0.40 0.40 0.40 0.23.16	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 51.80 0.40 0.40 0.40 20.72 20.72	120.01 21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08 19.08	1977.58  348.98  13367.64  3028.56  6520.41
Pond 2A	Pervious Landscape	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²) Total AET (m²) Total AET (m²) Total Runoff (m²)  Soil Moisture Storage (mm) Actual Evapotranspiration (mm) PAET (mm) Actual Soil Moisture Deficit (mm) Actual Soil Moisture Deficit (mm) Precipitation Surplus (mm) Precipitation Surplus (mm) Infiltration Factor Run-Off Coefficient Infiltration (mm) Run-Off (mm) Catchment Area (m²) 0.00  AET (m²) Infiltration (m²) Catchment Area (m²) 37300.00	125.30  22.11 6.56 528.04 917.36 75.00 0.25 0.00 0.00 0.00 15.82 29.73 Imperv coeff 0.00 0.00 0.00	172.35 30.41 908.06 366.71 722.42 75.00 34.09 34.41 0.40 0.40 0.40 13.77 13.77 1.00 0.00 0.00	186.94  32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75  2732.07  .0.00  179.89  31.09  31.09  102.56  -31.06  -31.06  -31.06  0.00  0.40  0.40  0.00  0.00  0.00	190.46 Toti Toti 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 11.82 -0.00 0.40 0.00 0.00 0.00 0.00	196.50  If Catchment Vol  34.68  2080.58  .0.00  78.10  .0.00  -42.87  .0.00	unes 33.08 1984.68 0.00 187.44 0.00 187.44 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	27.13 1035.85 0.00 153.73 22.22 -20.65 -22.22 0.00 0.40 0.00 0.00 0.00	33.34 314.90 454.20 870.26 75.00 11.82 63.28 0.00 -20.66 42.62 0.40 17.05 17.05	145.68  25.71 0.00 616.98 1071.15 75.00 0.00 0.00 0.00 0.00 0.40 0.40 0.40	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.00 0.00 51.80 0.40 0.	120.01  21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 0.40 19.08 19.08	1977.58  348.98  13367.64  3028.56  6520.41   501.79   284.21   113.68  123.60  0.00  0.00  0.00
Pond 2A	Pervious Landscape  Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (ma)  P-AET (m²)  Actual Soil Moisture Delicit (mm)  Actual Soil Moisture Delicit (mm)  Actual Soil Moisture Delicit (mm)  P-AET (m²)  Actual Soil Moisture Delicit (mm)  Precipitation Suplus (mm)  Precipitation Suplus (mm)  Infilitration (mm)  Run-Off (cefficient  Infilitration (mm)  Catchment Area (m²) 37300.00  Evaporation from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.  Run-Off from Imperv. (m²) - 15% of P.	125.30  22.11 6.56 528.04 917.36 917.36 75.00 0.25 49.55 0.00 49.55 0.00 19.87 19.87 Imper coeff 0.00 0.00 0.00 0.00 0.00 0.00	172.35  30.41 908.06 366.71 722.42 75.00 34.01 0.00 0.00 34.41 0.40 0.40 0.40 13.77 13.77 1.00 0.00 0.00	186.94  32.99  1973.50  2.34  190.45  75.00  74.08  0.22  0.00  0.22  0.40  0.40  0.09  0.00  0.00  1.	179.89  31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 0.00 0.40 0.40 0.40 0.00 0.00 0.00 0	190.46 Total 33.61 2331.44 0.00 190.46 0.00 87.52 -11.82 -42.87 0.00 0.40 0.40 0.00 0.00 0.00 0.00 0.0	196.50  Acthement Vol  Atthement Vol  Atthement Vol  Atthement Vol  196.50  .0.00  .0.	33.08 33.08 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.40 0.40 0.40 0.00 0.00 0.00 0.0	27.13 1035.85 0.00 153.73 22.22 38.88 22.22 20.66 -22.22 0.40 0.40 0.00 0.00 0.00	33.34 314.90 454.20 870.26 77.50 11.82 63.28 0.00 -20.66 42.66 0.40 0.40 17.05 17.05 17.05 17.05	145.68  25.71 .0.00 616.98 1071.15 75.00 .0.00 57.90 .0.00 .0.00 .0.00 .0.40 .40 23.16 23.16 23.16 23.15 23.15 23.15 23.15	130.33 23.00 0.00 551.58 958.30 75.00 0.00 51.80 0.0	120.01  21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.40	1977.58  348.98  13367.64  3028.56  6520.41  501.79      113.68  123.60  0.00  0.00  0.00  4397.67  24920.13
Pond 2A	Pervious Landscape  Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Inflation (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotransipration (mm)  Actual Soil Moisture Delick (mm)  Actual Soil Moisture Delick (mm)  PAET (mm)  Change in Soil Moisture Delick (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  Run-Off Coefficient  Inflatiation (mm)  Run-Off (mm)  Catchment Area (m²) 0.00  AET (m²)  Catchment Area (m²) 37300.00  Evaporation from Imperv. (m²) - sith 15% evap.  Total ET (m²)	125.30  22.11 6.56 528.04 9317.36 75.00 0.02 9.55 9.55 9.55 9.55 9.50 0.00 0.00 0.00	172.35 30.41 908.06 366.71 722.42 75.00 34.41 0.00 0.00 0.40 0.40 0.40 13.77 13.77 10.00 0.00 0.00 0.00 13.73 10.00	186.94  32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75 2732.07 .00 179.89 31.09 102.56 -31.06 -31.06 0.00 0.00 0.00 0.00 0.00 0.00 0.00	190.46  31.61  33.61  231.44  0.00  190.46  0.00  190.46  0.00  0.00  0.00  0.00  0.00  0.00  423.54  2400.07  Tot  422.54	196.50  I Catchment Vol 34.68 2080.58 2080.58 20.00 196.50 0.00 78.10 0.00 78.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	unes 3 3.0 6 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	27.13 1035.85 .0.00 153.73 22.22 -20.66 -22.22 -0.40 0.40 0.00 0.00 0.00 0.00 0.00	33.34 314.90 454.20 570.20 775.00 11.82 63.28 0.00 -20.66 0.40 0.40 17.05 17.05 17.05 17.05 0.00 0.00	145.68  25.71 .00 616.98 1071.15 75.00 .00 0.00 0.00 0.00 0.00 0.00 0.0	130.33  23.00 0.00 0.00 0.00 551.80 0.00 51.80 0.00 0.00 0.00 0.00 0.00 0.00 0.00	120.01  21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 19.08 19.08 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1977.58  348.98  13367.64  3028.56  6520.41
Pond 2A	Pervious Landscape  Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total ATT (m²)  Total ATT (m²)  Total Infiltration (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotranspiration (mm)  Actual Soil Moisture Deficit (mm)  Actual Soil Moisture Deficit (mm)  Change in Soil Moisture Deficit (mm)  PACT (mm)  Precipitation Surplus (mm)  Infiltration (mm)  Run Off (mm)  Catchment Area (m²) 0.00  AET (m²)  Infiltration (m²)  Run-Off (mm)  Catchment Area (m²) 37300.00  Evaporation from Imperv. (m²) - 15% of P.  Run Off (mm)  Total ET (m²)  Total ET (m²)  Total ET (m²)	125.30  22.11 6.56 528.04 917.36 75.00 0.25 49.55 49.55 49.55 49.55 10.00 0.00 19.82 29.73 Imper coeff 0.00 0.00 278.63 1578.93	172.35  30.41 908.06 366.71 722.42 75.00 34.41 0.00 0.00 0.40 0.40 0.40 13.77 13.77 1.00 0.00 0.00 0.00 383.26	186.94  32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.02 0.40 0.40 0.40 0.09 0.09 0.00 0.00 0.00	179.89  31.75 2732.07 0.00 179.89 31.09 102.56 -31.06 -31.06 0.00 0.00 0.00 0.00 0.00 0.00 0.00	190.46 Total 33.61 2331.44 0.00 190.46 0.00 190.46 0.00 190.46 0.00 190.46 0.00 0.00 0.00 0.00 0.00 0.00 0.00	196.50  Id Catchment Vol 34.68 2680.58 2680.58 0.00 196.50 0.00 78.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1384 68 0.00 187.44 0.00 187.44 0.00 0.00 0.00 0.00 0.00 0.00 0.00	27.13 103.85 0.00 153.73 32.23 32.23 32.23 20.66 -22.22 0.00 0.40 0.00 0.00 0.00 0.00 341875 331.85	33.34 314.90 454.20 854.20 75.00 11.82 -0.00 -20.66 42.62 0.40 0.40 0.40 17.05 17.05 0.00 0.00 0.00 0.00 420.18	145.68  25.71 .0.00 616.98 1071.15 75.00 .0.00 6.00 9.00 0.00 0.00 0.40 0.40 0.40 0.23.16 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	130.33 23.00 0.00 551.98 958.30 75.00 0.00 51.80 0.40 0.40 0.40 20.72 20.72 20.72 20.72 20.72 20.72	120.01  21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 0.00 47.70 0.40 0.40	1977.58  348.98  1387.64  1387.66  6520.41
Pond 2A	Pervious Landscape  Development -	Run-Off from Imperv. (m²) - with 15% evap.  Total ET (m²)  Total AET (m²)  Total Inflation (m²)  Total Runoff (m²)  Soil Moisture Storage (mm)  Actual Evapotransipration (mm)  Actual Soil Moisture Delick (mm)  Actual Soil Moisture Delick (mm)  PAET (mm)  Change in Soil Moisture Delick (mm)  Precipitation Surplus (mm)  Precipitation Surplus (mm)  Run-Off Coefficient  Inflatiation (mm)  Run-Off (mm)  Catchment Area (m²) 0.00  AET (m²)  Catchment Area (m²) 37300.00  Evaporation from Imperv. (m²) - sith 15% evap.  Total ET (m²)	125.30  22.11 6.56 528.04 9317.36 75.00 0.02 9.55 9.55 9.55 9.55 9.50 0.00 0.00 0.00	172.35 30.41 908.06 366.71 722.42 75.00 34.41 0.00 0.00 0.40 0.40 0.40 13.77 13.77 10.00 0.00 0.00 0.00 13.73 10.00	186.94  32.99 1973.50 2.34 190.45 75.00 74.08 0.22 0.00 0.00 0.00 0.00 0.00 0.00 0	179.89  31.75 2732.07 .00 179.89 31.09 102.56 -31.06 -31.06 0.00 0.00 0.00 0.00 0.00 0.00 0.00	190.46  31.61  33.61  231.44  0.00  190.46  0.00  190.46  0.00  0.00  0.00  0.00  0.00  0.00  423.54  2400.07  Tot  422.54	196.50  I Catchment Vol 34.68 2080.58 2080.58 20.00 196.50 0.00 78.10 0.00 78.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00	unes 3 3.0 6 1984.68 0.00 187.44 0.00 74.50 0.00 -42.87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	27.13 1035.85 .0.00 153.73 22.22 -20.66 -22.22 -0.40 0.40 0.00 0.00 0.00 0.00 0.00	33.34 314.90 454.20 570.20 775.00 11.82 63.28 0.00 -20.66 0.40 0.40 17.05 17.05 17.05 17.05 0.00 0.00	145.68  25.71 .00 616.98 1071.15 75.00 .00 0.00 0.00 0.00 0.00 0.00 0.0	130.33  23.00 0.00 0.00 0.00 551.80 0.00 51.80 0.00 0.00 0.00 0.00 0.00 0.00 0.00	120.01  21.18 0.00 508.29 882.45 75.00 0.00 47.70 0.00 47.70 0.40 19.08 19.08 0.00 0.00 0.00 0.00 0.00 0.00 0.00	1977.58  348.98  13367.64  3028.56  6520.41

NOTES:

1) PET and P Taken from Table 1
2) Soil Molsture Deflot (firm) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Soil Molsture Deflot (firm) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Water Holding Capacity (rimn) of Soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ.5T) for a given soil type

#### TABLE K-4 POST-DEVELOPMENT WATER BALANCE WITH MITIGATION MACVILLE COMMUNITY

								Monti	h						Total
		Catchments and Hydrologic Components	March	April	May	June	July	August	September	October	November	December	January	February	lotai
		PET - Adjusted Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
		P - Total Precipitation (mm)	49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
		P-PET (mm)	49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	0 75.00 0 75.00 0 0 75.00 0 0 47.70 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	284.21
	Development -	Infiltration Factor	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
	Pervious Landscape	Run-Off Coefficient	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
		Infiltration (mm)	19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	17.05	23.16	20.72		113.68
		Run-Off (mm)	29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	25.57	34.74	31.08	28.62	170.53
Pond 2B		Catchment Area (m²) 12726.00	Imperv coeff					Monthly Volume						0.00 0.00 63.68 242.81 95.52 364.22 07.41 559.33 442.00 3169.56	
	-	AET (m³)	3.13	433.78	942.74	1305.12	1113.74	993.90	948.09	494.83	150.43	0.00	0.00		6385.76
	-	Infiltration (m³)	252.25	175.18	1.12	0.00	0.00	0.00	0.00	0.00	216.97	294.73	263.68	_	1446.75
		Run-Off (m³)	378.37	262.77	1.68	0.00	0.00	0.00	0.00	0.00	325.46	442.10	395.52	364.22	2170.13
	Development -	Catchment Area (m²) = 78174.00						Monthly Volume							
	Impervious Area	Evaporation from Imperv. (m³) - 15% of P.	583.96	803.24	871.25	838.42	887.67	915.81	873.59	716.46	880.63	678.94			9216.71
		Run-Off from Imperv. (m³) - with 15% evap.	3309.11	4551.68	4937.08	4751.02	5030.11	5189.58 al Catchment Vol	4950.37	4059.97	4990.24	3847.33	3442.00	3169.56	52228.05
		Total ET (m³)	583.96	803.24	871.25	838.42	887.67	915.81	873.59	716.46	880.63	678.94	607.41	550.33	9216.71
		Total AET (m²)	3.13	433.78	942.74	1305.12	1113.74	915.81	948.09	/16.46 494.83	150.43	0.00	0.00		6385.76
		Total Infiltration (m³)	252.25	175.18	1.12	0.00	0.00	0.00	0.00	0.00	216.97	294.73	263.68		1446.75
		Total Runoff (m³)	3687.48	4814.45	4938.76	4751.02	5030.11	5189.58	4950.37	4059.97	5315.70	4289.43	54398.18		
		Soil Moisture Storage (mm)	200.00	200.00	200.00	156.09	99.08	59.83	54.09	76.31	75.00	132.90	135.42		34330.10
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	110.59	112.07	93.70	76.14	38.88	11.82	0.00	0.00		551.60
		P-AET (r		34.41	0.22	-39.09	-36.37	-15.60	-1.64	22.22	63.28	57.90	51.80		
		Actual Soil Moisture Deficit (mm)	49.55 0.00	0.00	0.00	-39.09	-75.46	-91.05	-92.69	-70.47	-7.19	0.00	0.00	_	<del></del>
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	39.09	36.37	15.60	1.64	-22.22	-63.28	-7.19	0.00		-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	0.00	50.71	51.80	0.00 47.70 0.00 47.70 0.00 75.00 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 0.0	234.40
	Development -	Infiltration Factor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50		-
	Pervious Landscape	Run-Off Coefficient	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50		-
		Infiltration (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90		117.20
		Run-Off (mm)	24.78	17.21	0.11	0.00	0.00	0.00	0.00	0.00	0.00	25.35	25.90	23.85	117.20
NHS		Catchment Area (m <sup>2</sup> ) 93152.63	Imperv coeff	. 0.00				Monthly Volume	s						
14110		AET (m³)	22.94	3175.22	6900.77	10301.56	10439.39	8727.97	7092.19	3622.08	1101.13	0.00	0.00	0.00	51383.25
		Infiltration (m³)	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65		10917.36
		Run-Off (m³)	2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65	2221.69	10917.36
	Development -	Catchment Area (m²) = 0.00						Monthly Volume							
	Impervious Area	Evaporation from Imperv. (m³) - 15% of P.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
		Run-Off from Imperv. (m³) - with 15% evap.	0.00	0.00	0.00	0.00	0.00	0.00 al Catchment Vol	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total ET (m³)													
		Total AET (m²)	0.00 22 94	0.00 3175.22	0.00 6900.77	0.00 10301.56	0.00	0.00 8727.97	0.00 7092.19	0.00 3622.08	0.00	0.00	0.00		0.00 51383.25
		Total Infiltration (m³)										2361.88	2412.65		
		Total Runoff (m³)	2308.03 2308.03	1602.87	10.24	0.00	0.00	0.00	0.00	0.00	0.00	2361.88	2412.65		10917.36 10917.36
		Total Kulluli (III )	2308.03	1002.87	10.24	0.00	0.00	al Catchment Vol		0.00	0.00	2301.86	2412.05	2221.09	10917.36
		Total ET (m³)	9927.62	13655.46	14811.69	14253.51	15090.78	15569.22	14851.56	12180.28	14971.17	11542.36	10326.32	0508.00	156688.98
		Total AET (m³)	137.38	19018.52	41333.33	57969.29	51117.21	45028.93	41719.86	21695.06	6595.41	0.00	0.00	0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.00 47.70 0.40 47.70 0.40 19.08 28.62 28.62 28.62 28.83 364.22 559.33 3169.56 242.81 364.22 559.33 3169.56 242.81 364.22 559.33 3169.56 242.81 364.22 559.33 3169.56 242.81 363.78 133.48 242.81 363.78 133.48 0.00 242.81 363.78 133.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	284615.00
Total Site				15010.32	41333.33	37303.29	31117.21	43020.55	41/15.00	21093.00	0353.41	0.00	0.00		204013.00
Total Site		Total Infiltration (m <sup>2</sup> )	26155.67	26083.34	17412.84	16694.63	17675.29	18235.67	17395.11	14266.32	28046.18	30158.95	27281.19	25121 97	264527.05

NOTES:

J FET and P Taken from Table 1

J FGT and P Taken from Table 1

J FGT and P Taken from Table 1

J FGT and P Taken from Table 1

J FGT and P Taken from Table 1

J Soil Mobiture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET

J Mobiture Deficit (page 1)

J Mater Holding Capacity (mm) of Soils types taken from Table 3.1. SWM Planning & Design Manual (MOE, March 2003) and applied to March

J Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ5T) for a given soil type

Total Site	Month												
Total Site	March	April	May	June	July	August	September	October	November	December	January	February	Total
-					Pre	e-Development							
Total ET (m³)	278	382	414	399	422	436	415	341	419	323	289	266	4,383
Total AET (m³)	455	63,052	137,032	201,242	194,084	159,447	138,535	71,925	21,866	0	0	0	987,639
Total Infiltration (m³)	41,469	28,799	184	0	0	0	0	0	9,131	47,767	43,349	39,918	210,617
Total Runoff (m³)	51,768	37,023	2,571	2,259	2,392	2,468	2,354	1,931	14,017	59,791	54,106	49,824	280,505
-					Post-Develop	ment without M	tigation						
Total ET (m³)	9,928	13,655	14,812	14,254	15,091	15,569	14,852	12,180	14,971	11,542	10,326	9,509	156,689
Total AET (m³)	137	19,019	41,333	57,969	51,117	45,029	41,720	21,695	6,595	0	0	0	284,615
Total Infiltration (m³)	11,521	8,001	51	0	0	0	0	0	7,925	13,127	12,043	11,090	63,758
Total Runoff (m³)	72,384	88,581	84,004	80,770	85,514	88,226	84,159	69,022	96,724	83,916	75,374	69,409	978,083
-				Post-Develop	ment Deficit with	out Mitigation (-\	e value implies a	net gain)					
Total ET (m³)	-9,650	-13,273	-14,397	-13,855	-14,669	-15,134	-14,436	-11,840	-14,552	-11,219	-10,037	-9,243	-152,306
Total AET (m³)	318	44,033	95,698	143,273	142,967	114,419	96,815	50,230	15,270	0	0	0	703,024
Total Infiltration (m³)	29,948	20,798	133	0	0	0	0	0	1,207	34,640	31,306	28,828	146,859
Total Runoff (m³)	-20,616	-51,558	-81,434	-78,510	-83,122	-85,758	-81,805	-67,091	-82,706	-24,125	-21,268	-19,585	-697,577
-					Post-Develo	opment with Miti	gation						
Total ET (m³)	9,928	13,655	14,812	14,254	15,091	15,569	14,852	12,180	14,971	11,542	10,326	9,509	156,689
Total AET (m³)	137	19,019	41,333	57,969	51,117	45,029	41,720	21,695	6,595	0	0	0	284,615
Total Infiltration (m³)	26,156	26,083	17,413	16,695	17,675	18,236	17,395	14,266	28,046	30,159	27,281	25,122	264,527
Total Runoff (m³)	57,750	70,499	66,643	64,075	67,839	69,990	66,764	54,755	76,602	66,883	60,137	55,377	777,314
				Post-Develo	pment Deficit wit	h Mitigation (-ve	value implies a ne	et gain)					
Total ET (m³)	-9,650	-13,273	-14,397	-13,855	-14,669	-15,134	-14,436	-11,840	-14,552	-11,219	-10,037	-9,243	-152,306
Total AET (m³)	318	44,033	95,698	143,273	142,967	114,419	96,815	50,230	15,270	0	0	0	703,024
Total Infiltration (m³)	15,313	2,716	-17,229	-16,695	-17,675	-18,236	-17,395	-14,266	-18,915	17,608	16,068	14,796	-53,910
Total Runoff (m³)	-5,982	-33,476	-64,072	-61,816	-65,447	-67,522	-64,409	-52,824	-62,585	-7,092	-6,030	-5,553	-496,808

NOTES:

1) - ve implies net gain