Preliminary Hydrogeological Investigation

Proposed Residential Buildings
150 Steeles Avenue East
Milton, ON

Prepared For:

Neatt Communities

Project #: 21-122-106
Date: February 19, 2026

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21-122-106 **February 19, 2026**

Neatt Communities
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Attention: Evan Kernaghan
Via email: Evan.Kernaghan@neattcommunities.com

RE: Preliminary Hydrogeological Investigation –150 Steeles Avenue East, Milton, Ontario

DS Consultants Limited (DS) was retained by Neatt Communities to complete a preliminary hydrogeological investigation for the proposed development located at 150 Steeles Avenue East in Milton, Ontario (Site). The Site has an approximate area of 203,500 m^2 (20.35 Ha) situated approximately 350 meters west of the intersection of Steeles Avenue East and Martin Street in the Town of Milton, Ontario and is currently vacant. It is DS's understanding that the subject property will be divided into several blocks for development purposes and the development in the future will be completed in multiple phases. This preliminary hydrogeological investigation report has been prepared for the entire site. Additional investigations may be required per block when design details become available. Based on the conceptual plan, the blocks will be developed with mid-rise to high rise residential buildings with up to three (3) levels of underground parking (P3). The hydrogeological findings within this report are based on boreholes, monitoring wells and pumping well drilled and installed by DS on the Site completed in August 2022 and additional work consisting of a drilling and pump testing investigations completed in May of 2023. This hydrogeological field program was completed concurrently with the geotechnical investigation.

The preliminary hydrogeological assessment report includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area, provides an assessment of the hydrogeological constraints and impacts of the proposed development on the local groundwater. In the absence of detailed design, the report includes a preliminary estimation of construction dewatering (short-term dewatering) volumes and groundwater permanent drainage based on specific assumptions of below-grade construction (P2 and P3 level design) and can be used for preliminary design purposes. Based on the results of this investigation, the following conclusions and recommendations are presented:

1. Based on the Ministry of Environment, Conservation and Parks (MECP) water well records search, there were seventy-four (74) water wells within a 500 m radius of the Site. All wells were noted as monitoring/test holes or not in use except for five (5) records for domestic, three (3) records for industrial and three (3) records for commercial purposes. The study area is fully serviced with municipal water and therefore, no groundwater users are expected in the area. Closer to construction, it is prudent to complete a door-to-door water well survey to confirm absence of any active water wells.

2. Between April 22 and 27, 2021, DS drilled six (6) boreholes as part of this preliminary hydrogeological investigation concurrently with the geotechnical investigation. Boreholes were advanced to depths ranging between 15.6 to 22.6 meters below ground surface (mbgs) (Elev. 187.9-189.9 masl). All drilled boreholes were converted into monitoring wells and screened at various depths ranging from 9.1 and 22.6 mbgs.

3. DS also advanced twenty-six (26) boreholes (BHs) between March 29 and May 1, 2023. Boreholes were drilled to depths ranging from 13.8 to 24.4 mbgs and equipped twelve (12) of the drilled boreholes with monitoring wells as part of the current geotechnical and hydrogeological investigations. Monitoring wells were installed in all the boreholes and screened between 6.1 to 18.7 mbgs.

4. The surficial geology of the Site and study area has been mapped as "clay to silt-textured till, derived from glaciolacustrine deposits or shale. The overburden geology at the Site generally consists of glacial deposits of clayey silt till, sandy silt till, cohesionless deposits of sandy silt, silty sand, silt and sand and Gravel. Bedrock was found in all boreholes except BH21-2 at approximate depths varying from 15.3 to 18.3m below the existing ground, corresponding to elevations varying from 188 to 190.2 masl.

5. DS measured groundwater levels in all available installed monitoring wells on May 9, 2023. Based on groundwater level measurements, the groundwater table at the site was found at a range between 5.81 to 11.91 mbgs (Elev. 197.57-200.49 masl). Based on groundwater elevations, the flow direction within the Site is inferred to be southwest towards the Sixteen Mile creek. DS also conducted long-term groundwater monitoring between May 2023 and December 2024 including four (4) selected monitoring wells. The groundwater levels were found at the elevations ranging from 197.26 to 199.66 masl.

6. Continuous measurements from stations installed in the wetland (SG1 and SG2) indicate that both the watercourse and shallow groundwater levels within the wetland exhibit significant responses to precipitation events between August 2023 and October 2024. According to the results, surface water elevations at SG1 generally range from 197.39 to 197.97 masl, with an exceptional high-water level of 198.36 masl recorded in July 2024 following a major precipitation event. At SG2, surface water elevations typically range from 196.60 to 197.07 masl, with an exceptional high-water level of 197.71 masl recorded in July 2024 after the same event. Based on the comparison of groundwater levels between the site and the adjacent wetland there is potential for groundwater contribution to the wetland from the current site conditions (Table lands).

7. DS completed eighteen (18) Single Well Response Tests (SWRTs) in available monitoring wells to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. The values of calculated hydraulic conductivity (k) range from 1.65×10^{-7} to 4.81×10^{-4} m/s. indicative for the presence of highly permeable deposits.

8. Two (2) unfiltered groundwater samples were collected from monitoring well BH23-20 on May 11 and from PW1 on May 18, 2023. The samples were analyzed and compared against the parameters listed under the Halton Region Storm and Sanitary Sewer Use By-law and Provincial Water Quality Objective (PWQO) for future surface water discharge. The reported analytical results indicated that no

parameters were in exceedance of the Halton Region's Storm and Sanitary Sewer Discharge By-Law criteria and only iron was in exceedance of the PWQO. Therefore, groundwater at the Site is not suitable for a discharge without pre-treatment into the nearby surface water systems. Groundwater can be discharged into Halton Storm and Sanitary Sewer without any treatment. Additional testing will be required per block and closer to construction to confirm water quality and treatment requirements.

9. In May 2023, a pumping test was conducted on pumping well PW1. The static water level measured on May 18th, 2023, in PW1 to be 8.3 mbgs. At PW1, the pumping rate was held constant at 237 L/min (52 igpm) over the 3.5-hour drawdown period and then 16 hours of recovery was recorded. The Transmissivity of the aquifer was calculated to be 890 m^2/day (59,700 igpd/ft., and the Storativity calculated to be 2.5 x 10^{-4} (dimensionless) based on the pumping test data.

10. Detailed designs were not available at the time of preparing this report, as a result, DS based dewatering calculations for a typical development block (180 m by 100 m or (18,000 m^2) featuring underground levels reaching P3 Level.

11. The aquifer coefficients (Transmissivity and Storativity) were applied to a groundwater model to estimate the dewatering rates for pre and post-construction for each of the development phases. Through an iterative process, groundwater models were determined featuring 13 theoretical wells, with the below estimated (Table 1) combined pumping rates for each phase will produce the required amount of drawdown to dewater the aquifer water level to below the target dewatering elevations. A 20% safety factor was applied to each underground level design (P2 and P3) to estimate the maximum daily discharge (groundwater and storm water) required during construction dewatering.

Table 1: Summary of Construction Dewatering Volumes

Proposed Underground Design	Storm water (liters/day)	Groundwater Discharge Rate(L/min)	Groundwater Discharge Volume (L/Day) with 20% safety factor	Total Construction Dewatering Volume (L/day)
P2 Level	90,000	1,300	2,250,000	2,340,000
P3 Level		3,660	6,320,000	6,410,000

12. Based on Sichardt equation, the Predicted zone of Influence (ZOI) for the construction phases was estimated to be approximately 187 m (P3 Level Design) and would be negligible for P2 design since it will be above the groundwater level.

13. Post Construction, permanent groundwater discharge will be minimal for the P2 level design, consisting of minor stormwater seepage collected at the foundation drainage system. Deeper footings and sumps for the P3 level design would extend the permanent groundwater drainage system below the static groundwater level. The maximum estimated daily groundwater discharge volumes required for each design scenario (20% safety) factor are presented in Table 2 below:

Table 2: Summary of Permanent Groundwater Discharge Volumes

Proposed Underground Design	Groundwater Discharge Rate(L/min)	Total Permanent Drainage Volume (L/Day) with 20% safety factor
P2 Level	Above Groundwater Table	20,000*
P3 Level	1,180	2,040,000

14. DS recommends bath tubbing (water-tight underground) design for any building extending to P3 or deeper to mitigate groundwater-related challenges for permanent groundwater discharge. Based on the results of the pumping test, a significant aquifer is present on the western portion of the site. If bath tubbing is not a viable option, alternative strategies should be explored to minimize groundwater impact. This includes designing the structure to remain above the water table where feasible, implementing robust waterproofing systems, and considering dewatering techniques to manage groundwater levels during construction and long-term operation.
15. An Environmental Activity Sector Registration (EASR) is required to be submitted to MECP for temporary construction dewatering for each design scenario (P2 and P3 Level). A PTTW will be required from the MECP for permanent drainage for only the P3 level scenario (if the foundations are not bath tubbed).
16. Discharge permits and agreements will be required to be obtained from the Halton Region/Town of Milton if private water is discharged to the sewer system for construction dewatering.
17. 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.
18. There are structures and utilities within the maximum predicted zone of influence (ZOI) when considering an unsealed excavation. Since the proposed construction is anticipated to be constructed within the water-bearing permeable gravelly and sandy deposits, an effect of settlement due to dewatering is expected when the saturated soils become dewatered or depressurized by dewatering. DS recommends consulting geotechnical consultants for settlement monitoring requirements to assess potential settlement due to dewatering activities at the site during construction.
19. 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 contact the undersigned

DS Consultants Ltd.

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Table of Contents

FIGURES

APPENDICES

1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by Neatt Communities to complete a preliminary hydrogeological investigation for the proposed development located at 150 Steeles Avenue East in Milton, Ontario (Site). The Site has an approximate area of 203,500 m^2 (20.35 Ha) situated approximately 350 meters west of the intersection of Steeles Avenue East and Martin Street in the Town of Milton, Ontario and is currently vacant. It is DS's understanding that the subject property is divided into several blocks for development purposes and the future development will be completed in multiple phases. Based on the conceptual plan, the block will be developed with mid-rise to high rise residential buildings with up to three (3) levels of underground parking (P3). **Figure 1** presents the site location map that highlights the location of the site and the surrounding area.

This preliminary investigation includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area, provides an assessment of the hydrogeological constraints and impacts of the proposed development on the local groundwater and estimation of construction dewatering requirements. The hydrogeological investigation is based on boreholes and monitoring wells drilled and installed by DS on the Site completed August 2022 and additional work consisting of a drilling and pump testing investigation completed in May of 2023. This hydrogeological field program was competed concurrently with the geotechnical investigation.

1.1 Purpose

The purpose of this investigation was to review and determine the need for dewatering, estimate dewatering rates, assess groundwater quality and determine the need for a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the Ministry of Environment and Conservation and Parks (MECP). Potential impacts related to construction dewatering and associated monitoring/mitigation measures were also to be investigated.

1.2 Scope of Work

The scope of work for this investigation included:

(i) Site visits;

(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) Field work including a test well drilling program consisting of monitoring wells (MWs) and one (1 pumping well (PW1);

(iv) In-situ hydraulic conductivity testing of existing monitoring wells;

(v) Pumping tests conducted 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; and,

(ix) Data analyses and report preparation.

2.0 FIELD INVESTIGATION

2.1 Previous Investigations

Phase II Environmental Site Assessment - 150 Steeles Avenue East, Milton, Ontario, prepared by AEL Environment in October 2014

As part of the Phase Two Investigation, fifty-eight (58) boreholes and eleven (11) borehole/monitoring well locations were advanced on the Site from October 15th to 25th, 2013. From August 11th to 19th, 2014, eight (8) groundwater wells and four (4) boreholes were advanced on the Site. Boreholes were drilled to depths ranging between 0.7 and 15.5 mbgs and installed monitoring wells with 3.05 m or 1.5 m length slotted intake screen to depths ranging from 8.4 to 15.0 mbgs.

Remedial Investigation - 150 Steeles Avenue East, Milton, Ontario, prepared by Pinchin in November 2020

The Remedial Investigation was completed at the Site by Pinchin between July 27, 2020, and August 31, 2020, and consisted of the advancement of 38 boreholes, 26 of which were completed as groundwater monitoring wells. The investigation included 11 boreholes to a maximum depth of 8 mbgs, 17 shallow monitoring wells (SW) to a maximum depth of 10 mbgs, 4 intermediate monitoring wells (IW) to a maximum depth of 14.5 mbgs and 6 deep monitoring wells (DW) to a maximum depth of 17.5 mbgs.

Preliminary Hydrogeological Investigation - 150 Steeles Avenue East, Milton, Ontario, prepared by DS Consultants in August 2022 (Revised)

A total of six (6) boreholes (BH21-1 through BH21-6) were drilled at the subject Site by DS as part of the hydrogeological investigation concurrently with the geotechnical investigation. All boreholes were advanced between April 22 and 27, 2021, to a depth ranged between 15.6 to 22.6 mbgs. All drilled boreholes were converted into monitoring wells and screened at depths between 9.1 and 22.6 mbgs. Monitoring wells were constructed using 50 mm diameter PVC riser pipes and screens, which were installed in each of the boreholes in accordance with O.Reg. 903. In order to help better understanding of geology and hydrogeological setting of the Site, DS also used nine (9) existing monitoring wells (MW101, MW304, MW305, MW411, MW412, IW3, IW4, SW13 and DW5) installed by Pinchin and AEL Environmetal as part of the previous environmental investigations.

Fifteen (15) single well response tests (SWRTs) were completed by performing a rising head test to estimate hydraulic conductivity values of the overburden at the Site. Two (2) unfiltered groundwater samples were collected and analyzed against the Halton Region Storm and Sanitary Sewers Discharge Bylaw and Provincial Water Quality Objectives for surface water to assess groundwater discharge options during construction.

Hydrogeological Investigation - In Support of a Temporary Permit to Take Water, 150 Steeles Avenue East, Milton, Ontario, prepared by DS Consultants in June 2022

In June 2022, a pumping test was conducted on the existing pumping well used in the pilot scale remediation program. The well field consisted of a total of three (3) pumping wells and three (3) recharge wells were

drilled at the subject site by Davis Drilling as part of the hydrogeological investigation and remediation pilot test. The pumping wells were drilled to a depth of 13.1 m bgs and the water level was measured to be 7.3 m bgs. An aquifer performance test was completed on an existing pumping well (PW1), the pumping rate was held constant at 12 L/min (2.6 igpm) over the 2.5-hour drawdown period and then 40 minutes of recovery was recorded. The Transmissivity of the aquifer was calculated to be 6.4 m^2/day (429 igpd/ft.), and the Storativity calculated to be 4 x 10^{-3} (dimensionless) based on the pumping test data. It should be noted that the pumping wells installed as part of the remediation pilot test only partially penetrated the aquifer therefore the groundwater quantity could be greater in the area of the well field.

2.2 Current Investigation

Between March 29 and May 1, 2023, DS advanced twenty-six (26) boreholes (BHs) to depths ranging from 13.8 to 24.4 mbgs and equipped twelve (12) of the drilled boreholes with monitoring wells at the site as part of the current geotechnical and hydrogeological investigations. Monitoring wells were installed into all the boreholes and screened between 6 to 18.7 mbgs. Monitoring wells were constructed using 50 mm diameter PVC riser pipes and screens, which were installed into each of the boreholes in accordance with O.Reg.903. All monitoring well were developed prior to use to ensure the production of clear water.

In May 2023, DS conducted single well response tests (SWRTs) at twelve (12) monitoring wells by performing a rising head test to estimate the hydraulic conductivity values of formations/soils at the site. A total of two (2) groundwater samples were obtained and tested for the parameters listed under the Halton Region Sewer Use Bylaw and PWQO to assess groundwater quality before any discharge to the Region's/City's sewers system or to overland discharge points.

In May 2023, the test drilling for pumping wells (PW1) to a depth of 18.2 mbgs was carried out by a licensed water well contractor, and they utilized the air rotary drilling method. A monitoring well was installed and screened between 12.2 to 15.2 mbgs. As boreholes was being advanced, samples of soil were collected and logged. A representative from DS was onsite for all drilling activity. The pumping well was developed following installation to ensure the production of clean and clear groundwater. The location of the pumping and all monitoring well is shown on the **Figure 3.** The subsurface conditions have been interpreted and displayed as cross-sections A-A', B-B' and C-C' as shown in the attached **Figure 5A to 5C** and the borehole logs are presented in **Appendix A**.

3.0 PHYSICAL SETTING

Available topographic maps, environmental, geotechnical, and hydrogeological reports 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 MECP water well records (WWRs) were used to interpret the geological and hydrogeological conditions at the Site.

3.1 Physiography and Drainage

The Subject Site falls within the Sixteen Mile Creek watershed. The current topography at the Site is relatively undulating with a surface elevation ranged from 204 to 210 metres above sea level (masl). The

topography within the study area generally flat with a gentle slope towards the south. The nearest surface water body to the Site is Sixteen Mile Creek, located on the southwest side of the Site, which drains into Lake Ontario. The local site topography generally slopes gently downwards towards the south and east. There is a steep drop-off of approximately 5 metres, along the west and south boundary of the Site, where the land slopes down to the flood plain of Sixteen Mile Creek. Drainage is generally controlled by streams, artificial channels, topography and underground utilities.

3.2 Geology

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

3.2.1 Quaternary Geology

The study area (500 m radius) lies within the Peel Plain physiographic region (as per OGS Earth). The surficial geology of the Site and study area has been mapped as "clay to silt-textured till, derived from glaciolacustrine deposits or shale". The surficial geology map is shown in **Figure 2**.

3.2.2 Bedrock Geology

Available published mapping shows that bedrock in the area is predominantly shale, limestone, dolostone, siltstone as part of the Queenston Formation of the Phanerozoic, Paleozoic, Ordovician, Upper Ordovician eras;(MNDM Map 2544 Bedrock Geology of Ontario). Based on the review of existing boreholes logs and well record information, the depth to bedrock in the study area ranged between 13.8 to 22 meters below the existing ground and was encountered during drilling.

3.2.3 Site Geology

On-site subsurface soils were interpreted according to a preliminary geotechnical investigation report performed by DS (July 2021 and 2023) based on the boreholes/monitoring wells (BHs/MWs) drilled by DS. The locations of the BHs/MWs are shown in **Figure 3** and detailed subsurface conditions are presented on the borehole Logs in **Appendix A**. The subsurface conditions in the boreholes are summarized in the following paragraphs, and the geologic cross-sections (A-A', B-B' and C-C') are presented in **Figure 5A to 5C.**

Topsoil/Fill Materials:

Boreholes were drilled on grass and encountered 130 to 230mm thick surficial topsoil layer. It should be noted that the thickness of the topsoil explored at the borehole locations may not be representative for the site and should not be relied on to calculate the amount of topsoil at the site.

Fill material was encountered in all boreholes, extending to depths ranging from 0.8 to 4.6 metres below ground surface. The fill was heterogeneous, consisting of silty clay to clayey silt and sand and gravel. Traces of rootlets, organics and topsoil were also observed in fill material.

Cohesive Deposits (Clayey Silt Till):

Underlying the fill material in all boreholes, clayey silt till deposits were encountered and extended to depths ranging from 2.3 to 7.6 mbgs. Other layers of clayey silt till and clayey silt deposits were encountered

below cohesionless deposits in Boreholes BH21-1, BH21-2, BH21-3 and BH21-5, extended to depths ranging from 7.6 to 15.2 mbgs. Occasional cobble and boulders were present within the hard till deposits.

Sandy Silt Till:

Below the clayey silt till and cohesionless deposits in Boreholes BH21-1, BH21-3, BH21-5 and BH21-6, sandy silt till was encountered.

Cohesionless Deposits (Sandy Silt, Silty Sand, Silt and Sand and Gravel):

Below cohesive deposits and sandy silt till, water bearing cohesionless deposits of sandy silt, silty sand, silt and sand and gravel were encountered. Cohesionless deposits were found wet below the depths ranging from 4.6 to 12.2 mgbs.

Clayey Silt Till/Shale Complex:

The clayey silt till/shale complex consists of clayey silt till mix with highly weathered shale and contains properties of hard till and shale bedrock. This deposit was encountered in Boreholes BH21-4 to BH21-6. Occasional cobble and boulders should be expected in the till deposit.

Shale Bedrock:

Shale bedrock belonging to Queenston Formation was found in all boreholes except BH21-2 at approximate depths varying from 13.8 to 22 m below the existing ground, corresponding to elevations varying from 188.4 to 192.2 masl.

3.3 Hydrogeology

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

3.3.1 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. Based on the MECP water well records search, there were seventy-four (74) water wells within a 500 m radius of the Site. all wells were noted as monitoring/test holes or not in use except for five (5) records for domestic, three (3) records for industrial and three (3) records for commercial purposes. **Figure 1** shows the MECP water well location plan. The study area is fully serviced with municipal water.

A desktop review was conducted by DS to identify private potable wells (domestic, commercial, and industrial) that may still be in use within the vicinity of the subject property. The review was based on available records from MECP well database. A summary of the wells identified in the area, including their reported depth, year of construction, use, and proximity to the site, is provided in **Table 3-1** below. It is recommended that a door-to-door well survey be conducted during the detailed design stage to confirm the existence, operational status, and use of the identified wells, as per Appendix A of the Halton Region Urban Services Guidelines. This

additional verification will help determine any potential impacts on existing private wells during construction or operation of the proposed development.

Table 3-1: Summary of Identified Private Wells within the Vicinity of the Site

Well ID	Use	Year Built	Depth (ft)	Proximity to Site	Status/Notes
2800707	Domestic	1951	48	690 m to the west	–
2801687	Domestic	1953	43	400 m to the west	–
2804329	Domestic	1973	65	390 m to the southeast	–
2808072	Domestic	1992	25	50 m to the east	Decommissioned
2809943	Domestic	2004	52	130 m to the northeast	Decommissioned
2801695	Industrial	1957	63	330 m to the south	–
2801696	Industrial	1959	85	450 m to the south	–
2801697	Industrial	1959	38	550 m to the southeast	–
2804115	Commercial	1972	40	590 m to the southwest	–
2800711	Commercial	1961	65	700 m to the west	–
2800712	Commercial	1965	85	330 m to the west	–

3.3.2 Groundwater and Surface Water Conditions

3.3.2.1 Groundwater Monitoring

DS measured groundwater levels in all available installed monitoring wells including nineteen (19) monitoring wells on May 9, 2023. **Table 3-2** presents the groundwater levels in all monitoring wells. Based on groundwater level measurements, the groundwater table at the site was found at a range between 5.81 to 11.91 mbgs (Elev. 197.57-200.49 masl). The interpreted groundwater contour map for the water level measurements is shown in **Figure 4**. It should be noted that the ground surface elevations from the May 9, 2023, readings and groundwater level represent pre-remediation grade as an environmental soil excavation was carried out on-site in 2023 to 2025 where all impacted soil has been removed from the Site. Based on groundwater elevations, the flow direction within the Site is inferred to be southwest toward the Sixteen Mile creek. The groundwater levels at the Site can be subject to seasonal fluctuations.

DS also conducted a long-term groundwater monitoring between May 2023 and December 2024 including four (4) monitoring wells MW21-1, MW21-5, MW22-14 and MW23-20 to document the pre-construction groundwater conditions and assess seasonal groundwater fluctuations. Hydrographs are presented in **Appendix I**. The groundwater levels were found at the elevations ranging from 197.26 to 199.66 masl.

Table 3-2: Groundwater Levels in Monitoring Wells

Well ID	Ground Elevation (masl)	Well Depth (mbgs)	Screened Interval (mbgs)	May 9, 2023	
				Depth to Water (mbgs)	Groundwater Elevation (masl)
BH21-1	208.31	18.1	15.1-18.1	9.96	198.35
BH21-2	207.64	12.1	9.1-12.1	7.15	200.49
BH21-3	206.57	13.4	10.4-13.4	7.16	199.41
BH21-5	205.47	12.3	9.3-12.3	5.81	199.66
IW4	205.81	14.65	11.65-14.65	8.19	197.62
SW13	206.04	10.1	7.1-10.1	8.02	198.02
BH23-4	206.65	18.4	13.6-18.4	8.65	198.00
BH23-6	207.98	15.1	12.1-15.1	9.48	198.50
BH23-9	206.21	16.8	12.2-16.8	8.55	197.66
BH23-10	206.21	10.2	7.2-10.2	8.43	197.78
BH23-11	206.41	15.3	9.1-15.3	8.26	198.15
BH23-13	206.25	9.0	6.0-9.0	8.43	197.82
BH23-15	206.23	10.9	7.9-10.9	8.01	198.22
BH23-16	206.63	10.1	7.1-10.1	8.94	197.69
BH23-19	209.52	13.7	10.7-13.7	11.91	197.61
BH23-20	204.59	15.3	9.0-15.3	7.02	197.57
BH23-24	206.36	18.7	15.7-18.7	7.17	199.19
BH23-26	204.33	10.6	7.6-10.6	6.69	197.64
PW1	206.20	15.2	12.2-15.2	8.32	197.88

3.3.2.2 Surface Water Monitoring

As part of this study, shallow groundwater and surface water interactions were monitored within the wetland located at the southwest corner of the Site along Sixteen Mile Creek at two (2) locations, designated as stream stations SG1 and SG2. Each station included a staff gauge (SG1 and SG2) installed in the watercourse, and both stations were equipped with one (1) shallow piezometer screened to a depth of approximately 0.7–1.0 m below ground surface, and one (1) deep piezometer screened to approximately 1.2–1.5 m below ground surface to evaluate and compare shallow groundwater levels. The BH/MW and PZ/SG locations are shown on **Figure 3**. In addition. Wetland surface water level monitoring results at stream stations include manual and continuous water level measurements are presented in **Appendix J.**

Wetland surface water level monitoring results at the stream stations, including both manual and continuous water level measurements, are presented in Appendix J. Continuous measurements from SG1 and SG2 indicate that both the watercourse and shallow groundwater levels within the wetland exhibit significant responses to precipitation events between August 2023 and October 2024. According to the results, surface water elevations at SG1 generally range from 197.39 to 197.97 masl, with an exceptional high-water level of 198.36 masl recorded in July 2024 following a major precipitation event. At SG2, surface water elevations typically range from 196.60 to 197.07 masl, with an exceptional high-water level of 197.71 masl recorded in July 2024 after the same event. Based on the comparison of groundwater levels between the site and the adjacent wetland there is potential for groundwater contribution to the wetland from the current site conditions (Table lands).

3.3.3 Hydraulic Conductivity

A total of fifteen (15) Single Well Response Tests (SWRTs) were completed by DS in monitoring wells between May 5 and 7, 2021 to estimate hydraulic conductivity (k) for the representative geological units in which the wells were completed. SWRTs were completed by performing a rising head test (slug test) with the use of Waterra® tubing to 'instantaneously' 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 Hvorslev method. **Table 3-3** presents a summary of the hydraulic conductivity (k) results for the representative geological units. The values of calculated hydraulic conductivity (k) range from 1.65×10^{-7} to 4.81×10^{-4} m/s. The hydraulic testing results are provided in **Appendix B.**

Table 3-3: Summary of Hydraulic Conductivity (k) Test Results

Well ID	Screen Interval	Screened Formation	K- Value(m/s)	Geomean (m/s)
BH21-1	15.1-18.1	Sand and gravel/Shale bedrock	2.05×10^{-7}	6.27×10^{-6}
BH21-2	9.1-12.1	Clayey silt till	1.65×10^{-7}	
BH21-3	10.4-13.4	Clayey silt/Sandy Silt	1.25×10^{-6}	
BH21-5	9.3-12.3	Silty sand/Silt	1.10×10^{-5}	
IW4	11.65-14.65	Silty sand	4.81×10^{-4}	
SW13	7.1-10.1	Clayey silt/Silty sand	3.22×10^{-7}	
BH23-4	13.6-18.4	Silty sand/Silt	5.28×10^{-6}	
BH23-6	12.1-15.1	Sandy silt/Sand and gravel	6.02×10^{-6}	
BH23-9	12.2-16.8	Sand and gravel/Silty sand	4.02×10^{-4}	
BH23-10	7.2-10.2	Sandy silt/Silt	3.28×10^{-6}	
BH23-11	9.1-15.3	Silt/Sandy silt/Clayey silt/Gravelly sand	2.59×10^{-4}	
BH23-13	6.0-9.0	Sandy silt/Silty sand	1.05×10^{-6}	
BH23-15	7.9-10.9	Clayey silt/Silt	7.98×10^{-7}	
BH23-16	7.1-10.1	Sandy silt/Silt	3.42×10^{-7}	
BH23-19	10.7-13.7	Silty sand	4.28×10^{-4}	
BH23-20	9.0-15.3	Silt/Clayey silt/Gravelly sand	2.92×10^{-5}	
BH23-24	15.7-18.7	Shale bedrock	7.55×10^{-6}	
BH23-26	7.6-10.6	Sand and Gravel/Silty sand	1.05×10^{-5}	

3.3.4 Groundwater Quality

As part of the Phase Two ESA and Risk Assessment completed by DS, with a Record of Site Condition filed in 2025, the following groundwater impacts are identified on-site. Current site conditions are also described based on remediation work. It should be noted that an environmental soil excavation was carried out on-site from 2023 to 2025. All impacted soil has been removed from the Site. Chromium, hexavalent chromium and non-volatile petroleum hydrocarbons (PHC F3 and PHC F4) are present on the Site.

Table 3-4: Parameters in Groundwater Exceeding the O. Reg. 153/04 Standards

Parameter	Unit	Table 3 Site Condition Standard	Maximum Concentration	Property Specific Standard	Current Maximum Concentrations
Chromium	µg/L	810	**42,000**	50,400	**2,200**
Hexavalent Chromium	µg/L	140	**48,000**	57,600	**2,400**
PHC F3	µg/L	500	**1,400**	1,680	**530**
PHC F4	µg/L	500	**530**	636	**1,400**

Two (2) unfiltered groundwater samples were collected from monitoring well BH23-20 on May 11 and PW1 on May 18, 2023. The groundwater samples were submitted to Bureau Veritas (BV) Laboratory in Mississauga, Ontario for analysis. BV Laboratory is certified by the Canadian Association of Laboratory Accreditation Inc. (CALA) and the Canadian Standard Association (CSA). The samples were analyzed and compared against the parameters listed under the Halton Region Storm and Sanitary Sewer Use By-law and Provincial Water Quality Objective (PWQO) for surface water. The reported analytical results indicated that no parameters were in exceedance of the Halton Region's Storm and Sanitary Sewer Discharge By-Law criteria. Comparing the results against PWQO Criteria, Iron was in exceedance of the PWQO criteria. Therefore, groundwater at the Site is not suitable for a discharge without pre-treatment into the nearby surface water systems. Groundwater can be discharged into Halton Storm and Sanitary Sewer without any treatment. The exceedances are summarized in **Table 3-5,** and the certificate of analysis is provided in **Appendix G.**

Table 3-5: Parameters in Groundwater Exceeding the PWQO

Parameter	Unit	PWQO Criteria	BH23-20 Concentration	PW1 Concentration
Iron	mg/L	0.3	**1.2**	**2.7**

4.0 DRILLING and INSTALLATION of PW1

In May 2023, the hydrogeological test drilling was carried out by a licensed water well contractor utilizing the mud rotary drilling method. As the test hole was being advanced, samples of soil were collected and logged. A representative from DS was onsite for all drilling activity. The location of the pumping and monitoring wells are shown on the attached **Figure 3**. The subsurface conditions have been interpreted and displayed as cross-sections' A-A', B-B' and C-C' as shown in the attached **Figure 5A to 5C**, respectively.

4.1 Construction Details of Pumping Well PW1

Test hole PW1 was advanced on May 8, 2023, to a total depth of 18.2 mbgs (60 ft.). **Appendix C** shows the Driller's description of the test hole and the well construction features of PW1. The overburden material consisted of mainly of a sandy clay unit overlying a permeable sand and gravel layer above the shale/bedrock. The Drillers' log and field observations were used in the design for a 150 mm (6 inch) diameter well. The well screen assembly consisted of 20 slot stainless steel well screen installed from 12.2 to 15.2 mbgs (40 to 50 ft.). The static water level measured on May 13, 2023, was 8.3 mbgs at an

approximate elevation of 197.9 masl. **Appendix C** features the test hole log and well design of the Pumping Well **(Fig. C-1)** and grain size curves (**Fig. C2-C6**).

5.0 PUMPING TEST RESULTS

In May 2023, an aquifer test was conducted on the pumping well (PW1) to provide indications of the quantity of water available from each single well and to calculate the aquifer hydraulic coefficients (Transmissivity and Storativity). During the drawdown pumping test, a single data logger was installed in the pumping well (PW1), and two (2) observation wells (BH23-9, and BH23-15). Water level measurements were also taken by manual means and recorded in a field book.

5.1 PW1 – Step Test (Mogg Type)

A 2 step, Mogg Type step-drawdown test was conducted on PW1 at controlled flow rates of 90, and 237 L/min (20, and 52 imperial gpm). The semi-logarithmic plot of drawdown vs. time for the test is shown on **Figure D-1**, in **Appendix D**. The attached **Figure D-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 **Figure D-2** in **Appendix D**. This figure shows the separation from the "theoretical line of zero well and formation loss" at the pumping rates tested. The formation loss is minimal at the tested pumping rates indicating the well is efficient in production of groundwater.

5.2 PW1 – Drawdown and Recovery Test

An aquifer test was performed on PW1 at a rate of 237 L/min (52 igpm). A data logger was programmed and installed in PW1 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 3.5-hour drawdown time, the pump was shut-down, and a 16-hour recovery period was recorded in the pumping well and observation wells.

The attached **Figure D-3** is a semi-logarithmic plot of the drawdown vs. time response to pumping inside the well, PW1. **Figure D-4 to D-5** shows the response in the monitoring wells BH23-9, and BH23-15, respectively, during the pumping at PW1. At BH23-9, and BH23-15 the drawdown due to the interference/pumping of PW1 at 3.5 hours was measured to be 0.37 and 0.23, respectively. The drawdown response observed at the observation wells after 3.5 hours of drawdown is also displayed graphically in **Figure D-6** as a function of radial distance from the center of the pumped well.

5.3 Pumping Test Interpretation

The aquifer pumping test was designed to determine the performance characteristics of the pumping well, PW1. 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, we calculated a Transmissivity value of **890 m^2/day (59,700 igpd/ft.).** The Storativity was calculated to be 2.5 X 10^{-4} (dimensionless) based on the pumping test data.

6.0 CONCEPTUAL CONSTRUCTION GROUNDWATER CONTROL

6.1 Conceptual Groundwater Control Requirements

Preliminary details for the proposed development were provided during discussions with the Owner's Team. All subgrade elevations were estimated from the conceptual architectural drawings and are not to be assumed as final. If the design details change, the groundwater control model will need to be recalculated to ensure they represent the final design. It is interpreted from architectural drawings that the Finished Floor Elevation (FFE) is to fall at about 207.4 masl.

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.

According to the most recent discussion with the building design team, it is understood that plans for the condominium tower(s) could feature up to three (3) underground levels of parking. In our calculations, we have assumed a typical development block is 180 m by 100 m (18,000 m^2). A summary of the estimated target depths for the P2 and P3 underground are presented in **Table 6-1**.

Table 6-1: Summary of Groundwater Control Target Elevations

Proposed Underground Design	FFE Elev. (masl)	Est. SOG Elev. (masl)	Est. Deepest Elevator Pit Elev. (masl)	Target Dewatering Elev. (masl)
P2 Level	207.4	199.9	197.4	196.4
P3 Level		196.9	194.4	193.4

6.2 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 aquifer coefficients (Transmissivity and Storativity) calculated through field data. The dewatering target elevation 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 sand aquifer.

Based on the step test and aquifer pumping test data obtained, the permeability was identified in the confined sand aquifer. The calculated Transmissivity, **890 m^2 day^{-1} (59,700 igpd/ft)** and the calculated Storativity, 2.5 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 E-1 (Attached in Appendix E)** is a Site Sketch that shows the proposed layout of the thirteen (13) theoretical pumping wells (identified in blue) and two (2) theoretical observation wells (identified in green).

After numerous trial runs, the final runs (for P2 and P3 designs) were created using the Transmissivity value of 890 m^2 day^{-1} (59,700 igpd/ft). Based on the water levels measured in May 2023, it was determined

through the iterative process that a conceptual groundwater control system featuring 13 theoretical wells would determine the pumping volumes required for the various underground designs. **Figure E-2 to E-3 (Attached in Appendix E)** shows the predicted response to the groundwater level in a 13 theoretical well system for the P2 and P3 level scenario, respectively.

6.3 Total Conceptual Construction Dewatering Requirements

The total volumetric pumping rate to control groundwater from the aquifer during construction will also include the management of storm water collected within the open excavation. Based on the estimated area of the open excavation, after a significant storm event (10 mm) the estimated daily discharge volume for storm water is **90,000 L/day** (pumped over a 48-hour period). The following **Table 6-2** presents the total conceptual construction dewatering volumes for the P2 and P3 level designs.

Table 6-2: Summary of Construction Dewatering Volumes

Proposed Underground Design	Storm water (liters/day)	Groundwater Discharge Rate(L/min)	Groundwater Discharge Volume (L/Day) with 20% safety factor	Total Construction Dewatering Volume (L/day)
P2 Level	90,000	1,300	2,250,000	2,340,000
P3 Level		3,660	6,320,000	6,410,000

The estimated water discharge volume is above 400,000 L/day, therefore a Permit To Take Water (PTTW) will be required for construction dewatering.

6.4 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 13 theoretical pumping wells to control groundwater within the water bearing zone. The dewatering contractor should confer on the most suitable method for groundwater control (for example staged well points, eductor system or deep wells).

6.5 Zone of Influence

The radius of influence (Ro) for the construction dewatering was calculated based on the Sichardt equation. 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 and the hydraulic conductivity (derived from the transmissivity obtained from the pumping test at PW1) the zone of influence for the proposed development at the site (from the centre of excavation) is approximately 187 m (P3 Level Design) and would be negligible for P2 design since it will be above groundwater level.

7.0 CONCEPTUAL PERMANENT GROUNDWATER CONTROL

The current building design options range from two to three underground parking levels (P2 to P3 Levels). Current groundwater level measurements completed in May 2023 indicate that permanent groundwater drainage system for the P2 level design will be above the groundwater level. Deeper footings and sumps for P3 level would extend the permanent groundwater drainage system below the static groundwater level.

DS recommends bath tubbing (water-tight underground) design for any building extending to P3 or deeper to mitigate groundwater-related challenges for permanent discharge. Based on the results of the pumping test, a significant aquifer is present on the western portion of the site. If bath tubbing is not a viable option, alternative strategies should be explored to minimize groundwater impact. This includes designing the structure to remain above the water table where feasible, implementing robust waterproofing systems, and considering dewatering techniques to manage groundwater levels during long-term operation.

Should the building be designed with a permanent drainage system, seasonal groundwater fluctuations in will convey groundwater into the subfloor and perimeter drainage system.

7.1 Permanent Groundwater Control Discharge Volumes

Groundwater from the permeable overburden at the Site will have to be controlled post construction for the P3 level design if the foundations are not bath tubbed. While only minor storm water seepage from the perimeter weepers will be encountered for the P2 level design.

The permanent discharge volume was estimated using data obtained during the aquifer test. A drainage rate to control the groundwater was estimated using similar conceptual layout of thirteen (13) theoretical drainage wells. **Figure E-1 (Attached in Appendix E)** shows the conceptual layout of the theoretical drainage wells for modelling purposes. Again, the layout in **Figure E-1** was used for conceptual drainage estimates, during permanent discharge the groundwater will be collected via the building's perimeter and underdrainage system (not actual wells). The following **Table 7-1** presents the total conceptual construction dewatering volumes for the P2 and P3 level designs.

Table 7-1: Summary of Construction Dewatering Volumes

Proposed Underground Design	Groundwater Discharge Rate(L/min)	Total Permanent Drainage Volume (L/Day) with 20% safety factor
P2 Level	Above Groundwater Table	20,000*
P3 Level	1,180	2,040,000

*P2 Level only intermittent storm water collected from the perimeter foundation drainage system

Figure F-1 (Attached in Appendix F) shows the permanent groundwater model output and predicted response to the groundwater level based on the estimated drainage volume for the P3 Level design.

For permit application purposes a safety factor of 20% applied to the estimated discharge. This volume is above the threshold of 50,000 L/day and therefore a Permanent PTTW application will have to be submitted to the MECP for review and approval.

All groundwater discharge must meet the soil and groundwater management plan as per the Certificate of Property Use which details appropriate management and removal, provided in this report. A Permit to Take Water or EASR meets the requirements of the plan.

8.0 PERMIT REQUIREMENTS

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

An Environmental Activity Sector Registration (EASR) 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 above 50,000 L/day. The EASR application is an online registry and should be submitted to the MECP before any construction dewatering. As of July 1st, 2025, a PTTW is not required for construction dewatering the MECP amended the groundwater taking regulations with respect to construction dewatering. The daily water taking limit was removed from the EASR permit, therefore for temporary dewatering a PTTW is no longer required (superseded by the EASR permit)

During construction dewatering for all design scenarios (P2 to P3 levels), since the estimated construction dewatering volume exceeds the EASR limit of 50,000 L/day, an EASR is required to be submitted to the MECP for construction dewatering activities.

Post construction for the P3 level design scenario, a PTTW will be required from the MECP for groundwater taking from the permanent drainage system, if the foundations are not bath tubbed (as water taking volumes exceed 379,000 L/day). The estimated groundwater taking for the P2 level scenario is below 379,000 L/day, therefore no approvals are required from the MECP.

8.2 Discharge Permits (Construction Dewatering)

A discharge permit will be required from the Halton Region/Town of Milton if private water is to be sent to the sewer system. Unless the future development is designed as a water-tight structure, all groundwater (temporary or permanent) will be sent to the sewer system and therefore will require a discharge permit from the Halton Region/Town of Milton.

9.0 POTENTIAL IMPACTS

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

9.1 Local Groundwater Use

The area is fully serviced by municipal water supply. Since it is not expected to have any use of groundwater as a source of drinking water within a 500 meters radius from the Site, it is not anticipated that there will be short-term or long-term impacts on private water wells occurring from the proposed dewatering activities.

9.2 Current PTTW Search

The MECP PTTW Open Data Catalogue (last update May 28, 2022) was searched within a 1 km radius of the Site. The search indicated that there no active PTTW located approximately 1 km from the site.

9.3 Source Protection Area

The site is located within the Hamilton/Halton Source Protection Area (SPA). Source Protection Plans contain policies aimed at protecting drinking water sources by reducing or eliminating significant threats to the source of municipal drinking water. The study area is serviced by municipal water supply; therefore, no impacts are anticipated to drinking water supply within the zone of influence.

9.4 Highly Vulnerable Aquifer

The site and the study area are not located within a Highly Vulnerable Aquifer (HVA).

9.5 Wellhead Protection Area

The site and the study area are not located within a municipal Wellhead Protection Area (WHPA). No WHPA impacts are anticipated due to the proposed temporary dewatering.

9.6 Intake Protection Zone

The site and the study area are not located within an Intake Protection Zone (IPZ). No IPZ impacts are anticipated due to the proposed temporary dewatering.

9.7 Surface Water

Sixteen Mile Creek falls within the zone of influence of the site considering P2-P3 conceptual plan. Therefore, surface water impacts are anticipated from construction dewatering activities. Depending on the final design, additional surface water investigation might be needed to complete the satisfy MECP permitting requirements.

9.8 Point of Discharge and Groundwater Quality

Groundwater quality analysis indicated that no parameters were in exceedance of the Halton Region's Storm and Sanitary Sewer Discharge By-Law criteria. Comparing the results against PWQO Criteria, Iron was in exceedance of the PWQO criteria. Therefore, groundwater at the Site is suitable for discharge into the Region's storm and sanitary sewers subject to the Region's consultation but not suitable for direct discharge without treatment into nearby watercourse (Sixteen Mile Creek). Treatment is needed to comply with the water quality limits set in for PWQO before any discharge. Treatment options include but are not limited to settlement and filtration of sediments. Discharge permits and agreements are required from the Halton Region/Town of Milton for short-term and long-term discharge.

9.9 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.

10.0 MONITORING AND MITIGATION

Based on the preliminary hydrogeological investigation, the following monitoring and mitigation program is recommended:

- Baseline groundwater quality has been assessed and established prior to construction. However, groundwater quality can change based on several factors (land-use change, spills, etc.) and should be monitored during construction dewatering and after construction to ensure that water quality meets the guideline or regulations associated with any permits from the MECP and the Halton Region/Town of Milton.
- Based on dewatering assessment, an EASR application is required for construction dewatering. Additional monitoring may be required by the MECP to be implemented during the design stage. Confirmation that the requirements of the soil and groundwater management plan are met is required as per the CPU.
- A discharge permit is required to be submitted to the Town for short-term dewatering if private water is sent to the any sewer and if any dewatering is proposed to go to the surface water system (nearby Sixteen Mile Creek).
- Based on the comparison of groundwater levels between the site and the adjacent wetland there is potential for groundwater contribution to the wetland from the current site conditions (Table lands).
- Based on the anticipated Zone of Influence (ZOI) (P3), which does not extend to Sixteen Mile Creek, surface water impacts to the wetland are not expected during construction dewatering.
- Once a groundwater dewatering system is set up at the Site, a daily and weekly monitoring program 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.

11.0 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 provides 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 documents 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 contact the undersigned.

DS Consultants Ltd.

Prepared By:

Meysam Jafari, M.Sc., P.Geo.
Project Manager, Hydrogeology

Don Hsu, P.Eng.
Senior Project Manager (Hydrogeologist)

12.0 CONSULTANTS QUALIFICATIONS

Don Hsu, P.Eng., Don has over 18 years of experience in environmental sciences with a special focus on hydrogeology. He has extensive experience in hydrogeological investigation and construction groundwater control projects. He has a strong technical background in all aspects of groundwater control and management including groundwater modelling and groundwater monitoring. He has managed a number of large-scale construction dewatering projects including several projects in the Greater Toronto Area

Meysam Jafari, M.Sc., P.Geo., is a Professional Geoscientist (P.Geo.) with DS Consultants Ltd. Meysam holds two master degrees in Engineering Geology and Geology (Soil & Groundwater) and has several years of experience working in the geoscience industry. Meysam has experience with conducting Phase One and Phase Two Environmental Site Assessments, hydrogeological and geotechnical investigations in the Greater Toronto Area (GTA), and has been involved with project coordination, field assessments, data interpretation and reporting.

13.0 REFERENCES

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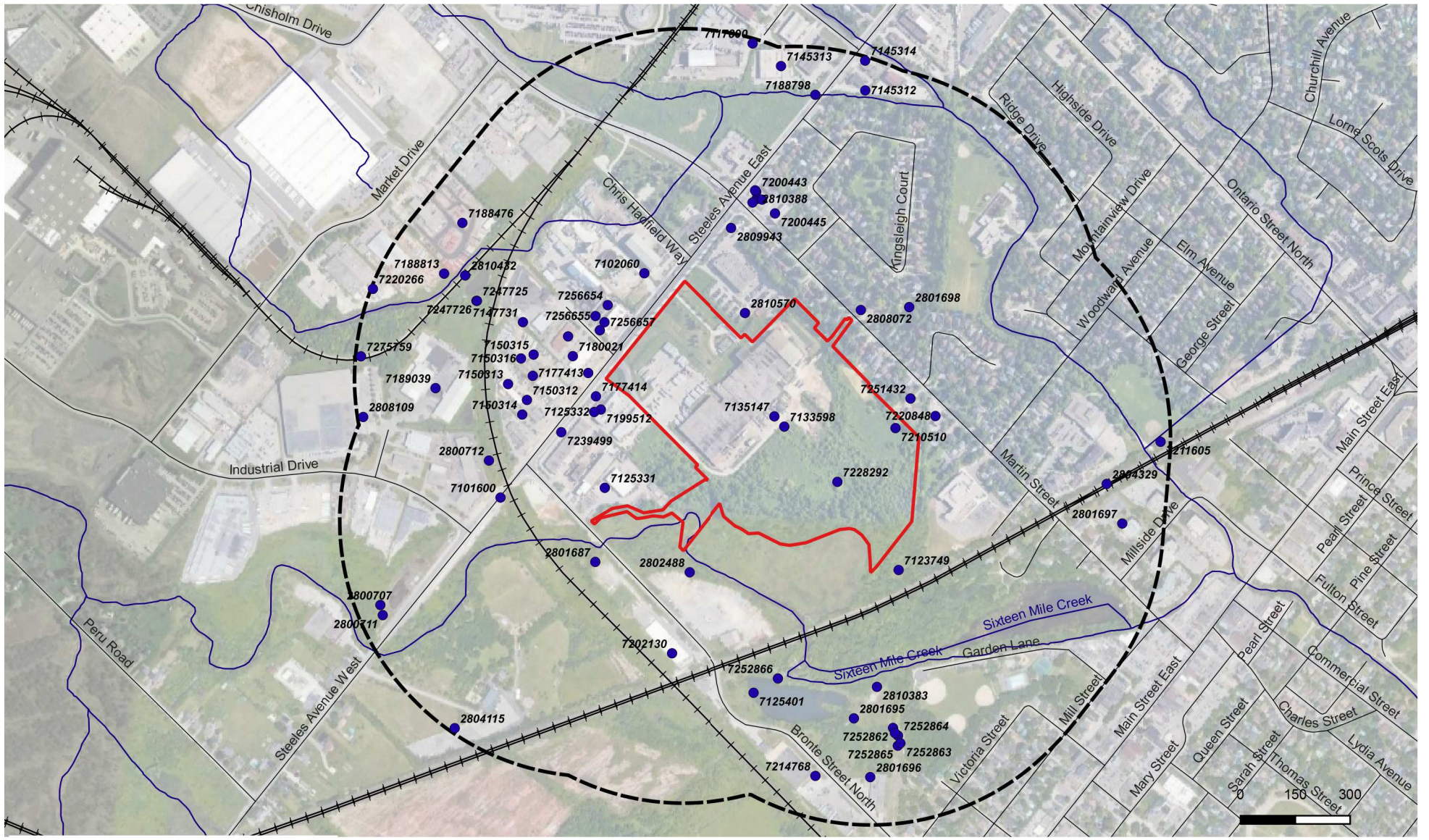
Figures

C:\0Sharon\21-122-100 Enviro Geo Investigations 150 Steeles Ave E\1-QGIS\HydroG\Figure 1 – Site Location and MECP Well Records.qgs May-20 16:03



Legend

- Approx Property Boundary
- 500m Buffer
- Registered Water Well (MECP WWR)

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Client: NEATT COMMUNITIES

Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

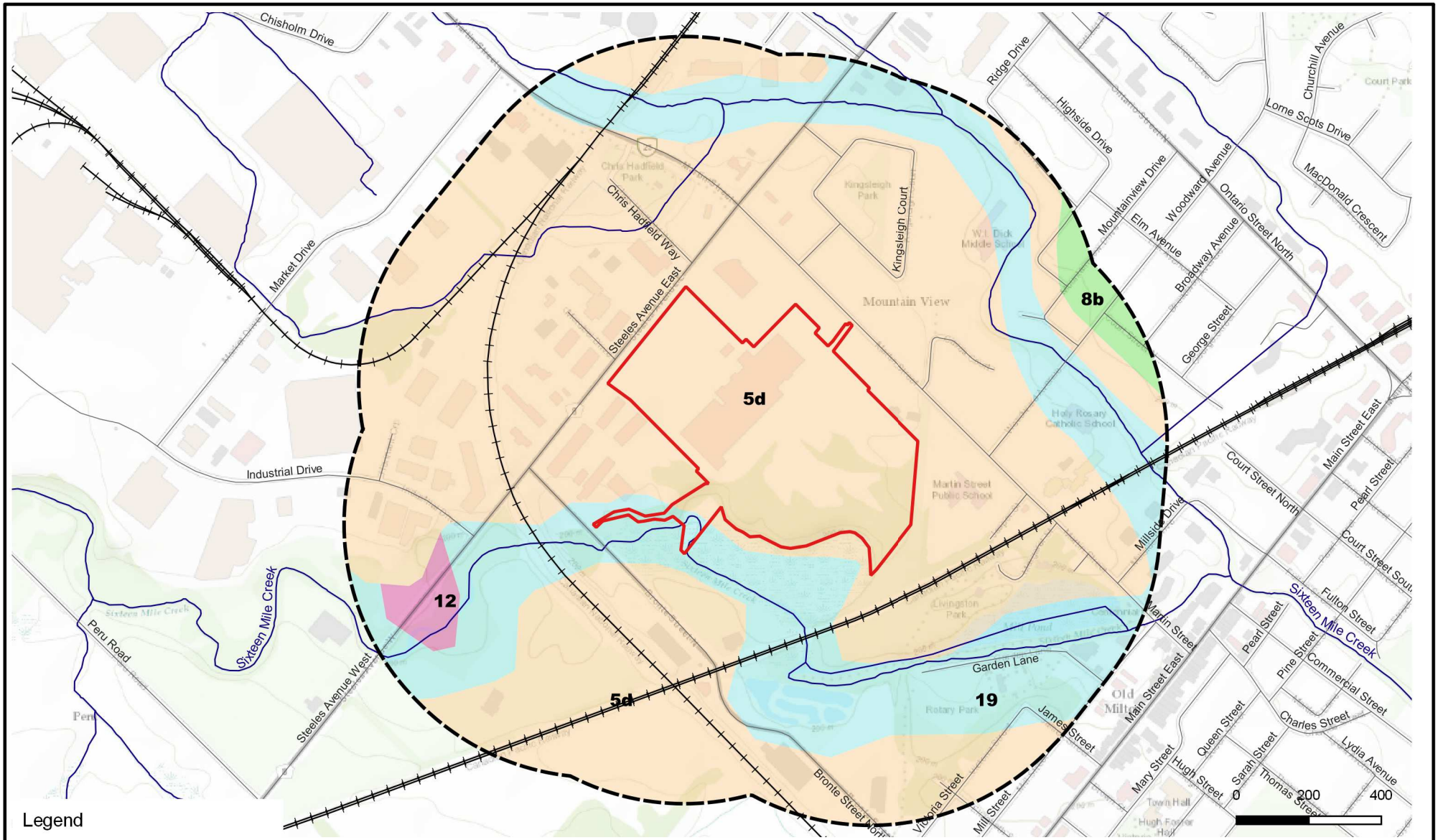
Title: **SITE LOCATION AND MECP WELL RECORDS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	May 2021
Rev: 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: 1

Image/Map Source: *Google Satellite Image*

C:\0Sharon\21-122-100 Enviro Geo Investigations 150 Steeles Ave E\1-QGIS\HydroG\Figure 2 – Surficial Geology Map.qgs May-20 16:27



Legend

- Approx Property Boundary
- 500m Buffer
- 12 - Older Terrace Alluvium
- 19 - Modern Alluvium
- 5d - Till
- 8b - Glaciolacustrine Deposits

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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

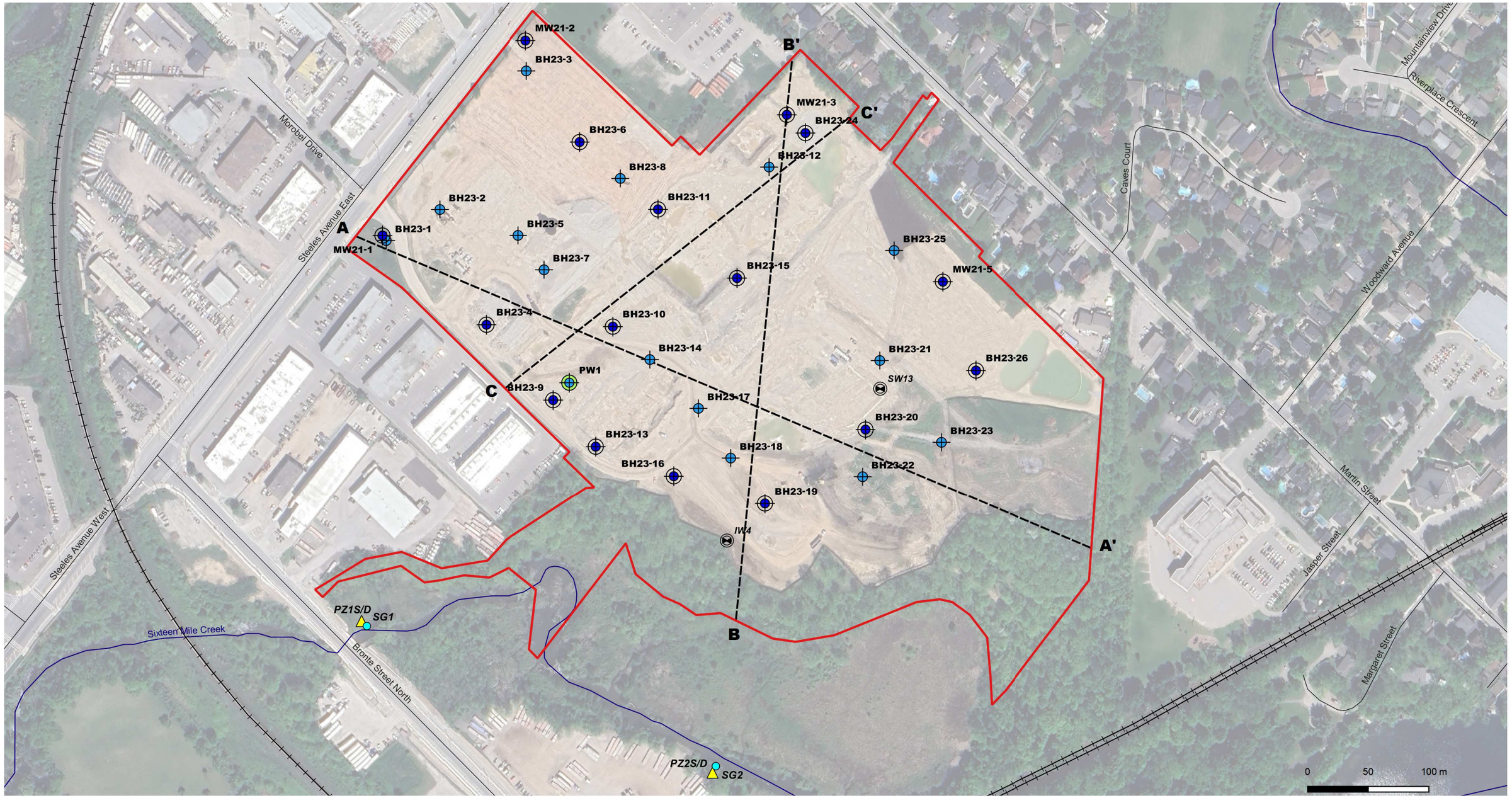
Title: **SURFICIAL GEOLOGY MAP**

N

Client: NEATT COMMUNITIES

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	May 2021
Rev: 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: 2

Image/Map Source: *Esri Topo Map & https://www.mndm.gov.on.ca/*



Legend

- Approx Property Boundary
- Borehole
- Monitoring Well
- Pumping Well
- Monitoring Well by Others
- Cross Section
- Piezometer
- Stream Gauge

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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

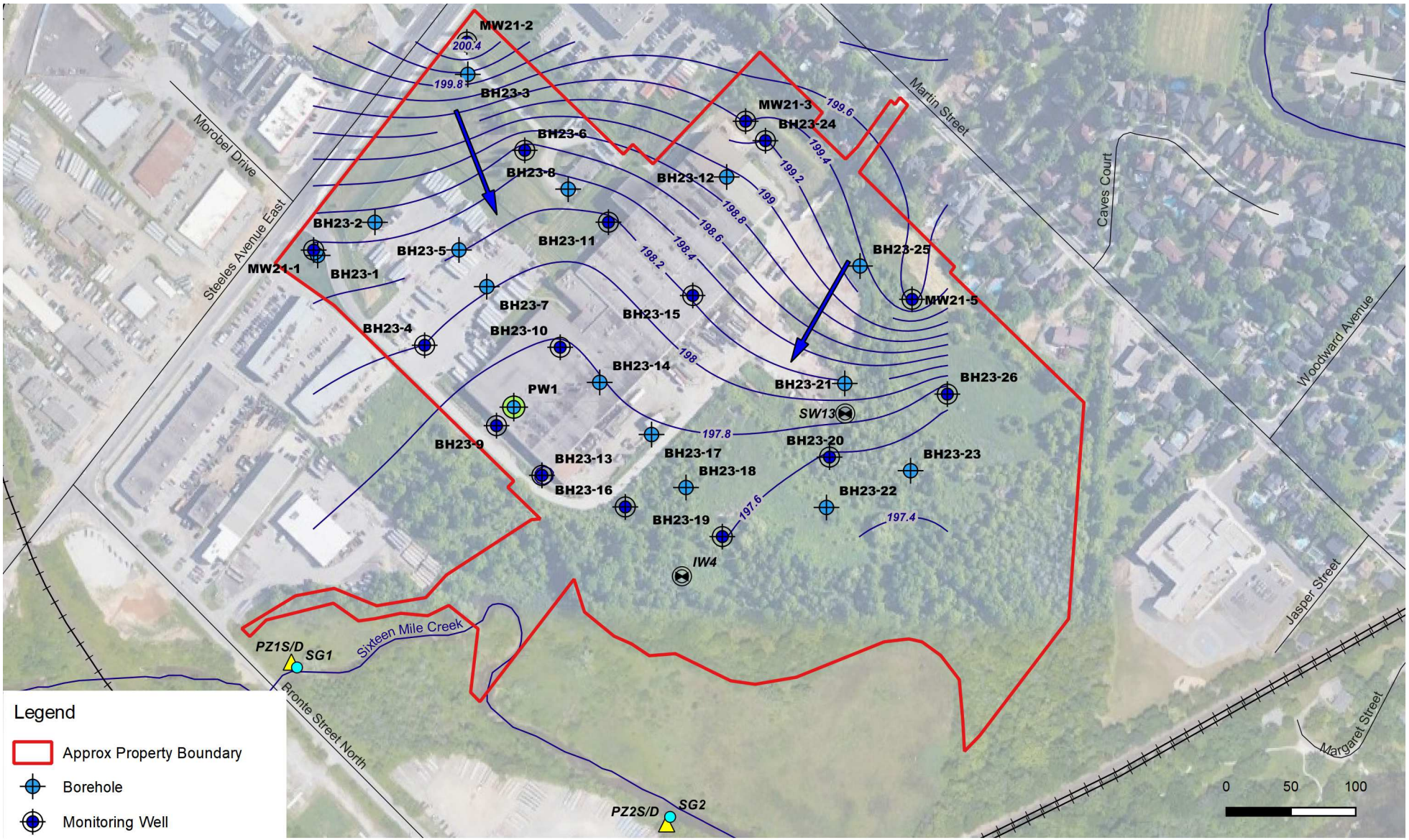
Client: NEATT COMMUNITIES

Size:	Approved By:	Drawn By:	Date:
11x17	M.J	S.Y	November 2025
Rev. 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: 3

Image/Map Source: *Google Satellite Image*

C:\0Sharon\21-122-100 Enviro Geo Investigations 150 Steeles Ave E\1-QGIS\HydroGI\Figure 3 – Borehole and Monitoring Well Locations.qgs Nov-03 13:06

C:\0Sharon\21-122-100 Enviro Geo Investigations 150 Steeles Ave E\1-QGIS\HydroG\Figure 4 - Groundwater Elevation Contours and Flow Direction.qgs Nov-03 13:11



Legend

- Approx Property Boundary
- Borehole
- Monitoring Well
- Pumping Well
- Monitoring Well by Others
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Piezometer
- Stream Gauge

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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

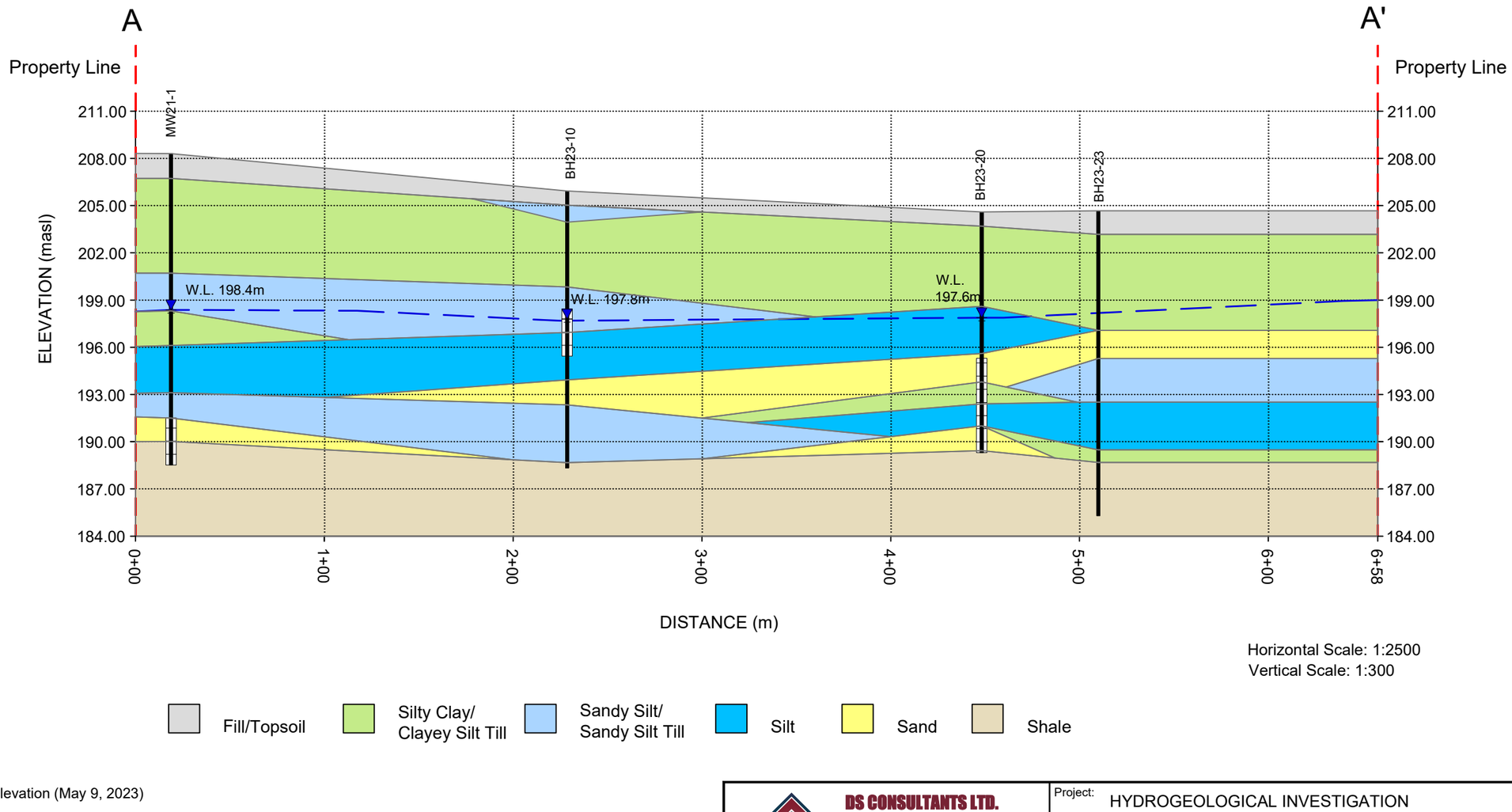
Title: **GROUNDWATER ELEVATION CONTOURS AND FLOW DIRECTION**

N

Client: NEATT COMMUNITIES

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	November 2025
Rev: 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: 4

Image/Map Source: *Google Satellite Image*



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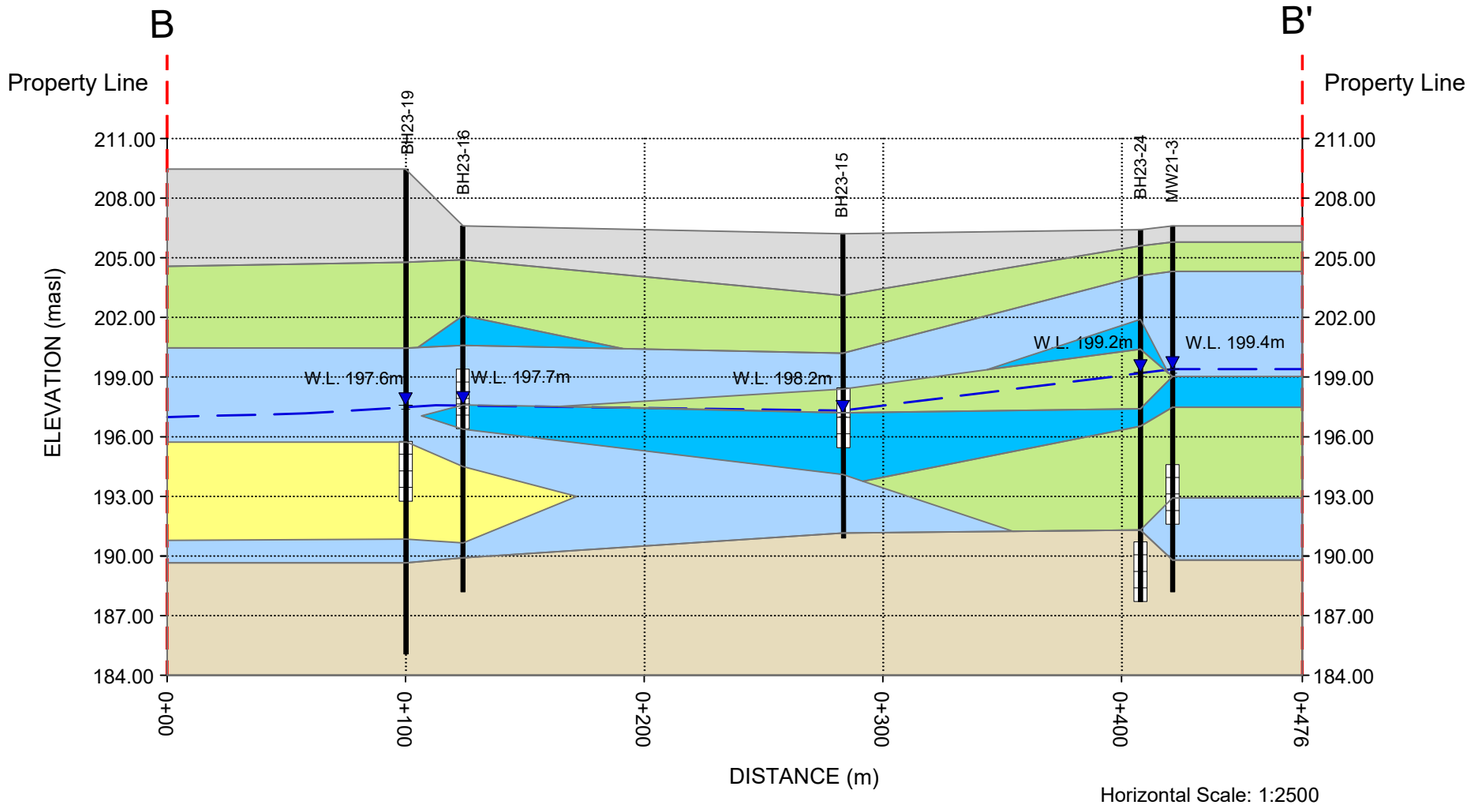
Client: NEATT COMMUNITIES

Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **GEOLOGICAL CROSS SECTION A-A'**

Size:	Approved By:	Drawn By:	Date:
11 X 17	M.J	S.Y	July 2023
Rev.	Scale: As Shown	Project No: 21-122-100	Figure No. **5A**



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Client: NEATT COMMUNITIES

Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **GEOLOGICAL CROSS SECTION B-B'**

Size:	Approved By:	Drawn By:	Date:
11 X 17	M.J	S.Y	July 2023
Rev.	Scale: As Shown	Project No: 21-122-100	Figure No. **5B**

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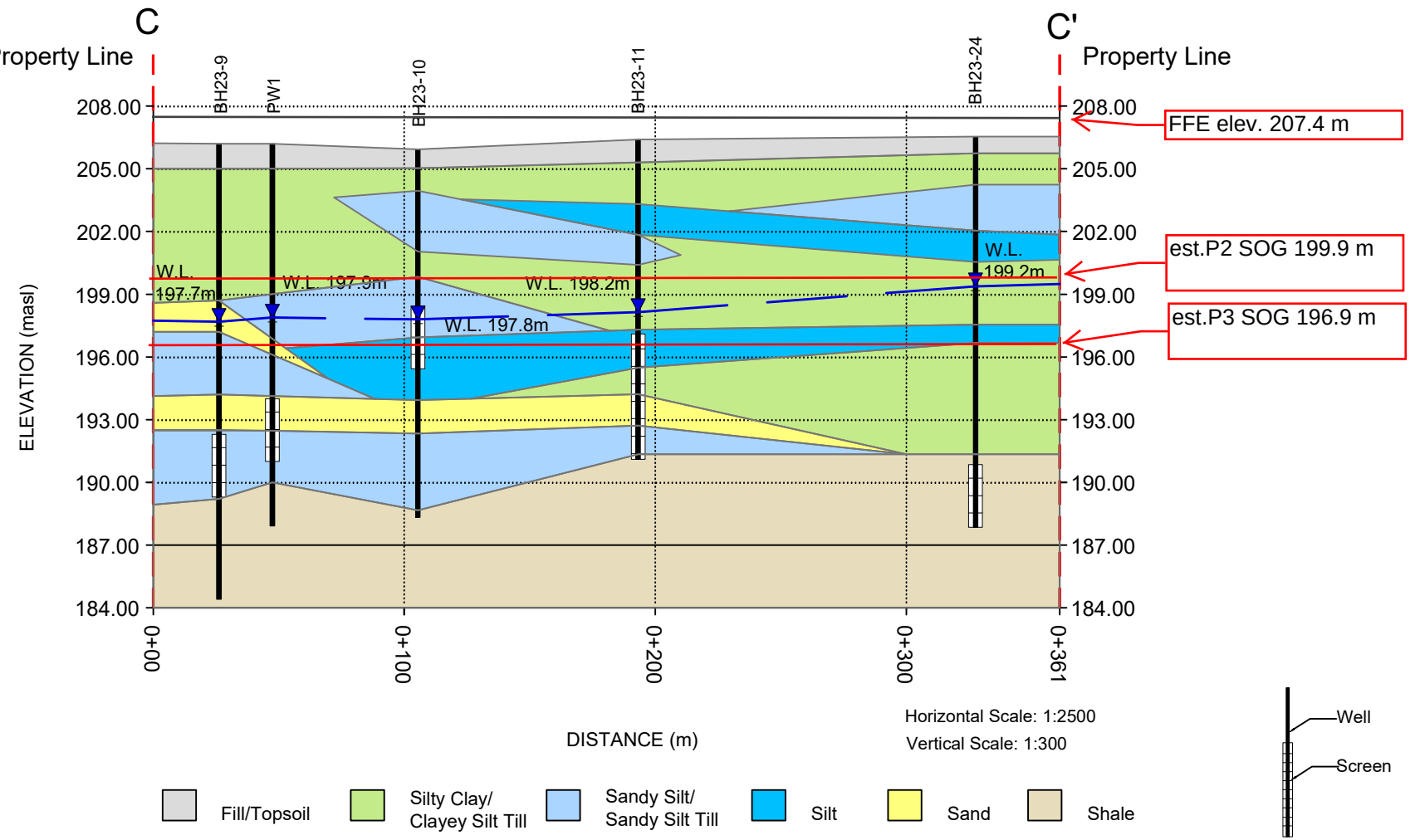
Path:j:\-gis\2021 projects\21-122-100 enviro geo investigations 150 steeles ave e\7-misc\cad\geological cross section 21-122.dwg



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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **GEOLOGICAL CROSS SECTION C-C'**

Client:	Size:	Approved By:	Drawn By:	Date:
NEATT COMMUNITIES	8.5 x 11	D.H	S.Y	June 2023
	Rev.	Scale: As Shown	Project No: 21-122-100	Figure No. 5C

Appendices

Appendix A: Borehole Logs

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-1

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818975.16 E 589155.56

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-26-2023

REF. NO.: 21-122-106
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
208.3					
0.0	**FILL:** surface vegetation over clayey silt, trace sand, trace gravel, brown, moist, firm to hard	1	SS	6	
	mixed with crusher run limestone, dark brown to black at 0.8m	2	SS	40	
206.7					
1.6	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, trace weathered shale pieces, brown, moist, stiff to hard	3	SS	14	
		4	SS	20	
		5	SS	23	
		6	SS	39	Switched to Mud Rotary
	boulders inferred at 6.1m	7	SS	15	
	boulders inferred at 7.6m	8	SS	16	
	rock fragments at 9.1m	9	SS	50/ 150mm	
197.6					
10.7	**SILT:** some sand to sandy, trace clay, trace gravel, brown, wet, dense to very dense	10	SS	62	
		11	SS	66	
		12	SS	32	
		13	SS	50	
191.5					
16.8	**SANDY SILT:** trace clay, brown, wet, very dense	14	SS	73	
190.0					
18.3	**SAND:** some gravel, trace silt, reddish brown, wet, very dense	15	SS	60	
188.7					
19.6	inferred boulder at 19.5m	R1	RC		
188.1	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered TCR=83%, SCR=62%, RQD=25% Hard layers=8%, Maximum hard layer thickness=25mm	R2	RC		
20.2					
186.6					
21.7	TCR=98%, SCR=86%, RQD=75% Hard layers=13%, Maximum hard layer thickness=50mm	R3	RC		
185.1					
23.2	~~TCR=98%, SCR=90%, RQD=90%~~ Hard layers=12%, Maximum hard layer thickness=50mm				
	END OF BOREHOLE: Notes:				

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

LOG OF BOREHOLE BH23-1

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818975.16 E 589155.56

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-26-2023

REF. NO.: 21-122-106
ENCL NO.: 2

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m							GR SA SI CL
	1) Water at depth of 10.7m during drilling.											

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-2

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819000.74 E 589199.81

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Mar-29-2023

REF. NO.: 21-122-106
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
207.2					
0.0	**FILL:** silty clay, trace rootlets, trace gravel, trace sand, brown, moist, firm	1	SS	6	
		2	SS	7	
205.0		3	SS	6	
2.2	**CLAYEY SILT TO SILTY CLAY TILL:** some sand to sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard	4	SS	33	
		5	SS	36	
	grey below 4.5m	6	SS	16	
		7	SS	30	
199.7					
7.5	**SANDY SILT TILL:** trace clay, trace gravel, brown, moist, dense	8	SS	43	Switched to mud rotary
198.2					
9.0	**SILT:** trace to some clay, trace sand, trace gravel, brown, moist to wet, dense to very dense	9	SS	78	
	grey to brown at 10.6m sandy silt layer at 10.9m	10	SS	64	
	reddish brown, wet at 12.0m	11	SS	30	0 1 95 4
193.6					
13.6	**SANDY SILT TILL:** trace clay, some gravel, reddish brown, moist to very moist, very dense	12	SS	52	
192.0					
15.2	**GRAVELLY SAND:** trace clay, some silt, reddish brown, wet, very dense	13	SS	50/ 150 mm	34 50 13 3
	no recovery at 16.8 m	14	SS	50/ 25 mm	
188.9					
188.8	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	15	SS	50/ 25 mm	
18.4	**END OF BOREHOLE:**				

Notes:
1) Water at the depth of 9.0m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-3

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819114.98 E 589271.5

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-13-2023

REF. NO.: 21-122-106
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
207.3									
0.0 / 205.8	**FILL:** silty clay to clayey silt, trace rootlets, trace gravel, trace sand, brown, moist, stiff	1	SS	12					
		2	SS	12		206			
1.5 / 203.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace to some gravel, occasional cobble, brown, moist, very stiff to hard	3	SS	26					
		4	SS	27		204			
3.4 / 202.4	**SILTY SAND:** trace clay, trace gravel, brown, moist, dense	5	SS	49					
4.9 / 200.3	**SAND:** some silt, trace gravel, trace clay, brown, wet, compact to dense	6	SS	34		202			
		7	SS	25					1 77 17 5
7.0 / 198.3	**SILT:** trace clay, trace sand, grey, wet, loose	8	SS	9		200			
9.0 / 196.6	**SANDY SILT TILL:** trace clay, some gravel, grey, wet, compact	9	SS	19		198			
10.7 / 195.2	**SILT:** trace sand, trace clay, grey to brown, wet, very dense	10	SS	62		196			
12.1	**SANDY SILT TILL:** trace clay, trace to some gravel, reddish brown, moist, very dense	11	SS	50/ 130mm					
14	trace shale fragments at 13.7m	12	SS	50/ 100mm		194			
192.0									
191.9 / 15.4	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	13	SS	50/ 50mm		192			
	END OF BOREHOLE: Notes: 1) Water encountered at 5.5m during drilling.								

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-4

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818905.77 E 589238.19

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-12-2023

REF. NO.: 21-122-106
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"
206.7 / 0.0	**FILL:** silty sand, some gravel, some clay, cobbles, black staining, some organics, black, moist, compact	1	SS	12
205.8 / 0.9	**FILL:** silty clay, trace gravel, trace sand, brown, moist, stiff	2	SS	19
2	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard	3	SS	27
		4	SS	45
4		5	SS	33
202.2 / 4.5	**SILT:** trace clay, brown, wet, compact	6	SS	21
200.7 / 6.0	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard	7	SS	38
199.2 / 7.5	**SILT:** trace sand, trace clay, brown, wet, compact to very dense	8	SS	69
10		9	SS	44
		10	SS	27
194.6 / 12.1	**SILTY SAND:** trace clay, some gravel, brown, wet, dense	11	SS	34
193.1 / 13.6	**SANDY SILT TILL:** trace clay, some gravel, occasional cobble, reddish brown, moist to wet, dense	12	SS	39
191.6 / 15.1	**SILT:** trace sand, trace clay, reddish brown, wet, very dense	13	SS	75
190.1 / 16.6	**SANDY SILT TILL:** trace clay, occasional cobbles, reddish brown, wet, very dense	14	SS	50/ 152mm
188.5 / 18.2	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	15	SS	50/ 76mm
18.4	**END OF BOREHOLE:**			

Notes:
1) 50mm. dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
May 9, 2023	8.65

W. L. 198.0 m
May 09, 2023

DYNAMIC CONE PENETRATION RESISTANCE PLOT
SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)

GR	SA	SI	CL
0	9	88	3

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-5

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818979.41 E 589264.69

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Mar-29-2023

REF. NO.: 21-122-106
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
207.1 / 0.0	**FILL:** silty sand mixed with asphalt, trace gravel, black, moist, compact	1	SS	16	206
206.7 / 0.4					
206.2 / 0.9	**FILL:** silty clay, trace sand, trace gravel, brown, moist, very stiff	2	SS	24	
	CLAYEY SILT TO SILTY CLAY TILL: sandy, trace gravel, brown, moist, very stiff to hard	3	SS	24	204
		4	SS	30	
		5	SS	44	
202.6 / 4.5	**SANDY SILT:** trace clay, trace gravel, brown, moist, dense	6	SS	46	202
200.8 / 6.3	clayey silt seam at 6.1m	7	SS	75	
	SILT: trace to some clay, trace sand, brown to grey, wet, dense to very dense	8	SS	52	200
	brown below 7.6m	9	SS	65	198
		10	SS	42	196
		11	SS	36	
		12	SS	81	194
192.0 / 15.1	**GRAVELLY SAND:** trace clay, reddish brown, wet, very dense	13	SS	63	192
190.4 / 16.8	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	14	SS	50/130mm	
	END OF BOREHOLE:				

Notes:
1) Water at depth of 6.3m during drilling.

GROUND WATER CONDITIONS

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Switched to Mud Rotary

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-6

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819056.32 E 589315.49

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-03-2023

REF. NO.: 21-122-106
ENCL NO.: 7

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GR SA SI CL
208.0					
0.0	**FILL:** silty clay, trace sand, trace gravel, brown, moist, firm to stiff	1	SS	9	
		2	SS	5	
2 205.7		3	SS	4	
2.3	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	4	SS	28	
		5	SS	39	
4					
		6	SS	49	
6 202.0					
6.0	**SILT:** some clay, trace sand, brown, wet, compact	7	SS	29	
8		8	SS	28	
199.0					
9.0	**SILTY SAND:** some gravel to gravelly, trace clay, brown, wet, compact to very dense	9	SS	27	
10					
		10	SS	66	
12 195.9					
12.1	**SANDY SILT TILL:** some clay, trace gravel, reddish brown, moist, very dense	11	SS	50/ 100 mm	8 33 49 10
194.3					
14 193.7	**GRAVELLY SAND:** trace clay,	12	SS	50/ 50mm	
14.1	reddish brown, wet, very dense				
192.6	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, trace shale fragments, reddish	13	SS	50/ 50mm	
15.4	brown, moist, hard				
16	**SHALE BEDROCK:** Queenston				
191.5	Formation, reddish brown,				
16.5	weathered	R1	RC		
190.7	TCR=98%, SCR=68%, RQD=25%				
17.3	Hard layers=10%, Maximum hard layer thickness=25mm				
18		R2	RC		
	TCR=94%, SCR=84%, RQD=49%				
189.2	Hard layers=25%, Maximum hard layer thickness=75mm				
18.8	TCR=96%, SCR=90%, RQD=83%				
	Hard layers=18%, Maximum hard	R3	RC		
20 187.8	layer thickness=150mm				
20.2	**END OF BOREHOLE:**				
	Notes:				
	1) 50mm dia. monitoing well installed upon completion.				
	2) Water Level Readings:				
	Date: Water Level (mbgl):				
	May 9, 2023 9.48				

GROUND WATER CONDITIONS: W. L. 198.5 m, May 09, 2023

ELEVATION: 206, 204, 202, 200, 198, 196, 194, 192, 190, 188

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-7

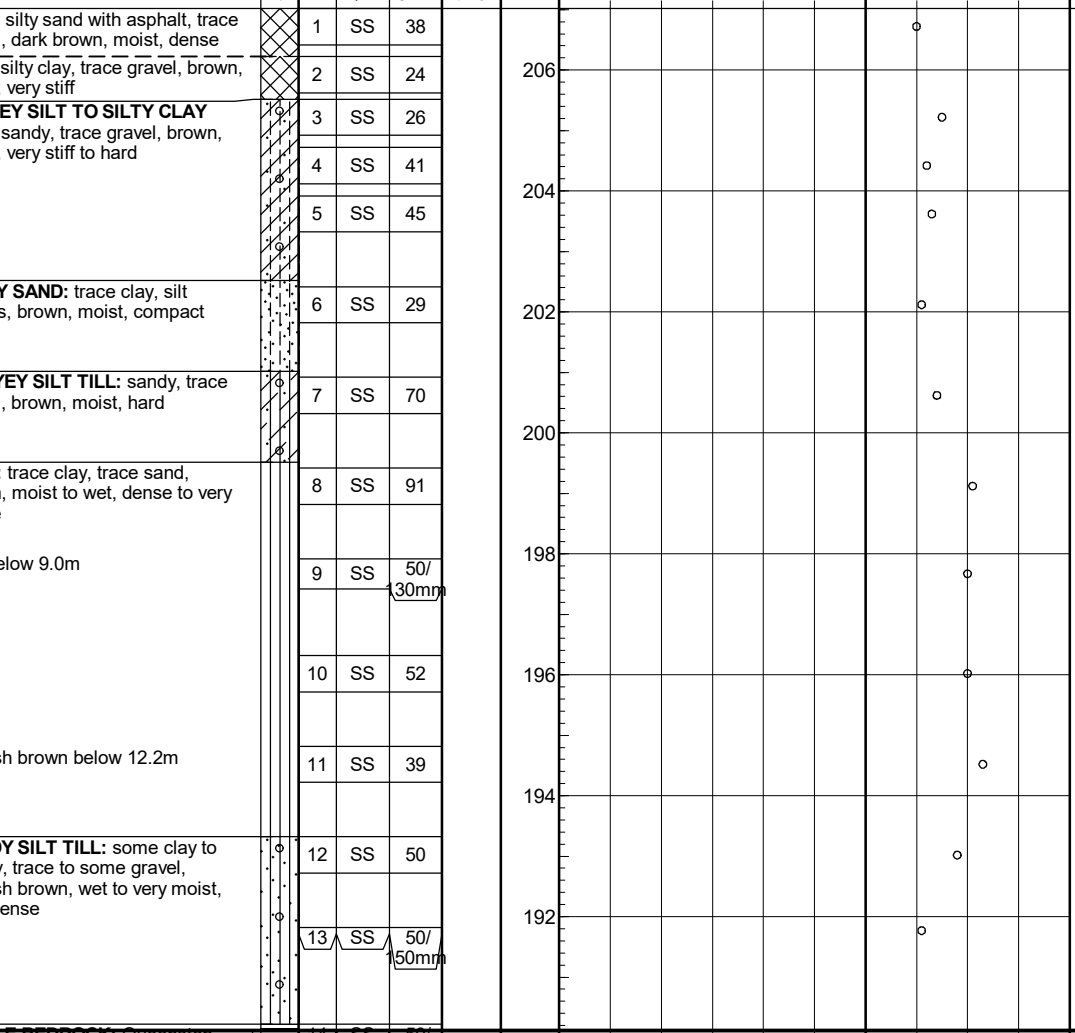
PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818951.06 E 589286.17

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Mar-31-2023

REF. NO.: 21-122-106
ENCL NO.: 8

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
207.0					
0.0 / 206.2	**FILL:** silty sand with asphalt, trace gravel, dark brown, moist, dense	1	SS	38	
0.8 / 205.5	**FILL:** silty clay, trace gravel, brown, moist, very stiff	2	SS	24	
1.5	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	3	SS	26	
		4	SS	41	
4 / 202.5		5	SS	45	
4.5 / 201.0	**SILTY SAND:** trace clay, silt seams, brown, moist, compact	6	SS	29	Switched to mud rotary
6.0 / 199.5	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard	7	SS	70	
7.5	**SILT:** trace clay, trace sand, brown, moist to wet, dense to very dense	8	SS	91	
	wet below 9.0m	9	SS	50/ 130mm	
10		10	SS	52	
12	reddish brown below 12.2m	11	SS	39	
193.3					
13.7	**SANDY SILT TILL:** some clay to clayey, trace to some gravel, reddish brown, wet to very moist, very dense	12	SS	50	
		13	SS	50/ 150mm	
16 / 190.2					
190.8 / 16.9	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	14	SS	50/ 100mm	
	END OF BOREHOLE: Notes: 1) Water encountered at depth of 9.0m during drilling.				

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)



GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-8

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819026.37 E 589349.02

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-13-2023

REF. NO.: 21-122-106
ENCL NO.: 9

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
207.5 / 0.0	**GRANULAR FILL:** 180mm						
207.3 / 0.2	**FILL:** silty clay, trace sand, trace gravel, brown, moist, very stiff	1	SS	18			
206.6 / 0.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace to some gravel, occasional cobble, brown, moist, very stiff to hard	2	SS	22		206	
2		3	SS	24			
		4	SS	37			11 27 43 19
4 / 203.0		5	SS	36		204	
4.5 / 201.5	**SILT:** trace clay, trace sand, brown, wet, dense	6	SS	32		202	
6.0	**SILTY SAND:** trace clay, brown, moist to wet, compact	7	SS	29			
8 / 198.5	wet below 7.6m	8	SS	19		200	
9.0	**SAND AND GRAVEL:** silty, brown, wet, dense	9	SS	42		198	
10 / 196.9							
10.6	**SILT:** trace sand, trace clay, brown, wet, very dense	10	SS	75			
12 / 195.4						196	
12.1	**SILTY SAND:** trace clay, reddish brown, wet, very dense	11	SS	77			
193.9						194	
14 / 13.6	**GRAVELLY SAND:** trace silt, brown, wet, very dense	12	SS	50/ 150mm			
192.4							
15.1	**CLAYEY SILT TILL:** sandy, trace to some gravel, reddish brown, moist, hard	13	SS	50/ 130mm		192	
16 / 190.8							
190.6	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	14	SS	50/ 25mm			
16.9	**END OF BOREHOLE:**						

Notes:
1) Water at depth of 7.6m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-9

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818843.68 E 589293.67

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-03-2023

REF. NO.: 21-122-106
ENCL NO.: 10

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.2					
206.0 0.2	**FILL:** sand and gravel, trace cobble, brown, moist, compact	1	SS	18	
205.3 0.9	**FILL:** clayey silt, brown, moist, very stiff	2	SS	23	
	CLAYEY SILT TO SILTY CLAY TILL: sandy, trace gravel, brown, moist, very stiff to hard	3	SS	41	
	silt layers below 2.3m	4	SS	26	
		5	SS	26	
	brown below 5.1m	6	SS	9	Switched to mud rotary
	wet silt layer at 6.0m	7	SS	12	
198.7 7.5	**SAND AND GRAVEL:** trace silt, brown, wet, very dense	8	SS	50	
197.2 9.0	**SILTY SAND:** some gravel to gravelly, trace clay, brown, wet, dense to very dense	9	SS	58	
		10	SS	38	
194.2 12.0	**GRAVELLY SAND:** trace silt, brown to reddish brown, wet, very dense	11	SS	64	
192.5 13.7	**SILTY SAND TILL:** trace clay, trace gravel, brown to reddish brown, wet, compact to very dense	12	SS	38	5 65 27 3
	gravelly sand seams, reddish brown at 15.2m	13	SS	29	
190.0 16.2	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard	14	SS	50/75mm	
189.2 189.0 17.1	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	R1	RC		
188.4 17.8	TCR=83%, SCR=0%, RQD=0% Hard layer=12%, Maximum hard layer thickness=50mm	R2	RC		
186.9 19.3	Fragmented zone TCR=40%, SCR=23%, RQD=15% Hard layer=6%, Maximum hard layer thickness=50mm	R3	RC		
185.9 20.3	TCR=98%, SCR=98%, RQD=71% Hard layer=21%, Maximum hard layer thickness=75mm	R4	RC		
184.4 21.8	TCR=95%, SCR=95%, RQD=95% Hard layer=28%, Maximum hard layer thickness=75mm				
	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:				

W. L. 197.7 m
May 09, 2023

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

LOG OF BOREHOLE BH23-9

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818843.68 E 589293.67

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-03-2023

REF. NO.: 21-122-106
ENCL NO.: 10

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT (w_P w w_L) WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m							GR SA SI CL
	Date: Water Level(mbgl): May 9, 2023 8.55											

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-10

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818904.21 E 589342.87

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-06-2023

REF. NO.: 21-122-106
ENCL NO.: 11

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.2						
0.0 / 205.3	**FILL:** sandy silt, trace gravel, brown, moist, compact	1	SS	12	206	
0.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard	2	SS	21		
2 / 204.0		3	SS	33		
2.2	**SILT TO SANDY SILT:** trace clay, brown, moist, dense to very dense	4	SS	38	204	
4		5	SS	50/ 150mm		0 30 64 6
201.3					202	
4.9	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard	6	SS	50/ 100mm		
6 / 200.1						
6.1	**SANDY SILT:** trace clay, brown, moist, very dense	7	SS	77	200	Switched to Mud Rotary
8	wet below 7.5m	8	SS	70	198	
197.2						W. L. 197.8 m May 09, 2023
9.0	**SILT:** trace clay, brown, wet, dense	9	SS	47		
10					196	
		10	SS	37		
12 / 194.2						
12.0	**GRAVELLY SAND:** trace silt, greyish brown, wet, dense	11	SS	31	194	
192.5						
14 13.7	**SANDY SILT:** trace clay, brown, wet, very dense	12	SS	55		
191.0					192	
15.2	**SANDY SILT TILL:** some clay, some gravel, reddish brown, wet to moist, very dense	13	SS	50/ 75mm		
16		14	SS	50/ 75mm		
188.7					190	
188.6 / 17.6	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	15	SS	50/ 25mm		
	END OF BOREHOLE:					

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water level(mbgl):
May 9, 2023	8.43

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3%: Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-11

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819000.84 E 589380.1

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-28-2023

REF. NO.: 21-122-106
ENCL NO.: 12

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.4							
0.0 / 205.6	**FILL:** silty clay mixed with crusher run limestone, trace sand, brown, moist, stiff	1	SS	13		206	
0.8	**CLAYEY SILT TO SILTY CLAY TILL:** trace sand, trace gravel, brown to reddish brown, moist, very stiff	2	SS	23			
2	silt pockets at 2.3m	3	SS	25			
203.3		4	SS	28		204	
3.1 / 4 / 201.8	**SILT:** trace to some sand, trace clay, trace gravel, brown, moist, dense	5	SS	49			Switched to Mud Rotary
4.6 / 6 / 200.4	**SANDY SILT:** trace clay, trace to some gravel, brown, moist, dense	6	SS	36		202	
6.0	**CLAYEY SILT TILL:** sandy, some gravel, very moist to wet gravelly sand and silty sand pockets/seams, trace clay, brown, moist, hard	7	SS	44		200	
8	50mm wet gravelly sand at 7.6m wet gravelly sand layer at 7.9m	8	SS	58	▽		
197.3							W. L. 198.2 m May 09, 2023
9.1 / 10 / 195.5	**SILT:** trace sand, trace gravel, trace clay, brown, wet, very dense	9	SS	50/ 50mm		196	
10.9	**SANDY SILT TILL:** some clay, trace to some gravel, reddish brown, wet, very dense	10	SS	50/ 75mm			
12	cobble/boulder at 12.2m	11	SS	50/ 75mm		194	
14		12	SS	50/ 50mm		192	
191.2							
191.2 / 15.3	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	13	SS	50/ 50mm			
	END OF BOREHOLE:						

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
May 9, 2023	8.26

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-12

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819035.74 E 589471.62

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-18-2023

REF. NO.: 21-122-106
ENCL NO.: 13

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
206.0					
0.0 / 205.0	**FILL:** silty clay, trace gravel, brown, moist, firm crushed stones at 0.8m	1	SS	5	
1.0	**SANDY SILT:** trace clay, trace gravel, brown, moist, loose to very dense	2	SS	7	
		3	SS	47	204
		4	SS	42	
4 / 201.5		5	SS	65	202
4.5 / 200.0	**SAND AND GRAVEL:** some silt, brown, moist, very dense	6	SS	50/ 130mm	
6.0	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard	7	SS	37	200
8 / 197.0		8	SS	50/ 130mm	198
9.0	**SANDY SILT TILL:** trace clay, trace to some gravel, silt layers, brown to reddish brown, wet, very dense	9	SS	50/ 150mm	
10		10	SS	50/ 25mm	196
12 / 192.3		11	SS	50/ 75mm	194
192.2	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	12	SS	50/ 50mm	
13.8	**END OF BOREHOLE:**				

Notes:
1) Water at depth of 9.0m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
8	25	50	17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-13

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818805.29 E 589328.75

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-04-2023

REF. NO.: 21-122-106
ENCL NO.: 14

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"
206.3 / 0.0	**FILL:** granular material mixed with clayey silt, trace cobble, some sand, brown, moist, very stiff	1	SS	19
205.4 / 0.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace to some gravel, brown, moist, stiff to hard	2	SS	26
		3	SS	26
		4	SS	29
		5	SS	33
	wet silt layer at 4.5 m	6	SS	12
200.3 / 6.0	**SANDY SILT TO SILTY SAND:** trace clay, trace gravel, brown, moist, dense to very dense	7	SS	33
	gravelly at 7.5m	8	SS	50/ 150mm
197.3 / 9.0	**SILT:** trace clay, trace sand, brown, wet, dense	9	SS	41
195.7 / 10.6	**SANDY SILT TO SILTY SAND:** trace clay, brown to reddish brown, wet, dense	10	SS	34
		11	SS	35
192.7 / 13.6	**SANDY SILT TILL:** some clay, trace to some gravel, reddish brown, wet, dense	12	SS	39
191.1 / 15.2	**SILT:** some sand, trace clay, reddish brown, wet, very dense	13	SS	52
189.5 / 189.8 / 187.8 / 17.5	**SANDY SILT TILL/SHALE COMPLEX:** some clay, trace gravel, reddish brown, moist, very dense	14	SS	50/ 150mm
		15	SS	50/ 51mm
	SHALE BEDROCK: Queenston Formation, reddish brown, weathered			
	END OF BOREHOLE:			
	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings:			
	Date: Water level(mbgl): May 9, 2023 8.43			

GROUND WATER CONDITIONS: W. L. 197.8 m, May 09, 2023

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	17	80	3

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-14

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818877.08 E 589373.37

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-06-2023

REF. NO.: 21-122-106
ENCL NO.: 15

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.4					
0.0 / 205.6	**FILL:** granular material with clayey silt, some sand, brown, moist, stiff	1	SS	11	
0.8 / 204.8	**FILL:** clayey silt, some sand, trace cobbles, brown, moist, stiff	2	SS	10	
1.6	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, hard silty sand layer at 2.6m	3	SS	33	
		4	SS	40	
		5	SS	35	
4.5 / 201.9	**SANDY SILT:** trace clay, brown, moist to wet, dense to very dense	6	SS	36	
	trace boulders at 6.0m	7	SS	58	Switched to Mud Rotary
	trace gravel, wet at 7.5m	8	SS	50/150mm	
9.0 / 197.4	sandy silt to silt, wet at 9.0m	9	SS	62	
10.6 / 195.8	**SILT:** trace clay, trace sand, brown, wet, dense	10	SS	47	
12.1 / 194.3	**GRAVELLY SAND:** some silt, trace clay, greyish brown, wet, very dense	11	SS	50	29 51 17 3
13.6 / 192.8	**SANDY SILT TO SILTY SAND:** trace clay, brown to reddish brown, wet, dense	12	SS	32	
15.2 / 191.2	**SANDY SILT TILL:** trace to some clay, some gravel, reddish brown, moist, very dense	13	SS	50/150mm	
	trace shale fragments at 16.7m	14	SS	50/150mm	
188.4	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	15	SS	50/25mm	
18.4	**END OF BOREHOLE:**				

Notes:
1) Water at the depth of 7.6m during drilling.

GROUND WATER CONDITIONS

ELEVATION: 206, 204, 202, 200, 198, 196, 194, 192, 190, 188

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3%: Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-15

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818944.21 E 589445.23

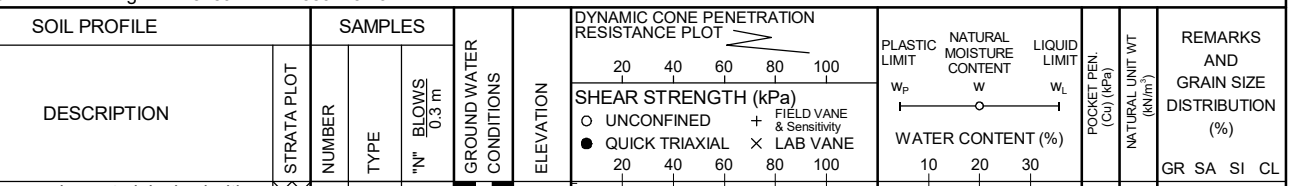
DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-18-2023

REF. NO.: 21-122-106
ENCL NO.: 16

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
206.2					
0.0	**FILL:** granular material mixed with silty sand, trace clay, brown, moist, loose to compact	1	SS	18	206
204.7		2	SS	9	
1.5	**FILL:** silty clay, greyish brown, moist, firm	3	SS	7	
203.9					204
2.3	**FILL:** silty sand, gravelly, brown, wet	4	SS	10	
203.1					
3.1	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	5	SS	26	
					202
		6	SS	41	
200.2					
6.0	**SILTY SAND:** trace clay, brown, moist, compact to very dense	7	SS	28	200
198.4	gravelly wet zone at 7.5m	8	SS	51	
7.8	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard				W. L. 198.2 m May 09, 2023
197.2					
9.0	**SILT:** trace clay, trace sand, trace gravel, brown, wet, dense to very dense	9	SS	51	196
		10	SS	40	
194.1					
12.1	**SANDY SILT TILL:** trace clay, trace gravel, brown to reddish brown, moist to very moist, very dense	11	SS	75	194
	wet at 13.7m	12	SS	50/ 150mm	
191.1					192
~~190.9~~	~~**SHALE BEDROCK:** Queenston~~	13	SS	50/ 50mm	
15.3	Formation, reddish brown, weathered				
	END OF BOREHOLE:				

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date: Water Level(mbgl):
May 9, 2023 8.01



REMARKS AND GRAIN SIZE DISTRIBUTION (%)				
GR	SA	SI	CL	
1	1	95	3	

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; $\circ^6$ ε=3% Strain at Failure

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-16

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818780.9 E 589393.09

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-12-2023

REF. NO.: 21-122-106
ENCL NO.: 17

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
206.6					
0.0 / 204.9	**FILL:** clayey silt, trace rootlets, trace to some organics, trace cobbles, dark brown to brown, moist, firm moist to wet at 0.8m	1	SS	5	206
1.7 / 202.1	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	2	SS	5	
		3	SS	16	
		4	SS	21	204
		5	SS	37	
4.5 / 200.6	**SILT:** trace clay, trace sand, brown, wet, dense	6	SS	31	202
6.0 / 197.6	**SANDY SILT:** trace clay, trace gravel, brown, moist, dense to very dense clayey silt till layer at 6.1m	7	SS	54	200
		8	SS	49	
9.0 / 196.0	**SILT:** trace clay, trace sand, brown, wet, dense	9	SS	49	198 W. L. 197.7 m May 09, 2023
10.6 / 194.5	**SANDY SILT:** trace clay, brown, moist, dense	10	SS	40	196
12.1 / 189.9	**GRAVELLY SAND TO SAND AND GRAVEL:** trace clay, trace silt, brown to reddish brown, wet, dense to very dense	11	SS	42	194
		12	SS	40	
		13	SS	50/ 25mm	192
16.7 / 188.6	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard	14	SS	50/ 100mm	190
18.0 / 188.2	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	15	SS	50/ 50mm	
18.4	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water level(mbgl): May 9, 2023 8.94				

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Switched to Mud Rotary

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-17

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818836.85 E 589413.41

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200 mm
Date: Apr-10-2023

REF. NO.: 21-122-106
ENCL NO.: 18

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 20 40 60 80 100	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
205.9												
0.0 / 205.0	**FILL:** silty clay, trace asphalt prices, some sand, trace gravel, brown, moist, firm		1	SS	5							
0.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, trace cobbles, brown, moist, very stiff to hard		2	SS	20							
2 / 202.9			3	SS	32		204					
			4	SS	24							
3.0	**SANDY SILT TO SILTY SAND:** trace clay, trace gravel, brown, moist, dense to very dense		5	SS	46							
4			6	SS	50/ 130mm		202					
6			7	SS	50		200					
8 / 196.9			8	SS	41		198					2 73 20 5
9.0	**SAND AND GRAVEL:** trace clay, greyish brown, wet, very dense		9	SS	54							
10 / 195.3							196					
10.6	**SILT:** trace clay, trace sand, brown, wet, dense		10	SS	33							
12 / 193.8							194					
12.1	**GRAVELLY SAND:** trace silt, brownish grey, wet, very dense		11	SS	56							
192.3												
13.6	**SILT:** trace sand, trace clay, brown, wet, very dense		12	SS	51		192					
14 / 190.8												
15.1	**SANDY SILT TILL:** trace to some clay, trace gravel, reddish brown, wet to moist, very dense		13	SS	50/ 25mm							
16			14	SS	50/ 25mm		190					
18 / 187.7							188					
~~187.6~~	~~**SHALE BEDROCK:** Queenston~~		15	SS	50/ 25mm							
18.3	Formation, reddish brown, weathered											
	END OF BOREHOLE:											
	Notes: 1) Water at depth of 7.6m during drilling.											

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-18

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818795.9 E 589440

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200 mm
Date: May-01-2023

REF. NO.: 21-122-106
ENCL NO.: 19

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
208.5						
0.0	**FILL:** clayey silt, some sand, trace asphalt pieces, trace to some organics, black to brown, moist, firm to stiff	1	SS	5		208
		2	SS	7		
2		3	SS	6		
		4	SS	8		206
	trace rootlets at 3.1m	5	SS	8		
4						
203.9						204
4.6	**CLAYEY SILT TO SILTY CLAY TILL:** trace sand, trace gravel, brown to reddish brown, very stiff to hard	6	SS	25		
6	gravelly sand seams at 6.0m	7	SS	46		202
8		8	SS	50/ 50mm		
199.5						200
9.0	**SANDY SILT:** trace clay, brown, wet, dense to very dense	9	SS	50/ 150mm		
10						198
		10	SS	52		
12		11	SS	53		196
14		12	SS	34		
193.4						194
15.1	**GRAVELLY SAND:** trace silt, brown, wet, very dense	13	SS	64		
16						
191.8						192
16.7	**SANDY SILT TILL:** some clay to clayey, trace gravel, weathered shale fragments, reddish brown, moist, very dense	14	SS	50/ 130mm		
18						
190.0						190
189.9	**SHALE BEDROCK:** Infered bedrock at 18.5m	15	SS	50/ 100mm		
18.6	**END OF BOREHOLE:**					

Notes:
1) Water encountered at depth of 9.1m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-19

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818758 E 589468.23

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-21-2023

REF. NO.: 21-122-106
ENCL NO.: 20

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"
209.5 / 0.0	**FILL:** silty sand, trace rootlets, some gravel, trace organics, dark brown to brown, moist, compact	1	SS	14
		2	SS	14
208.0 / 1.5	**FILL:** clayey silt, brown, moist, firm	3	SS	7
207.2 / 2.3	**FILL:** sandy silt, trace to some organics, brown to grey, moist, loose	4	SS	5
		5	SS	5
204.8 / 4.7	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace to some gravel, brown, moist, very stiff to hard	6	SS	26
	300mm silt layer at 6.0m	7	SS	38
		8	SS	50/ 130mm
200.5 / 9.0	**SAND:** some silt, trace clay, trace to some gravel, brown, moist to wet, compact to very dense	9	SS	50/ 130mm
	silt pockets, wet at 10.7m	10	SS	64
	gravelly below 12.2m	11	SS	14
194.3 / 15.2	**GRAVELLY SAND:** some silt, trace clay, brown, wet, dense to very dense	12	SS	34
		13	SS	48
		14	SS	37

GROUND WATER CONDITIONS: W. L. 197.6 m, May 09, 2023

ELEVATION: 209, 208, 207, 206, 205, 204, 203, 202, 201, 200, 199, 198, 197, 196, 195, 194, 193, 192

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100

SHEAR STRENGTH (kPa): ○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE & Sensitivity, × LAB VANE; 20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L

WATER CONTENT (%): 10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

	GR	SA	SI	CL
12	0	81	16	3
14	30	57	10	3

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

LOG OF BOREHOLE BH23-19

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818758 E 589468.23

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-21-2023

REF. NO.: 21-122-106
ENCL NO.: 20

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
190.9 / 18.6	**SILTY SAND:** trace clay, trace gravel, brown, wet, very dense		15	SS	84		191
189.7 / 19.8	**SANDY SILT TILL:** trace clay, trace gravel, reddish brown, moist to wet, very dense		16	SS	50/130mm		190
188.6 / 20.9	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered		R1	RC			189
187.6 / 21.2	TCR=100%, SCR=33%, RQD=33% Hard layers=33%, Maximum hard layer thickness=100mm		R2	RC			188
186.1 / 21.9	TCR=96%, SCR=96%, RQD=75% Hard layers=21%, Maximum hard layer thickness=50mm		R3	RC			187
185.1 / 23.4	TCR=98%, SCR=94%, RQD=93% Hard layer=17%, Maximum hard layer thickness=50mm		R4	RC			186
24.4	TCR=74%, SCR=74%, RQD=74% Hard layer=13%, Maximum hard layer thickness=75%						
	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): May 9, 2023 11.91						

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-20

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818819.38 E 589551.08

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-28-2023

REF. NO.: 21-122-106
ENCL NO.: 21

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
204.6 / 0.0	**FILL:** silty clay, trace sand, trace gravel, brown, moist, firm	1	SS	7		204
203.7 / 0.9	**CLAYEY SILT TO SILTY CLAY TILL:** trace sand, trace gravel, trace weathered shale fragements, brown to reddish brown, moist, stiff to hard	2	SS	11		
2		3	SS	30		202
		4	SS	30		
4		5	SS	32		
	grey at 4.6m	6	SS	16		200
198.6 / 6						
6.0	**SILT:** with gravel/cobble fragments, sand seams, brown, wet, compact to dense	7	SS	31	▽	198
8	gravelly sand layer at 7.6m	8	SS	22		
195.6 / 8						196
9.0	**SILTY SAND:** trace clay, some gravel, brown, wet, compact coarse sand layer at 9.3m	9	SS	26		
10						194
193.8 / 10						
10.8	**CLAYEY SILT TILL:** sandy, trace gravel, reddish brown, moist, hard	10	SS	39		
12						192
192.4 / 12						
12.2	**SILT:** trace sand, trace gravel, brown, wet, very dense	11	SS	85		
191.0						
13.6 / 14	**GRAVELLY SAND:** trace silt, trace cobbles, brown, wet, very dense	12	SS	62		190
189.4						
189.2	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	13	SS	50/ 25mm		
15.3	**END OF BOREHOLE:**					

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
May 9, 2023	7.02

W. L. 197.6 m
May 09, 2023

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Switched to Mud Rotary

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-21

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818876.28 E 589562.87

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-19-2023

REF. NO.: 21-122-106
ENCL NO.: 22

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
205.7					
0.0	**FILL:** clayey silt, trace rootlets, brown, moist, stiff to very stiff	1	SS	14	
204.1		2	SS	24	
1.6	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	3	SS	25	
		4	SS	30	
202.1		5	SS	46	
3.6	**SANDY SILT TO SILTY SAND:** trace clay, trace to some gravel, brown to reddish brown, moist to wet, dense to very dense	6	SS	53	
	wet below 6.0m	7	SS	50/100mm	Switched to Mud Rotary
	moist to wet at 7.6m	8	SS	50/130mm	
		9	SS	58	
		10	SS	48	
	some gravel to gravelly below 12.1m	11	SS	68	
		12	SS	50/150mm	
190.5					
15.2	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard	13	SS	50/150mm	
189.0					
16.7	**SHALE BEDROCK:** Queenston formation, reddish brown,	14	SS	50/50mm	
188.4					
17.3	weathered				
	END OF BOREHOLE:				

Notes:
1) Water at the depth of 9.1m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-22

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818780.5 E 589548.71

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-24-2023

REF. NO.: 21-122-106
ENCL NO.: 23

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
210.4						
0.0	**FILL:** clayey silt, trace rootlets, trace organics, trace cobbles, brown, moist, firm to very stiff mixed with asphalt above 0.8m	1	SS	23	210	
		2	SS	7		
2		3	SS	7		
	black staining silty sand, rock piece at 2.3m	4	SS	6	208	
		5	SS	9		
4						
	trace organics, grey at 4.6m	6	SS	6	206	
6 204.1						
6.3	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist to very moist, very stiff to hard	7	SS	32	204	Switched to Mud rotary
8		8	SS	33		
		9	SS	39	202	7 24 49 20
10						
	greyish brown at 10.7m	10	SS	28	200	
12 198.2						
12.2	**SILT:** trace sand, trace clay, greyish brown, wet, compact	11	SS	11	198	
14	some sand to sandy at 13.7m	12	SS	15		
195.2					196	
15.2	**GRAVELLY SAND:** some silt, trace clay, brown, wet, very dense	13	SS	50/ 100mm		
16		14	SS	50/ 150mm	194	
18	silty at 18.3m	15	SS	70	192	25 38 32 5
190.6	silty sand pockets at 19.6m					
20 19.8	**SAND:** some silt, some gravel, brown, wet, very dense	16	SS	50/ 150mm	190	
189.1						
21.3	**SANDY SILT TILL:** trace clay, trace gravel, reddish brown, very moist, very dense	17	SS	50/ 130mm		
22 188.4						
~~188.3~~		18	SS	50/ 50mm		
22.1	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered					
	END OF BOREHOLE:					
	Notes: 1) Water at depth of 12.2m during drilling.					

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

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LOG OF BOREHOLE BH23-23

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818808.89 E 589613.71

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-25-2023

REF. NO.: 21-122-106
ENCL NO.: 24

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
204.7 / 0.0	**GRANULAR FILL:** 50mm	1	SS	6	
204.4 / 0.3	**FILL:** silty clay, trace rootlets, trace gravel, brown, moist, firm to stiff	2	SS	9	
203.2 / 1.5	black organic matter at 0.8m **CLAYEY SILT TO SILTY CLAY TILL:** trace sand, trace gravel, brown to reddish brown, moist, very stiff ot hard	3	SS	15	
		4	SS	30	
		5	SS	33	
	silt pockets, grey at 4.9m	6	SS	31	Switched to Mud Rotary
	gravelly sand layer at 6.1m	7	SS	64	
197.1 / 7.6	**SAND:** some silt, some gravel, trace clay, reddish brown, wet, dense to very dense	8	SS	36	10 74 12 4
195.3 / 9.4	gravelly sand pocket at 9.1m **SANDY SILT TILL:** some clay, trace gravel, reddish brown, very moist, very dense	9	SS	63	
194.0 / 10.7	**CLAYEY SILT TILL:** some sand to sandy, trace gravel, reddish brown, moist, hard	10	SS	50/ 130mm	
192.5 / 12.2	**SILT:** trace sand, trace clay, trace gravel, brown, wet, dense to very dense	11	SS	50/ 100mm	
	some sand to sandy at 13.7m	12	SS	45	
189.5 / 15.2	**CLAYEY SILT TILL:** sandy, trace gravel, trace shale fragments,	13	SS	50/ 75mm	
188.7 / 16.0	reddish brown, moist, hard	14	SS	50/ 150mm	
16.1	**SHALE BEDROCK:** reddish brown, weathered	R1	RC		
187.4 / 17.3	TCR=79%, SCR=69%, RQD=51% Hard layers=6%, Maximum hard layer thickness=25mm	R2	RC		
185.9 / 18.8	TCR=93%, SCR=93%, RQD=75% Hard layers=16%, Maximum hard layer thickness=50mm	R3	RC		
185.3 / 19.4	TCR=100%, SCR=91%, RQD=60% Hard layers=25%, Maximum hard layer thickness=50mm				
	END OF BOREHOLE: Notes: 1) Water at depth of 7.6m during drilling.				

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-24

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819063.77 E 589501.56

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-14-2023

REF. NO.: 21-122-106
ENCL NO.: 25

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
206.4					
0.0 / 205.6	**FILL:** clayey silt mixed with sand and gravel, brown, moist, very stiff	1	SS	16	206
0.8	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	2	SS	18	
2 / 204.1		3	SS	50/130mm	
2.3	**SILTY SAND TO SANDY SILT:** trace clay, trace gravel, brown, moist, dense to very dense	4	SS	50	204
		5	SS	43	
4 / 201.9					
4.5	**SILT:** trace clay, trace sand, brown, wet, dense	6	SS	32	202
6 / 200.4					
6.0	**CLAYEY SILT TILL:** sandy, trace gravel, brown, moist, hard	7	SS	65	200
					W. L. 199.2 m May 09, 2023
8	wet gravelly silty sand at 7.6m boulder at 7.8m	8	SS	50/130mm	
197.4					198
9.0	**SANDY SILT TILL:** some clay, trace gravel, brown to reddish brown, wet, very dense	9	SS	64	
10 / 195.8					196
10.6	**CLAYEY SILT TILL:** some sand to sandy, some gravel, trace weathered shale fragments, greyish brown, moist, hard	10	SS	85	
12	gravelly at 12.2m	11	SS	52	194
14	reddish brown below 13.7m	12	SS	56	
191.2					192
191.2	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	13	SS	50/25mm	
16 / 190.8		R1	RC		
15.8	TCR=62%, SCR=28%, RQD=23% Hard layer=28%, Maximum hard layer thickness=150mm	R2	RC		190
189.1					
17.3	TCR=90%, SCR=65%, RQD=40% Hard layer=18%, Maximum hard layer thickness=75mm	R3	RC		
18 / 187.7	TCR=73%, SCR=70%, RQD=47%				188
18.7	Hard layer=11%, Maximum hard layer thickness=50mm				
	END OF BOREHOLE:				

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
May 9, 2023	7.17

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
20	19	45	16

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-25

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818966.99 E 589574.67

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-19-2023

REF. NO.: 21-122-106
ENCL NO.: 26

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.1							
0.0	**FILL:** clayey silt, brown, moist, very stiff	1	SS	15			
204.5		2	SS	17			
1.6	**CLAYEY SILT TILL:** sandy, some gravel, brown, moist, very stiff	3	SS	25		204	
203.1		4	SS	29			
3.0	**SANDY SILT:** trace clay, trace gravel, brown, moist, dense to very dense	5	SS	38			
		6	SS	50/ 130mm		202	
200.1							
6.0	**CLAYEY SILT TILL:** sandy, trace gravel, brownish grey, moist, very dense	7	SS	50/ 100mm		200	Switched to mud rotary
	brown at 7.6m	8	SS	50/ 130mm		198	
197.1							
9.0	**SILT:** trace clay, brown, wet, very dense	9	SS	50/ 130mm			
195.5						196	
10.6	**SANDY SILT TILL:** some clay, trace to some gravel, brown, wet, very dense	10	SS	50/ 50mm			
		11	SS	50/ 130mm		194	
	reddish brown below 13.6m	12	SS	50/ 75mm		192	
190.8							
190.5	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	13	SS	50/ 75mm			
15.4	**END OF BOREHOLE:**						

Notes:
1) Water at depth of 9.1m during drilling.

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-26

PROJECT: Geotechnical Investigation
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East, Milton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818868.04 E 589642.14

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200 mm
Date: Apr-20-2023

REF. NO.: 21-122-106
ENCL NO.: 27

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
204.3					
0.0 / 203.4	**FILL:** silty clay, trace gravel, brown, moist, stiff	1	SS	10	204
0.9	**CLAYEY SILT TO SILTY CLAY TILL:** sandy, trace gravel, trace rock fragment, brown, moist, hard	2	SS	34	
2		3	SS	38	
		4	SS	45	202
		5	SS	33	
4 / 199.8					
4.5	**SILTY SAND:** some gravel to gravelly, trace clay, brown, moist, compact to dense	6	SS	45	200
6	silt pockets at 6.1m	7	SS	22	198
196.8					
7.5	**SAND:** trace silt, some gravel, brown, wet, dense	8	SS	40	196
8 / 195.3					
9.0	**SANDY SILT TILL:** trace clay, some gravel, brown, moist to wet, very dense	9	SS	75	
10 / 193.7					194
10.6	**SILTY SAND:** trace clay, trace gravel, greyish brown, wet, dense	10	SS	49	
12 / 192.2					
12.1	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard	11	SS	50/ 130mm	192
190.5					
13.8	auger refusal at possible bedrock at 13.8m	12	SS	50/ 75mm	

END OF BOREHOLE:

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
May 9, 2023	6.69

W. L. 197.6 m
May 09, 2023

SOIL PROFILE | SAMPLES | GROUND WATER CONDITIONS | ELEVATION | DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) | SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100) | PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L | WATER CONTENT (%) (10 20 30) | POCKET PEN. (Cu) (kPa) | NATURAL UNIT WT (kN/m³) | REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG-2021-DRAFT 21-122-106.GPJ DS.GDT 23-7-7

DS CONSULTANTS LTD.

LOG OF BOREHOLE BH21-1

PROJECT: Geotechnical Investigation
CLIENT: NEATT Communities
PROJECT LOCATION: 150 Steeles Avenue East, Milton
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818979.312 E 589152.467

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Apr-27-2021

REF. NO.: 21-122-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	ELEVATION
208.3 / 0.0	**TOPSOIL:** 130mm	1	SS	5	208
207.5 / 0.8	**FILL:** silty clay, trace sand, trace gravel, trace cobble, brown, moist, firm	2	SS	50/100mm	
206.8 / 1.5	**FILL:** sand and gravel, dense	3	SS	18	
2	**CLAYEY SILT TILL:** sandy, trace gravel, green/red modelling, brown, moist, stiff to very stiff	4	SS	19	206
		5	SS	21	
4					204
	grey below 4.6m	6	SS	21	
6					202
	stiff at 6.3m	7	SS	9	
200.7 / 7.6	**SANDY SILT TILL:** trace clay, trace gravel, trace cobble, brown, moist, very dense	8	SS	51/130mm	200
199.2 / 9.1	**SANDY SILT:** trace clay, brown, moist, very dense	9	SS	60	
198.3 / 10.0	**CLAYEY SILT:** trace sand, trace gravel, grey, moist, very stiff	10	SS	28	
196.1 / 12.2	**SILT:** trace sand, trace clay, grey, wet, compact to very dense	11	SS	74	196
14		12	SS	21	194
193.1 / 15.2	**SANDY SILT TILL:** trace clay, trace gravel, grey, moist, dense	13	SS	35	
191.5 / 16.8	**SAND AND GRAVEL:** trace silt, trace clay, grey, wet, dense	14	SS	54	192
190.0 / 18.3	**QUEENTSON FORMATION BEDROCK:** reddish brown	15	SS	50/130mm	190
188.5 / 19.8	**END OF BOREHOLE:**	16	SS	spoon bouncing	

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level (mbgl):
May 7, 2021	9.9

W. L. 198.4 m
May 07, 2021

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)	GR	SA	SI	CL
	16	22	45	17
	1	29	63	7
			96	4
	49	33	15	3

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG PROJECT 21-122-100, GEO.GPJ DS.GDT 21-7-19

LOG OF BOREHOLE BH21-2

PROJECT: Geotechnical Investigation
CLIENT: NEATT Communities
PROJECT LOCATION: 150 Steeles Avenue East, Milton
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819140.003 E 589270.783

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Apr-27-2021

REF. NO.: 21-122-100
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
207.6							
207.6 / 0.0	**TOPSOIL:** 150mm	1	SS	4			
207.4 / 0.2	**FILL:** clayey silt, trace gravel, trace topsoil, trace rootlets, brown, moist, firm to stiff	2	SS	9			
206.1 / 1.5	**CLAYEY SILT TILL:** trace sand, trace gravel, trace cobble, brown, moist, very stiff	3	SS	20		206	
		4	SS	23			
		5	SS	40		204	
	grey and stiff at 4.6m	6	SS	9			Switched to Mud Rotary
201.5 / 6.1	**SILT:** trace clay, trace sand, brown, wet, compact	7	SS	17	▽	202	
		8	SS	15		W. L. 200.4 m May 07, 2021	
198.5 / 9.1	**CLAYEY SILT TILL:** sandy, trace gravel, trace cobble, brown to reddish brown, moist, hard	9	SS	56		198	
		10	SS	50/ 130mm			10 18 59 13
		11	SS	50/ 130mm		196	
		12	SS	75		194	
192.4 / 15.2	**SANDY SILT TILL/SHALE COMPLEX:** trace clay, trace gravel, fragments of shale, reddish brown, wet, very dense	13	SS	50/ 130mm		192	
190.7 / 16.9	**END OF BOREHOLE:**	14	SS	50/ 12mm			

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level (mbgl):
May 7, 2021	7.2

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

DS SOIL LOG PROJECT 21-122-100, GEO.GPJ DS.GDT 21-7-19

LOG OF BOREHOLE BH21-3

PROJECT: Geotechnical Investigation
CLIENT: NEATT Communities
PROJECT LOCATION: 150 Steeles Avenue East, Milton
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4819078.816 E 589486.246

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Apr-26-2021

REF. NO.: 21-122-100
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
206.6 / 0.0	**FILL:** sand and gravel, trace topsoil, trace silt, trace clay, brown, moist, compact	1	SS	18		206
205.8 / 0.8	**FILL:** clayey silt, trace gravel, brown, moist, very stiff	2	SS	16		
204.3 / 2.3	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional cobble, brown, moist, very stiff	3	SS	24		
	SANDY SILT: trace clay, occasional gravel, brown, moist, dense	4	SS	47		204
202.0 / 4.6	**SILTY SAND :** trace clay, trace gravel, trace cobble, brown, wet, compact to dense	5	SS	47		
		6	SS	28		202
		7	SS	39		
199.0 / 7.6	**SILT:** trace sand, brown, wet, very dense	8	SS	52/130mm	W. L. 199.4 m May 07, 2021	200
197.5 / 9.1	**CLAYEY SILT TILL:** some sand, trace gravel, trace cobble, reddish brown, moist, hard	9	SS	51/75mm		198
		10	SS	50/130mm		196
		11	SS	51/130mm		194
192.9 / 13.7	**SANDY SILT TILL:** trace clay, trace gravel, occasional cobble, reddish brown, moist, very dense	12	SS	51/130mm		192
		13	SS	57/130mm		
189.8 / 16.8	**QUEENSTON FORMATION BEDROCK:** reddish brown	14	SS	56/50mm		190
188.2 / 18.4	**END OF BOREHOLE:**	15	SS	55/25mm		

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings.

Date: Water Level (mbgl):
May 7, 2021 7.2

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
(20 40 60 80 100)

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L

WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

	GR	SA	SI	CL
	60	36	4	
	21	55	19	5
	18	34	38	10

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: + 3, × 3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

DS SOIL LOG PROJECT 21-122-100, GEO.GPJ DS.GDT 21-7-19

LOG OF BOREHOLE BH21-5

PROJECT: Geotechnical Investigation
CLIENT: NEATT Communities
PROJECT LOCATION: 150 Steeles Avenue East, Milton
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4818941.399 E 589615.141

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Apr-22-2021

REF. NO.: 21-122-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
205.5					
205.3 0.2	**TOPSOIL:** 230mm	1	SS	4	
	FILL: clayey silt, trace gravel, trace topsoil, trace rootlets, brown, moist, firm to stiff	2	SS	8	Bentonite
204.0 1.5					204
2	**CLAYEY SILT TILL:** sandy, trace gravel, trace cobble, brown, moist, very stiff to hard	3	SS	23	
		4	SS	37	
		5	SS	44	202
4 201.2					
4.3	**SAND:** trace clay, trace silt, brown, moist, compact	6	SS	29	
6 199.4					200
6.1	**CLAYEY SILT TILL:** sandy, trace gravel, trace cobble, brown, moist, very hard	7	SS	30	
197.9					W. L. 198.7 m May 07, 2021
8 7.6	**SANDY SILT TILL:** trace clay, trace gravel, occasional cobble, brown, moist, dense	8	SS	50/ 127mm	
196.7					
8.8	**SANDY SILT:** trace clay, trace gravel, brown, wet, very dense	9	SS	57	196
10 194.9					
10.6	**SILT:** trace clay, trace sand, brown, wet, very dense	10	SS	70	Slotted pipe
12 193.3					194
12.2	**SILTY SAND TILL:** trace clay, trace gravel, grey, wet, very dense	11	SS	77	
191.8					192
14 13.7	**SANDY SILT TILL/SHALE COMPLEX:** trace clay, trace sand, reddish brown, very moist, dense	12	SS	50/ 100mm	Bentonite
190.2					
189.9	**QUEENTSON FORMATION**	13	SS	60/ 75mm	190
15.6	**BEDROCK:** limestone, reddish brown				
	END OF BOREHOLE:				

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level (mbgl):
May 7, 2021	6.8

GROUND WATER CONDITIONS

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)				
GR	SA	SI	CL	
1	38	58	3	

DS SOIL LOG PROJECT 21-122-100, GEO.GPJ DS.GDT 21-7-19

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

Log of Borehole: IW4

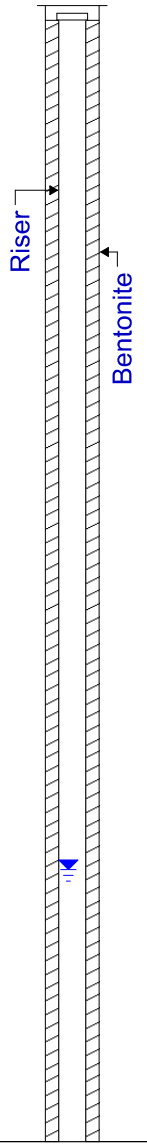
Project #: 277277.003 **Logged By:** OK

Project: Remedial Investigation

Client: NEATT Communities

Location: 150 Steeles Avenue East, Milton, Ontario

Drill Date: August 11, 2020

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Floor Surface	0.00					
0–7 / 0–2		***Overburden and grass***						
		Sandy Silt Brown with some gravel, moist.	2.29					
8–17 / 3–5		***Clayey Silt*** Light red and brown, some gravel, damp.	5.33					
18–27 / 6–8		***Sandy Silt*** Light brown with grey mottling, moist. Light red and brown, moist. Light red and brown with grey mottling, some gravel, moist to wet.	8.38					
28–32 / 9		***Silty Sand*** Reddish brown, some gravel, wet.	9.91					
33–36 / 10		***Sandy Silt*** Reddish brown, wet.						

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 inches

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: 205.814 mamsl

Top of Casing Elevation: 206.737 mam

Log of Borehole: IW4

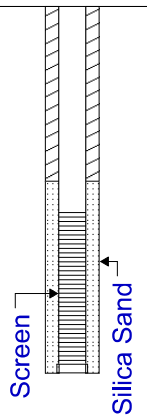
Project #: 277277.003 ***Logged By:*** OK

Project: Remedial Investigation

Client: NEATT Communities

Location: 150 Steeles Avenue East, Milton, Ontario

Drill Date: August 11, 2020

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
12			12.19					
13		***Silty Sand*** Reddish brown with some gravel, wet. Some shale fragments.						
14			14.48					
15		End of Borehole						
16		Column set at 10.67 mbgs. Augered to 14.48 and monitoring well installed. Soil samples and stratigraphy taken from DW6.		Water level measured at 8.43 mbgs on August 31, 2020.				
17								
18								
19								
20								
21								

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 inches

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: 205.814 mamsl

Top of Casing Elevation: 206.737 mam

Sheet: 2 of 2

Log of Borehole: SW13

Project #: 277277.003 **Logged By:** OK

Project: Remedial Investigation

Client: NEATT Communities

Location: 150 Steeles Avenue East, Milton, Ontario

Drill Date: August 10, 2020

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
0–1 / 0		***Sand and Gravel*** Topsoil and gravel fill	0.30		30	S1	0/0	Metals and Inorganics, PAHs
1–3 / 1		***Sandy Silt*** Light reddish-brown, trace gravel, moist. Minor mottling and gravel at 1.68 mbgs.	3.05		100	S2	0/0	PAHs
						S3	5/0	PHCs, BTEX
3–8 / 1–2		***Clayey Silt*** Light reddish-brown, moist.	8.38		100	S4	0/1	
						S5	0/1	
					100	S6	0/1	Metals and Inorganics
						S7	0/1	
					100	S8	0/1	
						S9	0/2	
					100	S10	25/1	
						S11	0/1	
8–10 / 2–3		***Silty Sand*** Light brown to grey, minor gravel, wet. Grey at 10.06 mbgs.	10.67		100	S12	190/1	PHCs, BTEX
						S13	0/0	
10 / 3		End of Borehole						

Riser, Bentonite, Silica Sand, Screen

Water level measured at 8.62 mbgs on August 31, 2020.

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 inches

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: 206.041 mamsl

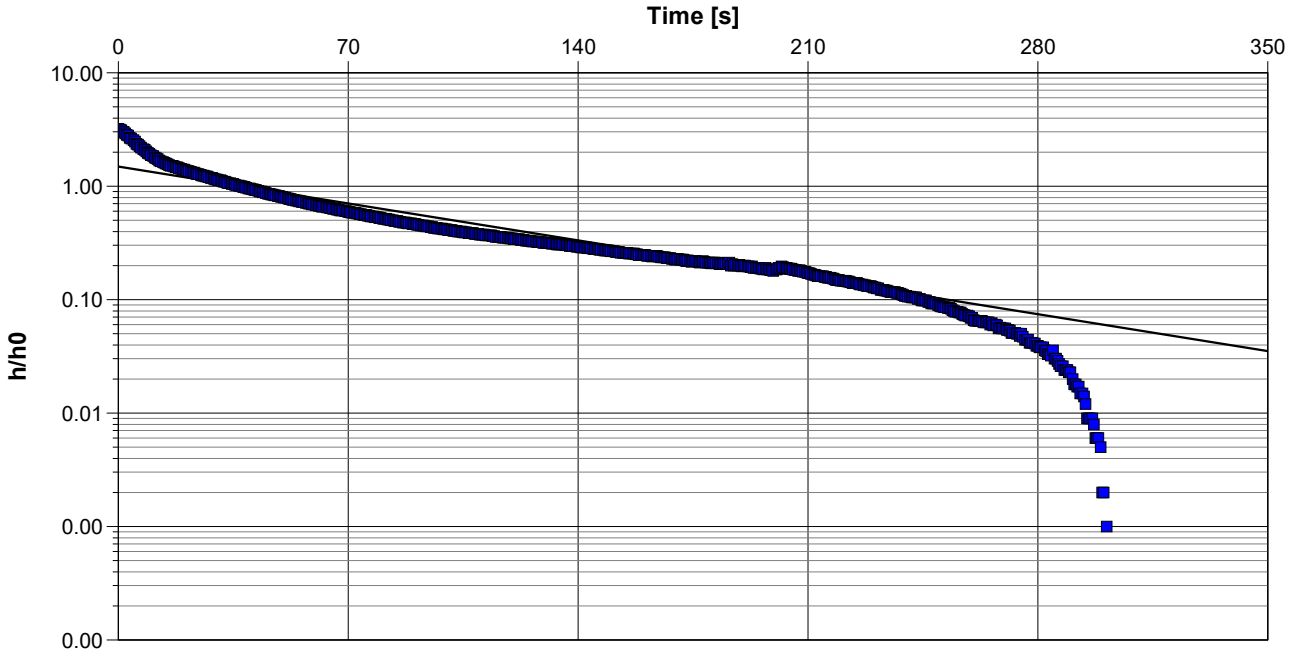
Top of Casing Elevation: 206.790 mamsl

Sheet: 1 of 1

Appendix B: Hydraulic Conductivity Analysis

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-4	Test Well: BH23-4
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

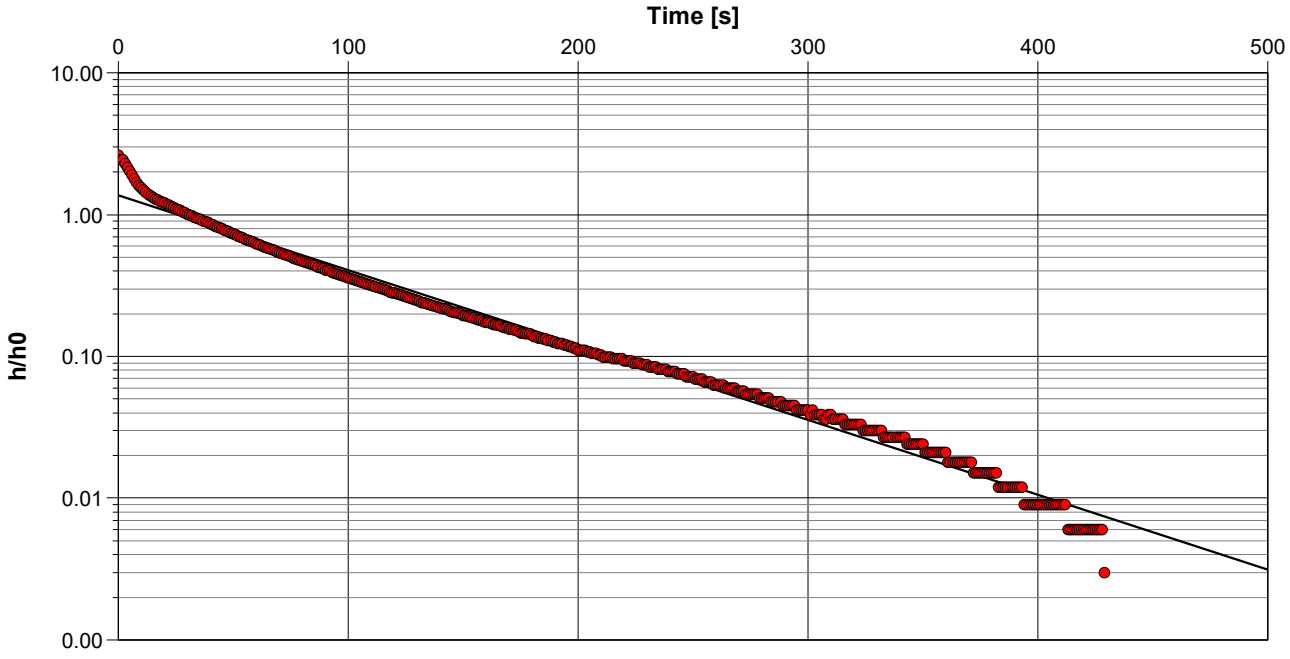


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-4	5.28×10^{-6}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-6	Test Well: BH23-6
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

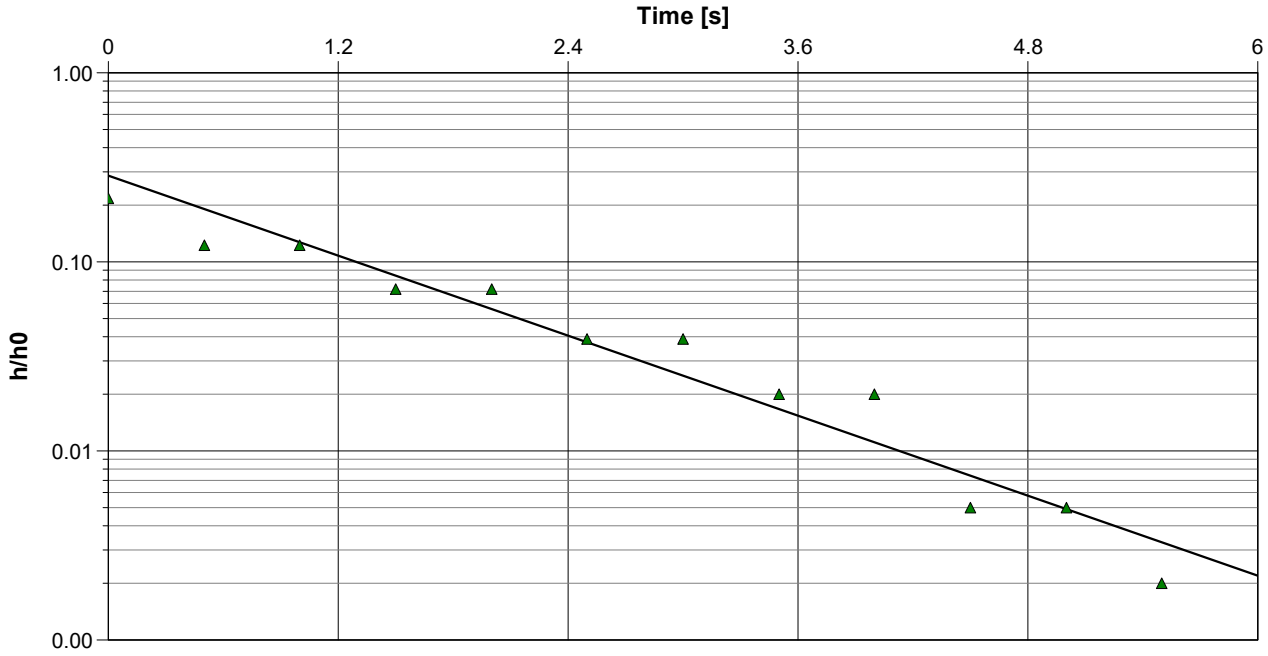


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-6	6.02×10^{-6}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 21-122-106
	Client: Neatt Communities

Location: 150 Steeles Avenue East	Slug Test: BH23-9	Test Well: BH23-9
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

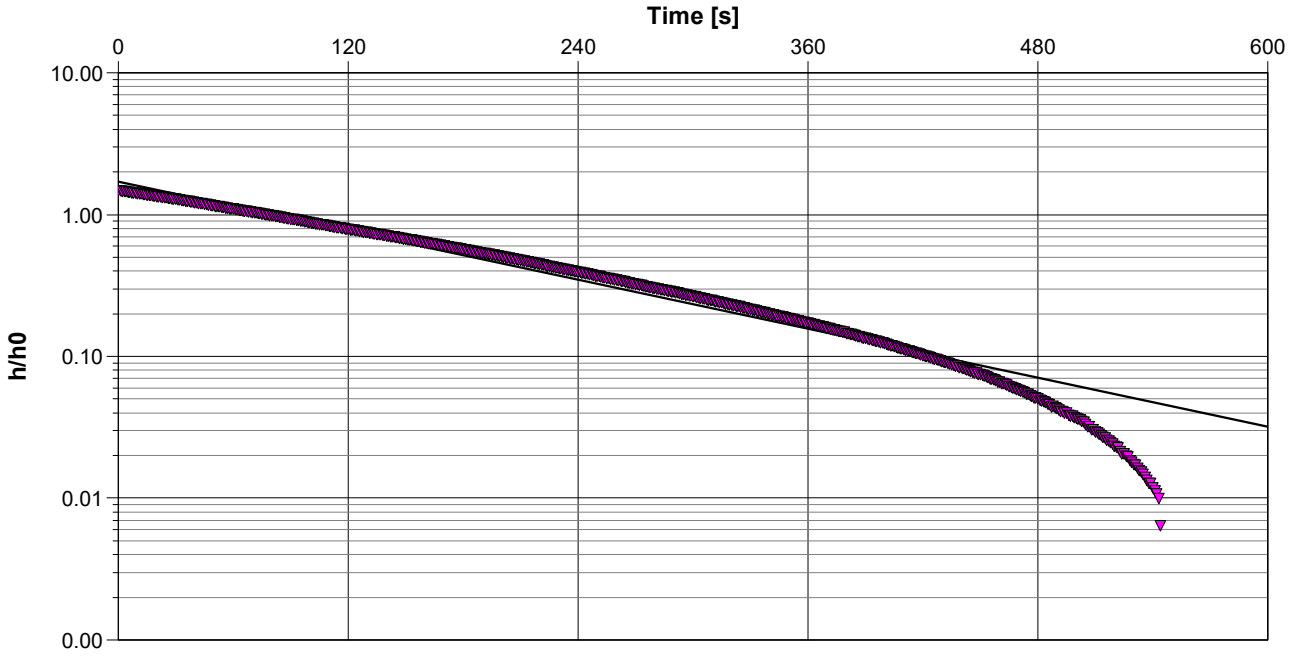


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-9	4.02×10^{-4}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-10	Test Well: BH23-10
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

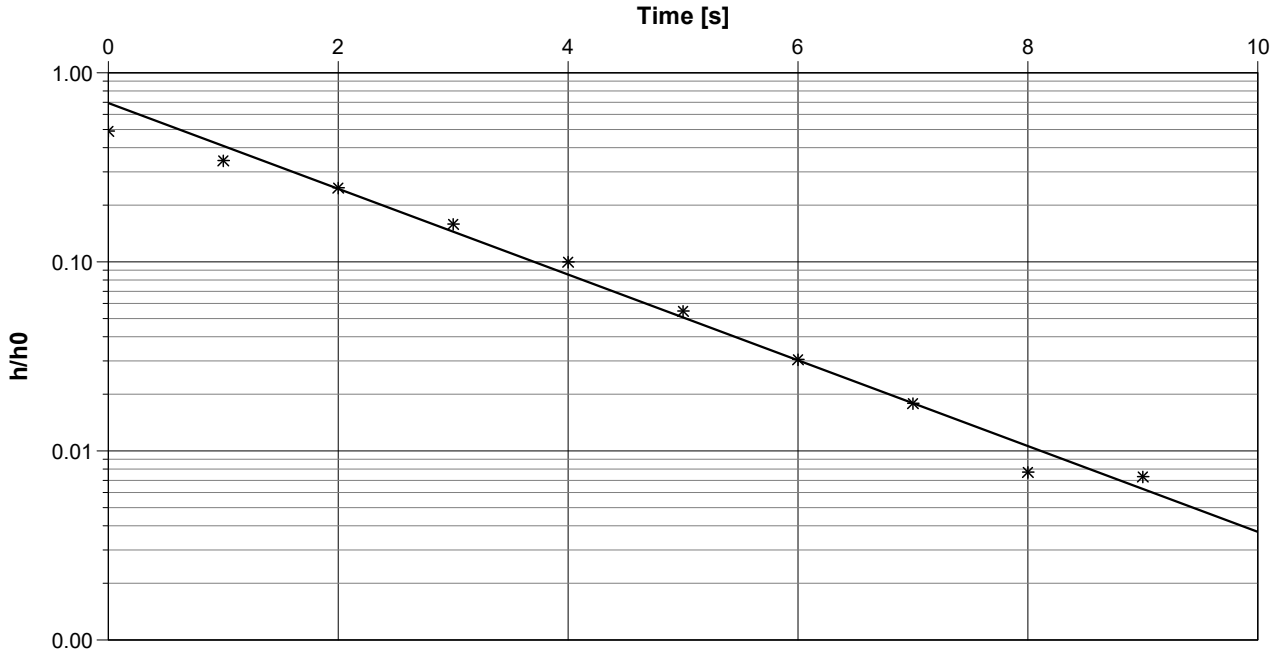


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-10	3.28×10^{-6}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 21-122-106
	Client: Neatt Communities

Location: 150 Steeles Avenue East	Slug Test: BH23-11	Test Well: BH23-11
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness: 5.00 m		

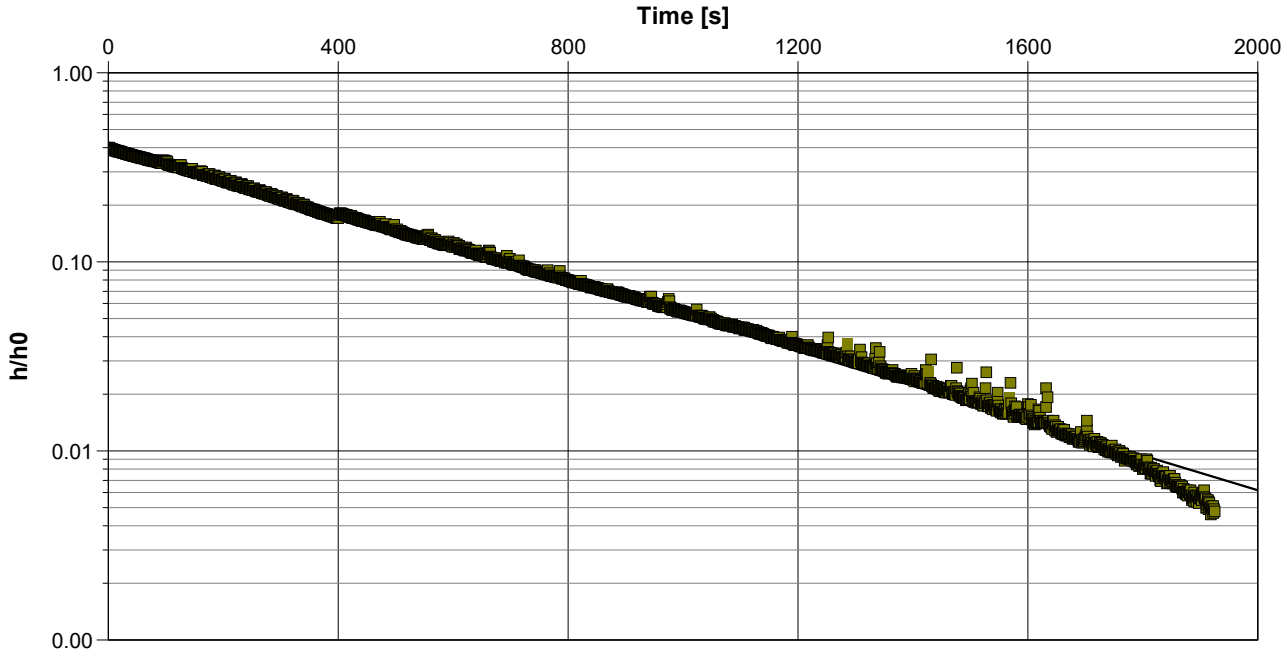


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-11	2.59×10^{-4}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-13	Test Well: BH23-13
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

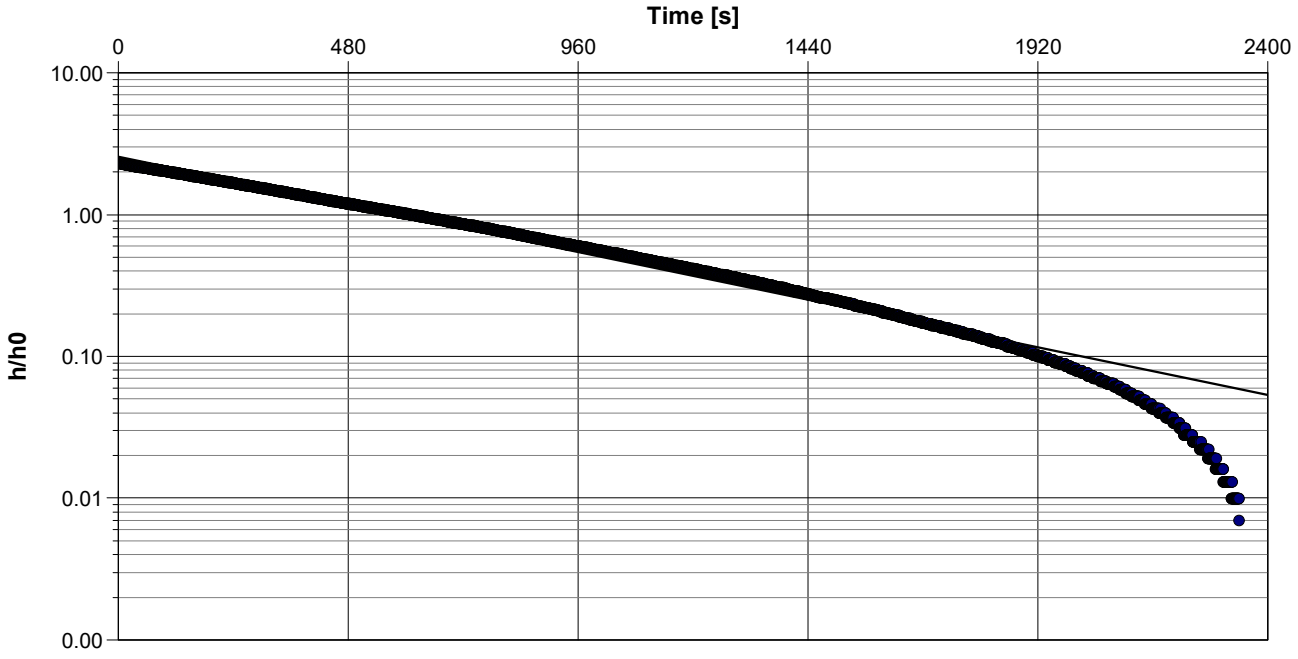


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-13	1.05×10^{-6}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-15	Test Well: BH23-15
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

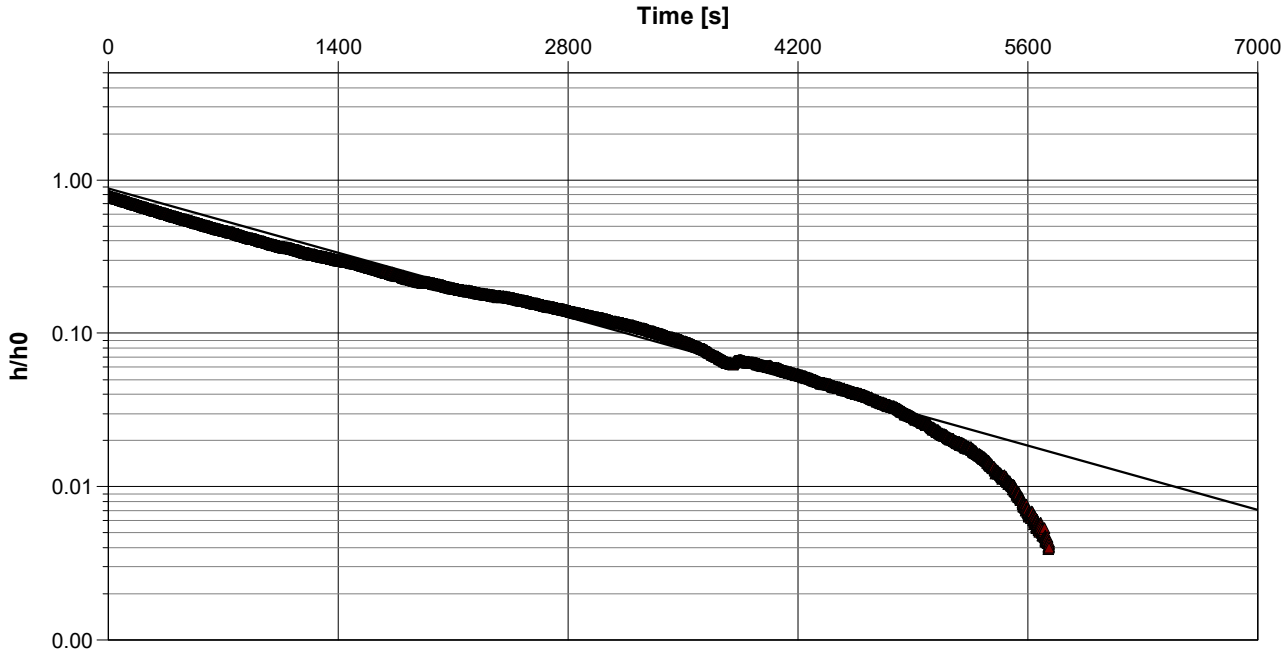


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-15	7.98×10^{-7}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 21-122-106
	Client: Neatt Communities

Location: 150 Steeles Avenue East	Slug Test: BH23-16	Test Well: BH23-16
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

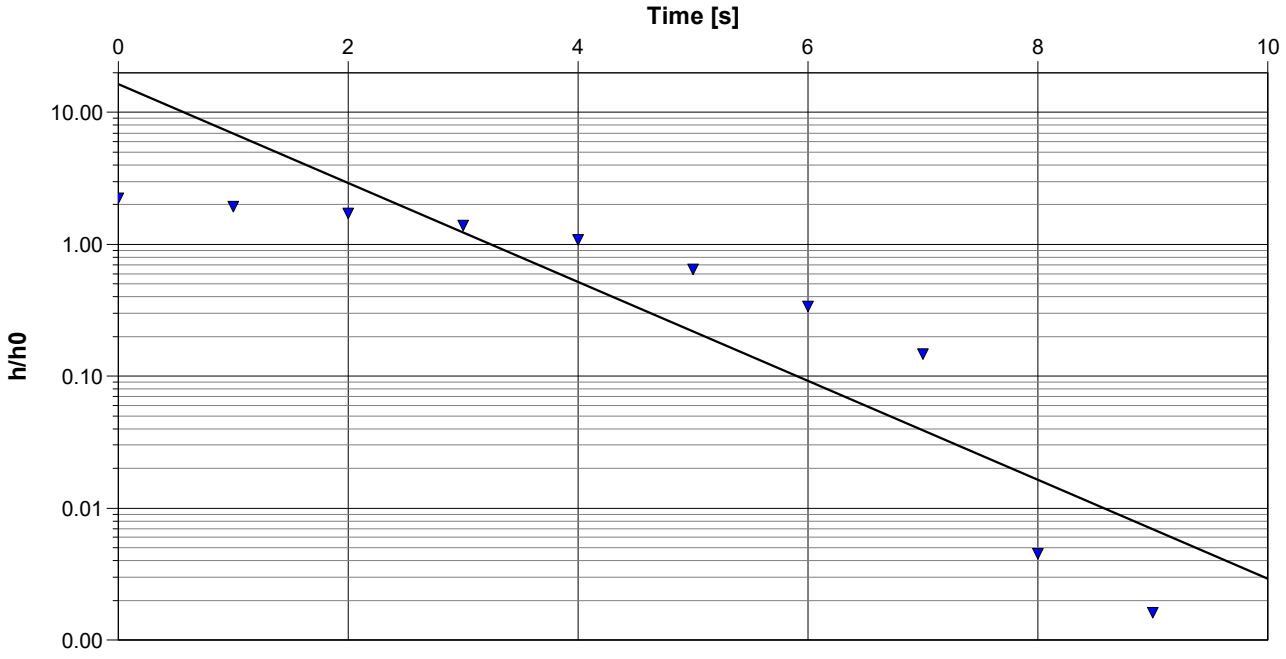


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-16	3.42×10^{-7}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 21-122-106
	Client: Neatt Communities

Location: 150 Steeles Avenue East	Slug Test: BH23-19	Test Well: BH23-19
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

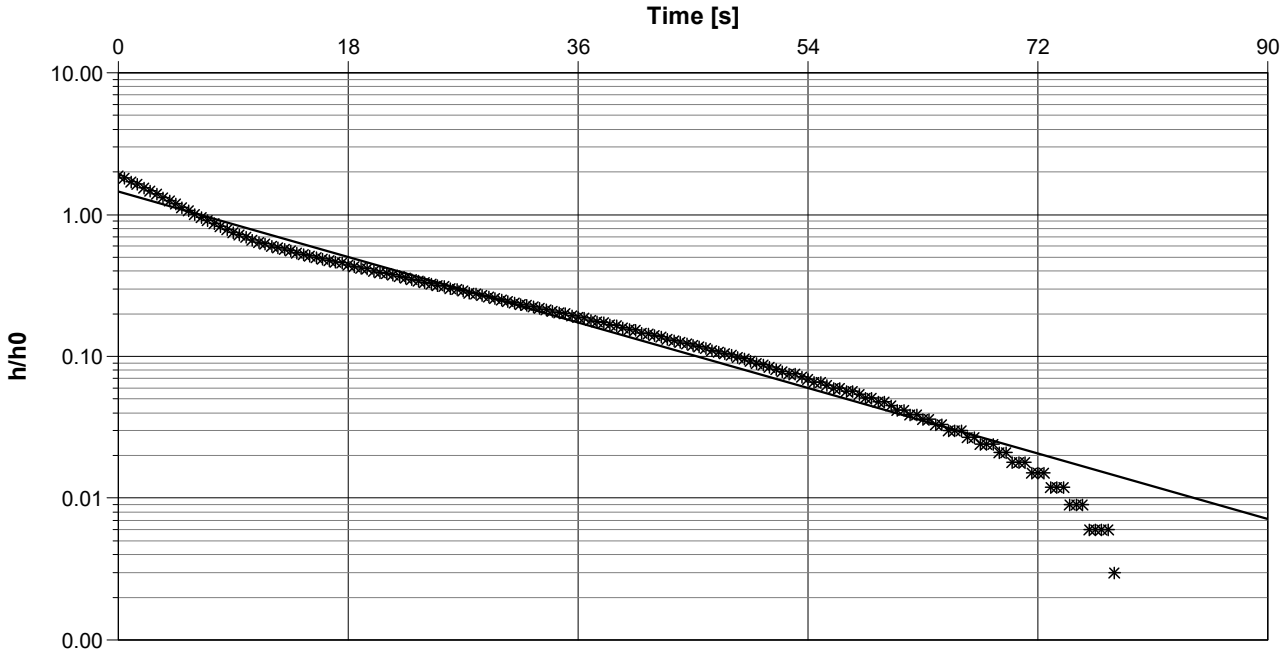


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-19	4.28×10^{-4}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-20	Test Well: BH23-20
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

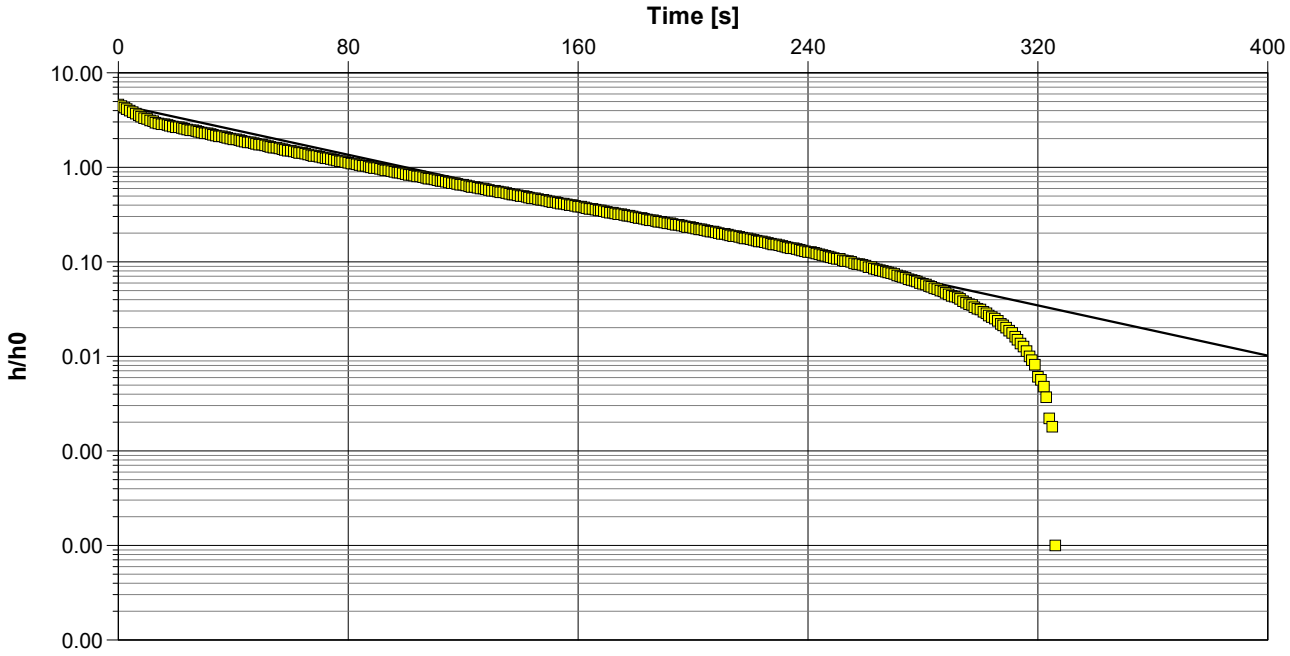


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-20	2.92×10^{-5}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 21-122-106	
Client: Neatt Communities	

Location: 150 Steeles Avenue East	Slug Test: BH23-24	Test Well: BH23-24
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		

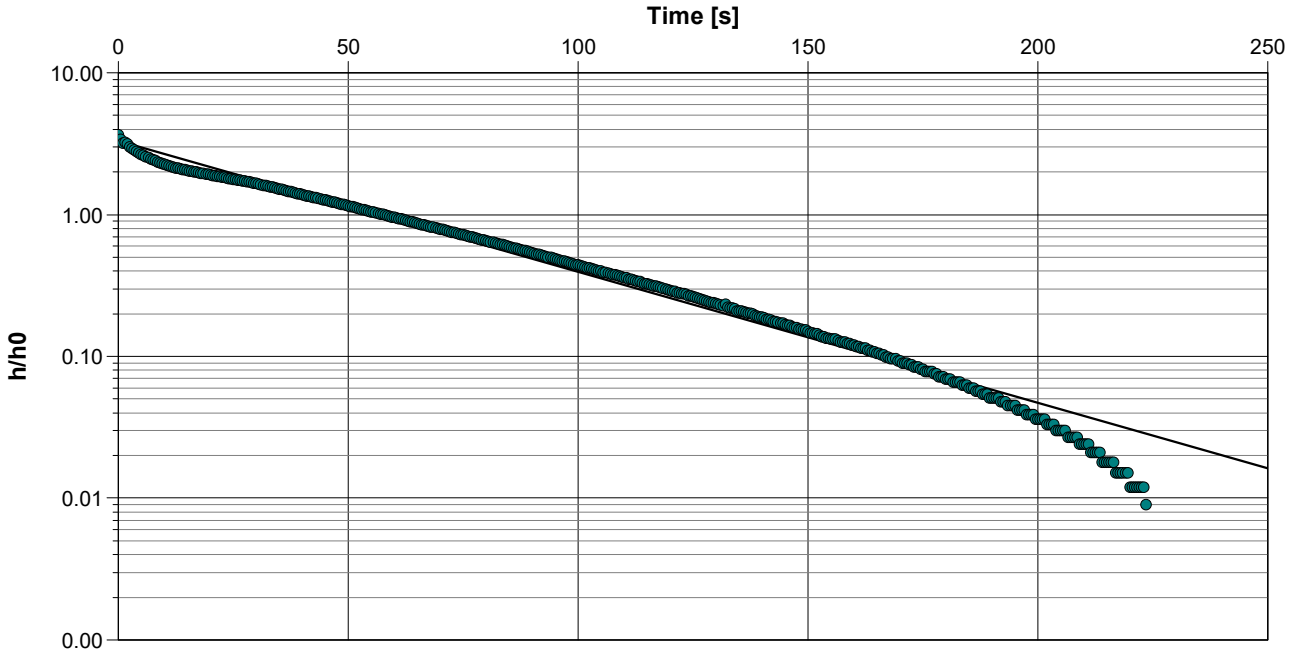


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-24	7.55×10^{-6}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 21-122-106
	Client: Neatt Communities

Location: 150 Steeles Avenue East	Slug Test: BH23-26	Test Well: BH23-26
Test Conducted by: AQ		Test Date: 5/9/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 5/18/2023
Aquifer Thickness:		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-26	1.05×10^{-5}	

Appendix C: PW1 Well Log, and Grain Size Curves

LOG OF BOREHOLE PW1

PROJECT: 150 Steeles Ave. East
CLIENT: Neatt Communities
PROJECT LOCATION: 150 Steeles Ave. East
DATUM: Geodetic
BH LOCATION: N 4818858 E 589307

DRILLING DATA
Method: Mud Rotary
Diameter: 150mm
Date: Oct/10/2023

FIGURE C-1

REF. NO.: 21-122-106
ENCL NO.: 1

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	PID (ppm)	CGD (ppm)	PLASTIC LIMIT W_P	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W_L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
206.2							206	10 20 30 40	10 20 30 40		WATER CONTENT (%) 10 20 30				
0.0	**SANDY CLAY** dark brown														
203.1							204								
3.1	**SANDY CLAY** some gravel, light brown														
200.1							202								
6.1	**SANDY CLAY** some gravel, dark brown														
197.1							200								
9.1	**GRAVEL** few sand, few silt,brown-grey,wet.														
195.5							198								
10.7	**GRAVEL** few sand, few silt,grey,wet.coarse gravels increase towards bottom.														
191.0							196								
15.2	**QUEENSTON SHALE**														
187.9							194								
18.3	**END OF BOREHOLE**						192								
							190								
							188								

Bentonite

W. L. 197.9 masl
May 18, 2023

3 ft. header with Fig. K-rubber packer (37-40 ft)

10 ft of 20-SLOT 6inch-telescoping Stainless Steel Wire Wound-SSWW screen (40-50 ft)

Notes :

1. Soil descriptions based on drillers field observation.
2. Water level : 8.3 mbgs- May 18,2023

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

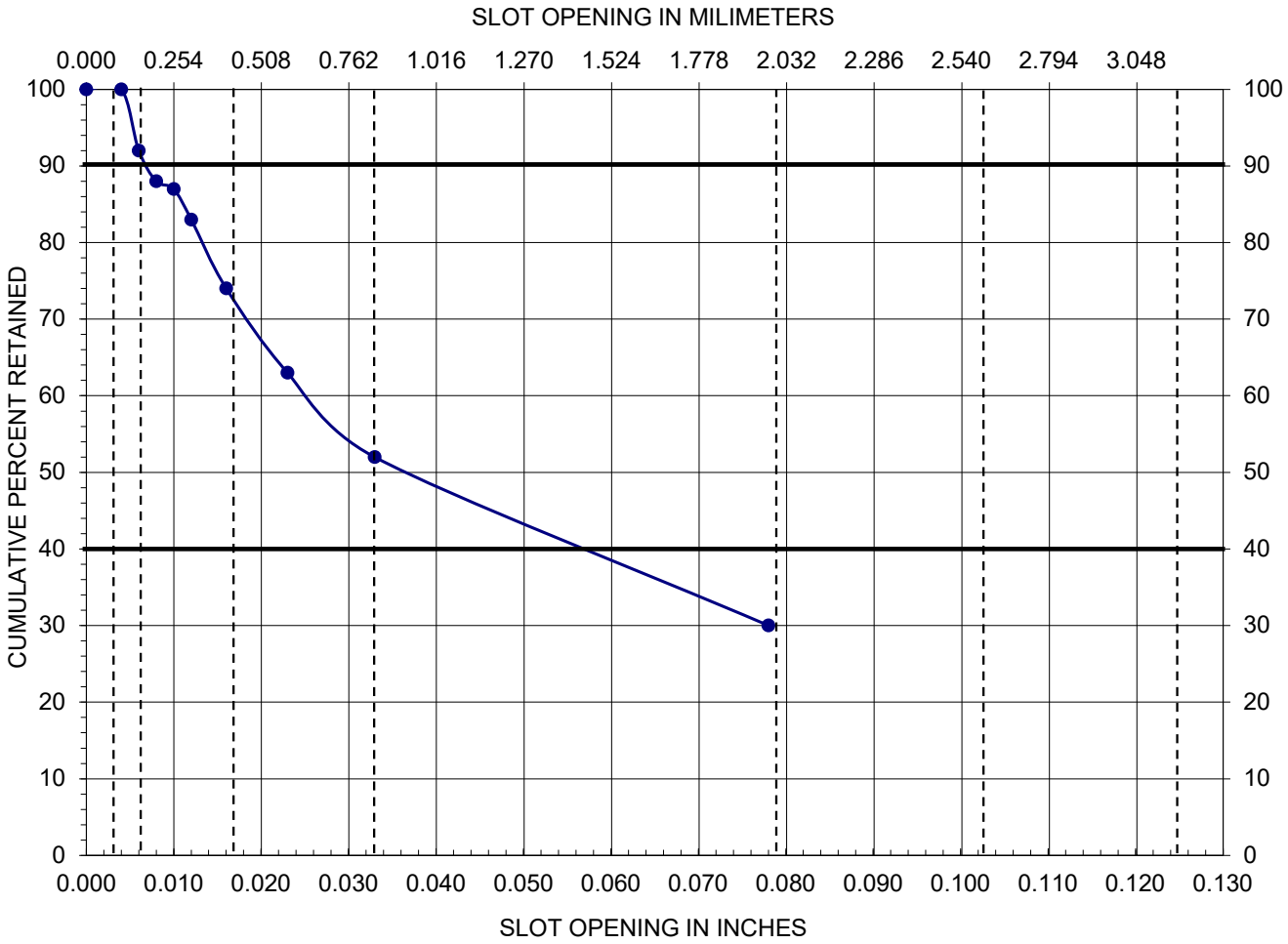
GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ 8=3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 150 STEELES AVE. E PW.GPJ DS.GDT 6/20/23

GRAIN SIZE DISTRIBUTION

Project No.: **21-221-106 - 150 Steeles Ave.** Date: 8-May-23

Hole No.: **PW1** Sample No.: Depth: **29-34'**



	Sieve Opening (inches)	Cumulative		
		Weight Retained (gms)	Weight % Passing or Retained	% Retained
	0.078			30
	0.033			52
	0.023			63
	0.016			74
	0.012			83
	0.010			87
	0.008			88
	0.006			92
	0.004			100
	Pan			100
	Screen slot			

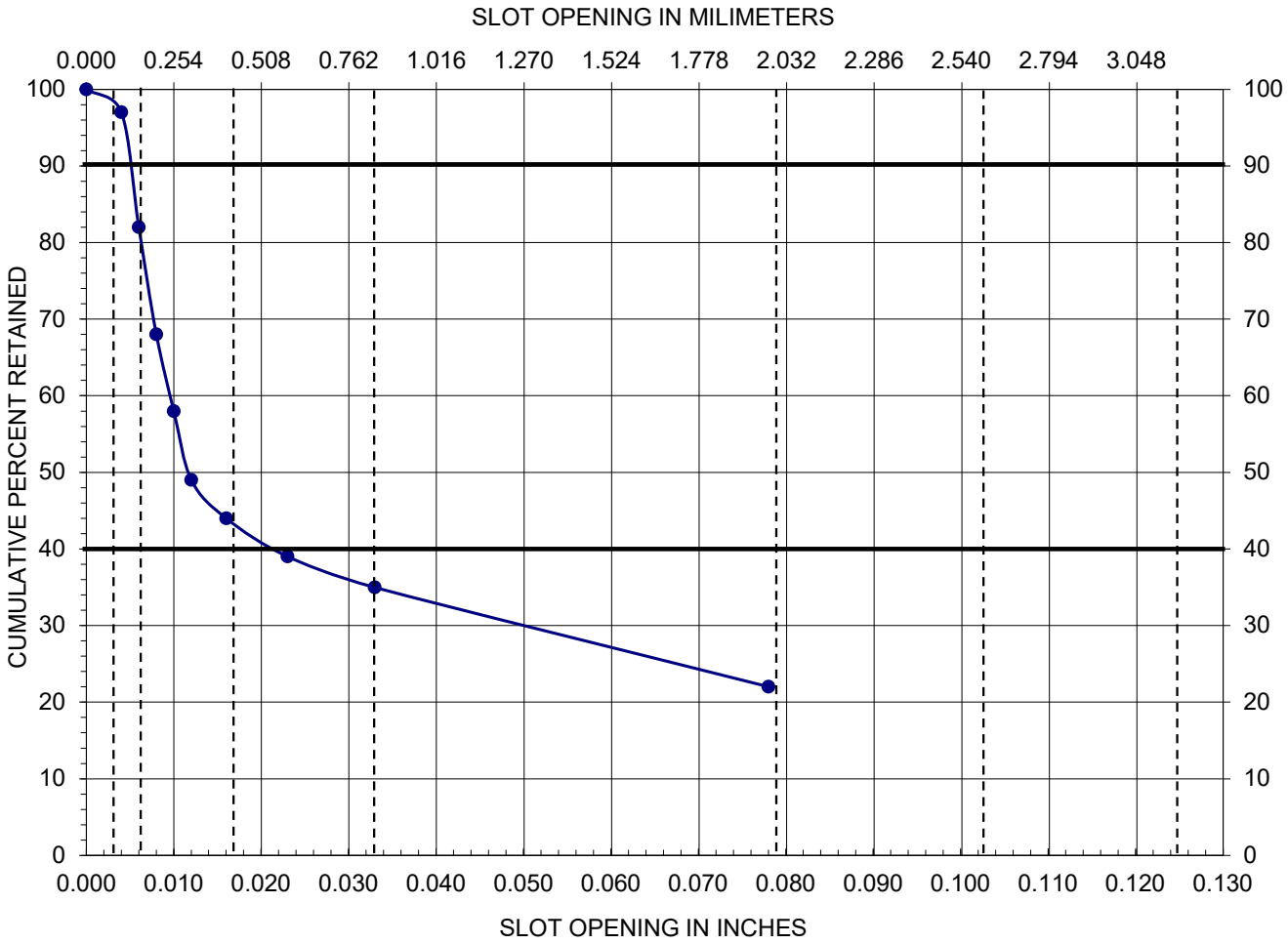
Figure C-2

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

GRAIN SIZE DISTRIBUTION

Project No.: **21-221-106 - 150 Steeles Ave.** Date: 8-May-23

Hole No.: **PW1** Sample No.: Depth: **34-39'**



	Sieve Opening (inches)	Cumulative		
		Weight Retained (gms)	Weight % Passing or Retained	% Retained
	0.078			22
	0.033			35
	0.023			39
	0.016			44
	0.012			49
	0.010			58
	0.008			68
	0.006			82
	0.004			97
	Pan			100
	Screen slot			

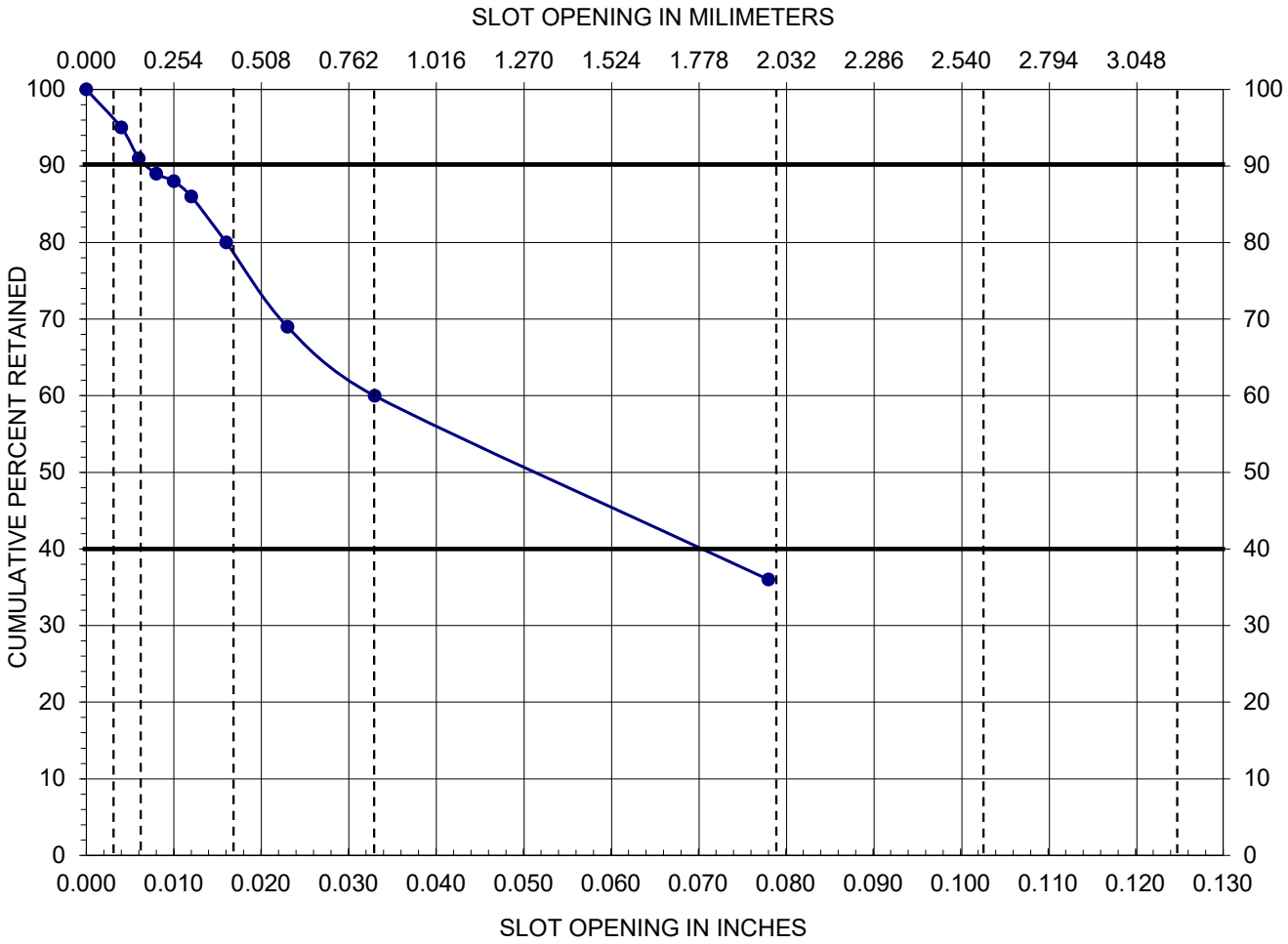
Figure C-3

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

GRAIN SIZE DISTRIBUTION

Project No.: **21-221-106 - 150 Steeles Ave.** Date: 8-May-23

Hole No.: **PW1** Sample No.: **47** Depth: **39-44'**



	Sieve Opening (inches)	Cumulative		
		Weight Retained (gms)	Weight % Passing or Retained	% Retained
	0.078			36
	0.033			60
	0.023			69
	0.016			80
	0.012			86
	0.010			88
	0.008			89
	0.006			91
	0.004			95
	Pan			100
	Screen slot			

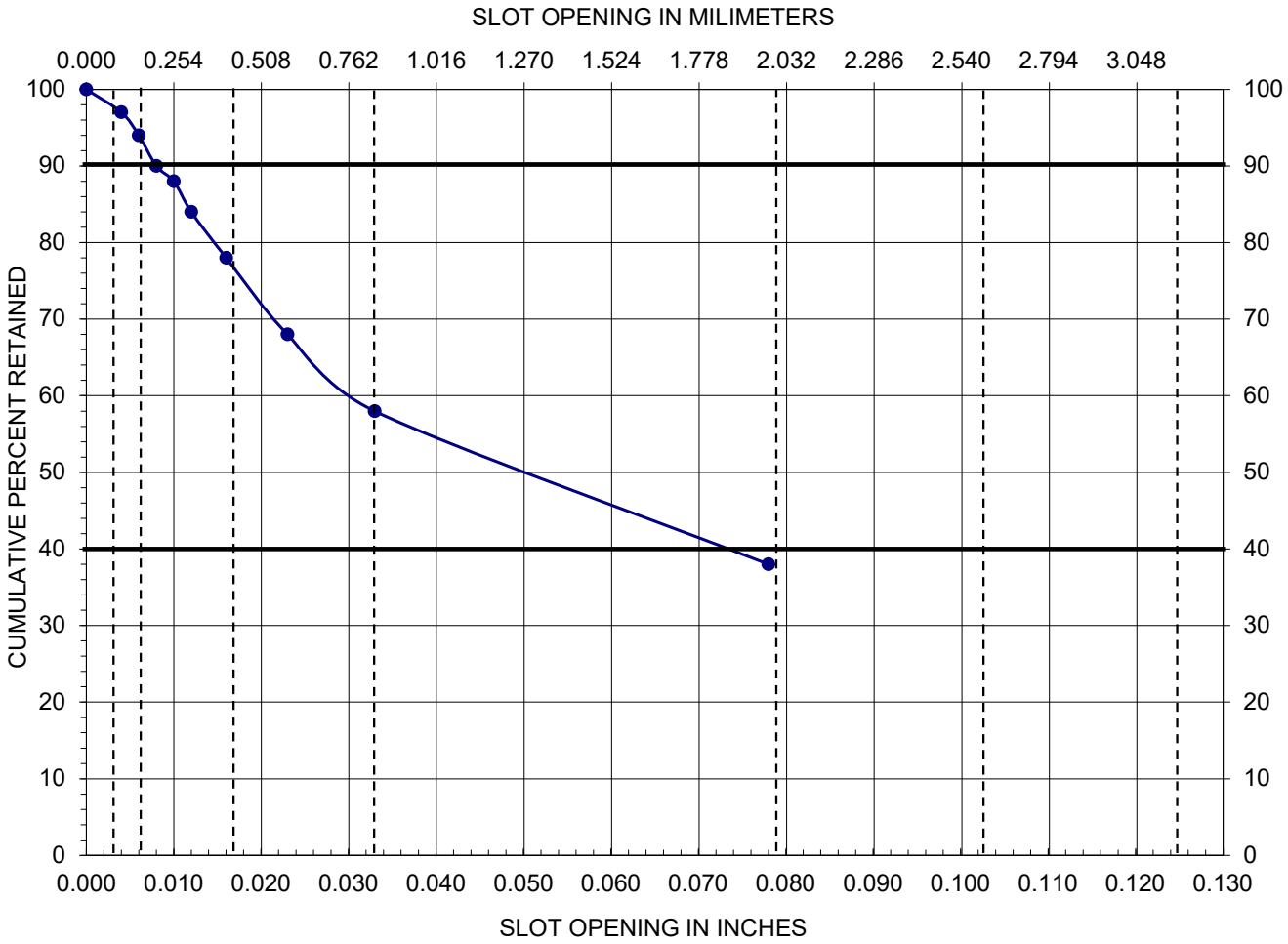
Figure C-4

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

GRAIN SIZE DISTRIBUTION

Project No.: **21-221-106 - 150 Steeles Ave.** Date: 8-May-23

Hole No.: **PW1** Sample No.: **47** Depth: **44-49'**



	Sieve Opening (inches)	Cumulative		
		Weight Retained (gms)	Weight % Passing or Retained	% Retained
	0.078			38
	0.033			58
	0.023			68
	0.016			78
	0.012			84
	0.010			88
	0.008			90
	0.006			94
	0.004			97
	Pan			100
	Screen slot			

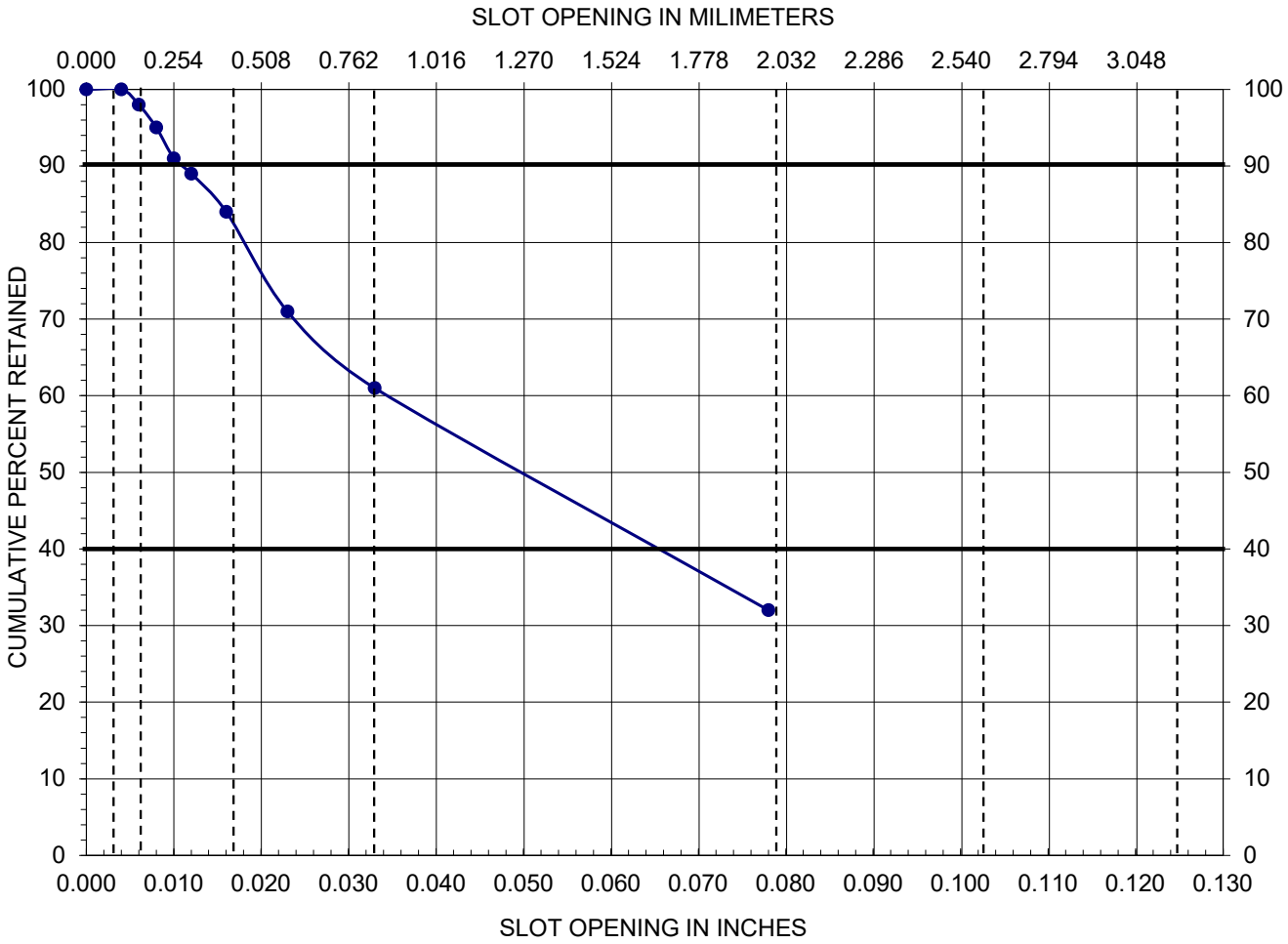
Figure C-5

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

GRAIN SIZE DISTRIBUTION

Project No.: **21-221-106 - 150 Steeles Ave.** Date: 8-May-23

Hole No.: **PW1** Sample No.: **47** Depth: **49-54'**



	Sieve Opening (inches)	Cumulative		
		Weight Retained (gms)	Weight % Passing or Retained	% Retained
	0.078			32
	0.033			61
	0.023			71
	0.016			84
	0.012			89
	0.010			91
	0.008			95
	0.006			98
	0.004			100
	Pan			100
	Screen slot			

Figure C-6

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

Appendix D: PW1 Pumping Test Analysis

PW1 STEP TEST, DRAWDOWN VS TIME

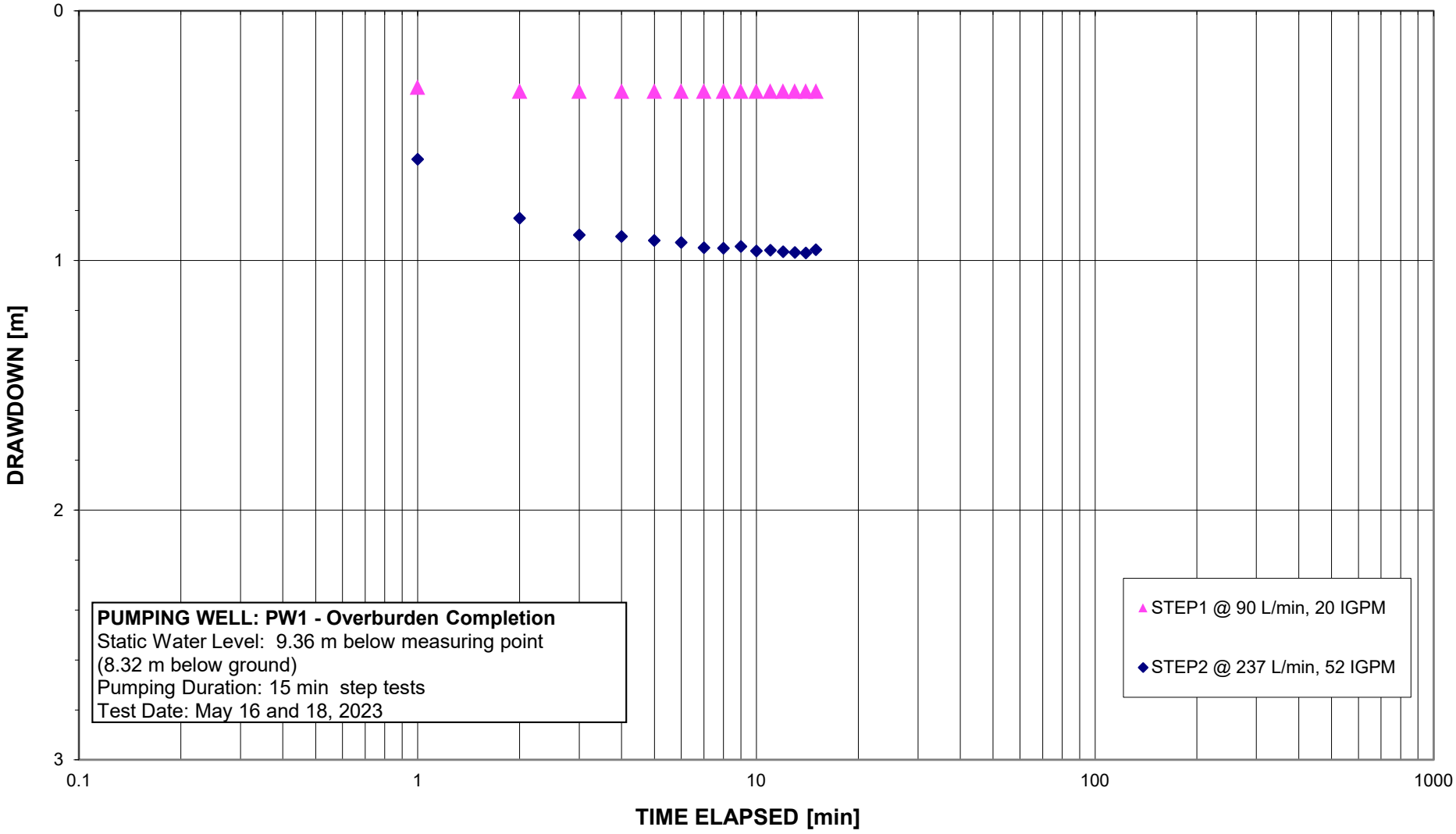


FIGURE D-1

PW1 STEP DRAWDOWN TEST 150 Steeles Ave. E Drawdown vs. Time Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

PW1: STEP TEST, DRAWDOWN VS PUMPING RATE

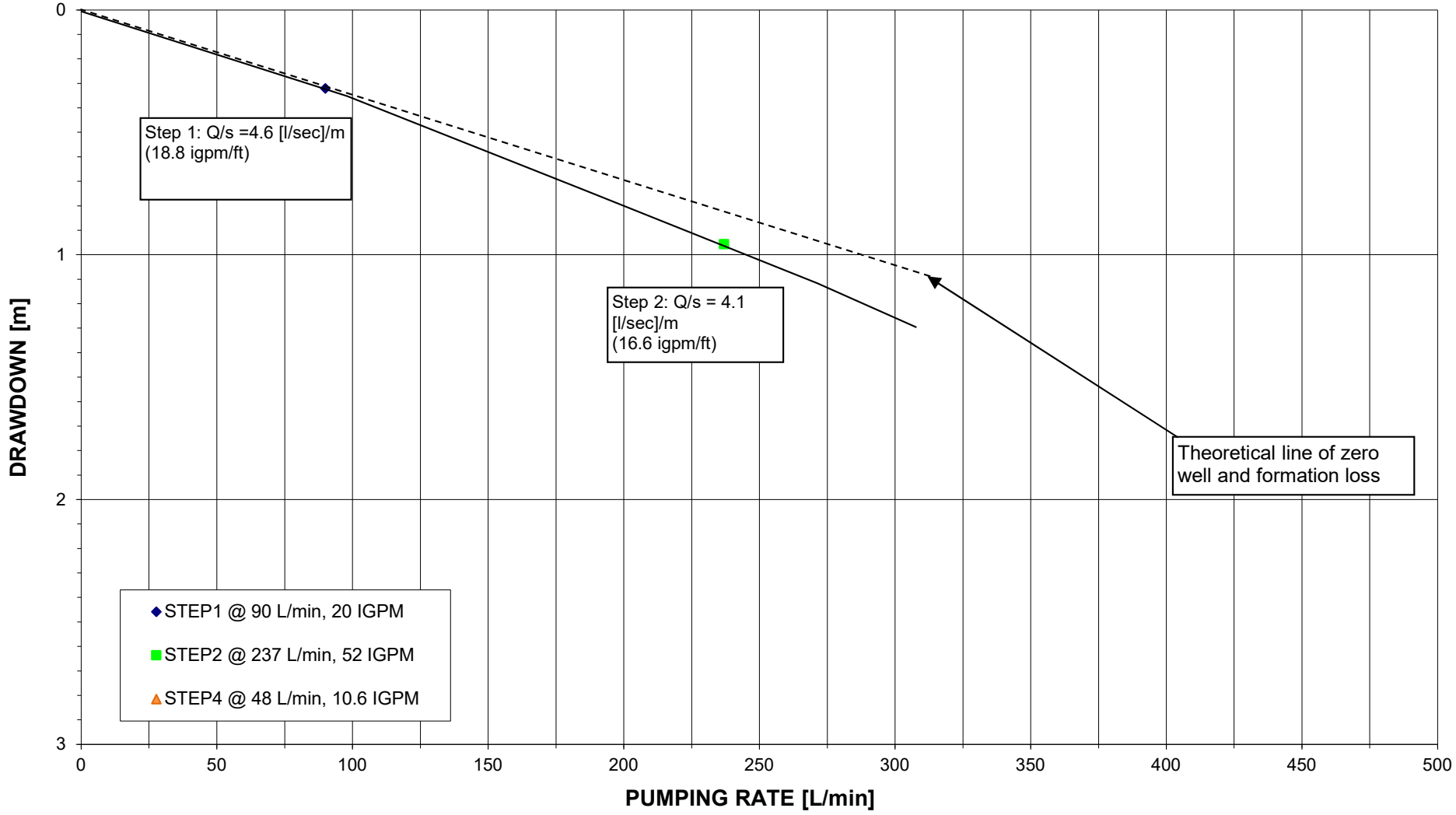


FIGURE D-2

PW1 STEP DRAWDOWN TEST 150 Steeles Ave. E Drawdown vs. Pumping Rate Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

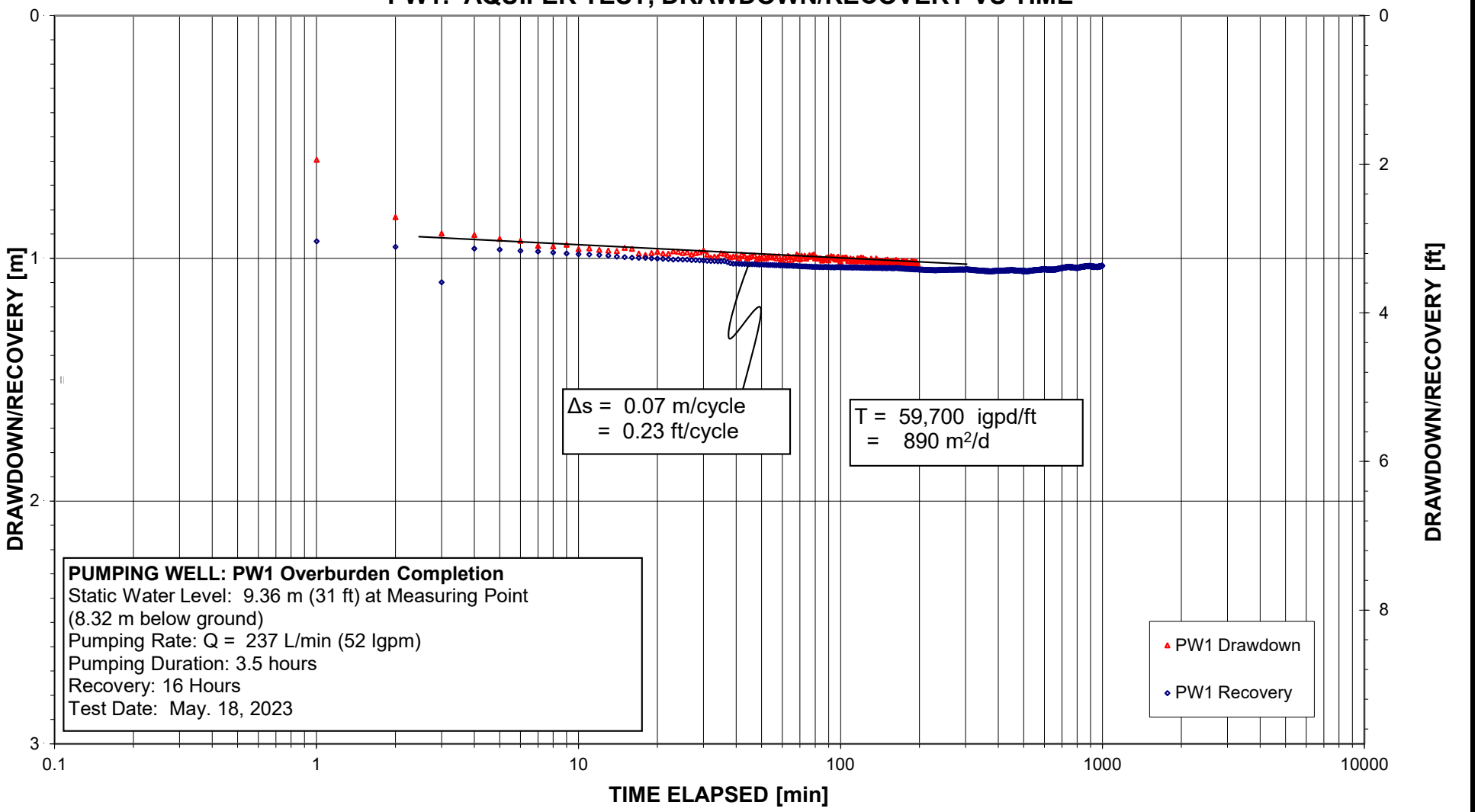


FIGURE D-3

PW1 PUMPING TEST 150 Steeles Ave. E Drawdown vs. Time Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

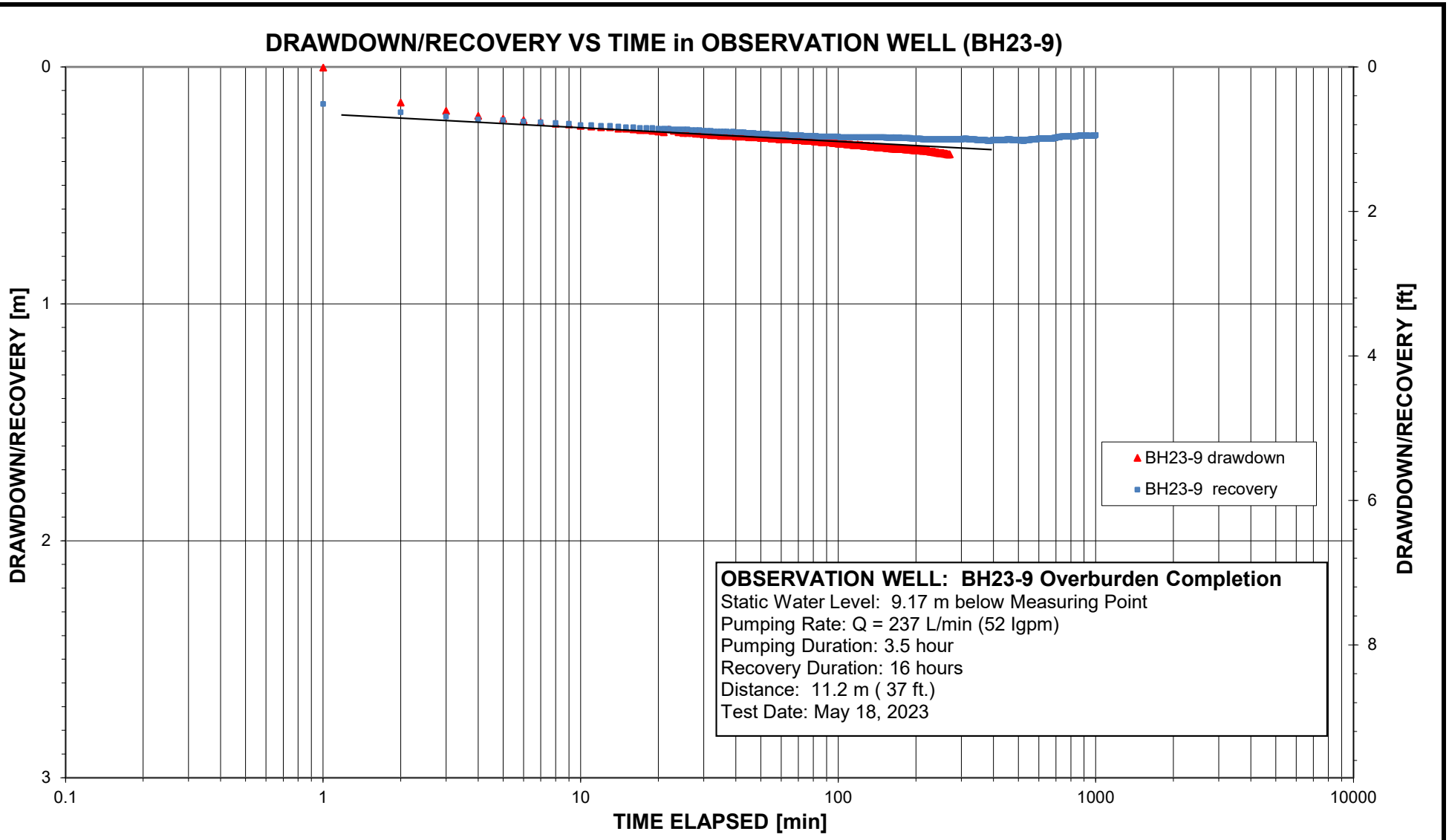


FIGURE D-4

PW1 PUMPING TEST - (Obs. Well BH23-9) 150 Steeles Ave. E Drawdown/Recovery vs. Time (Obs.Well BH23-9) Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

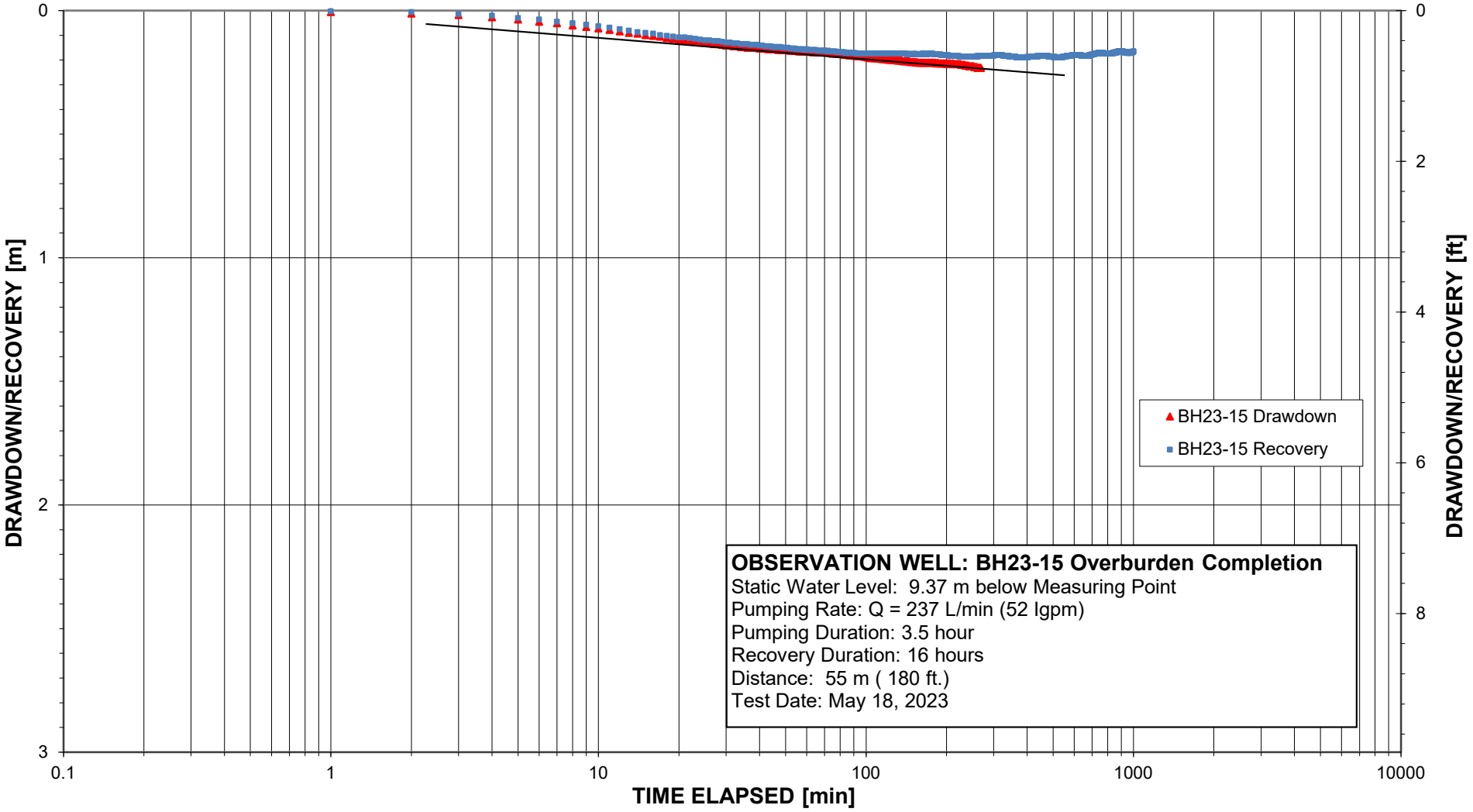


FIGURE D-5

PW1 PUMPING TEST - (Obs. Well BH23-15) 150 Steeles Ave. E Drawdown/Recovery vs. Time (Obs.Well BH23-15) Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

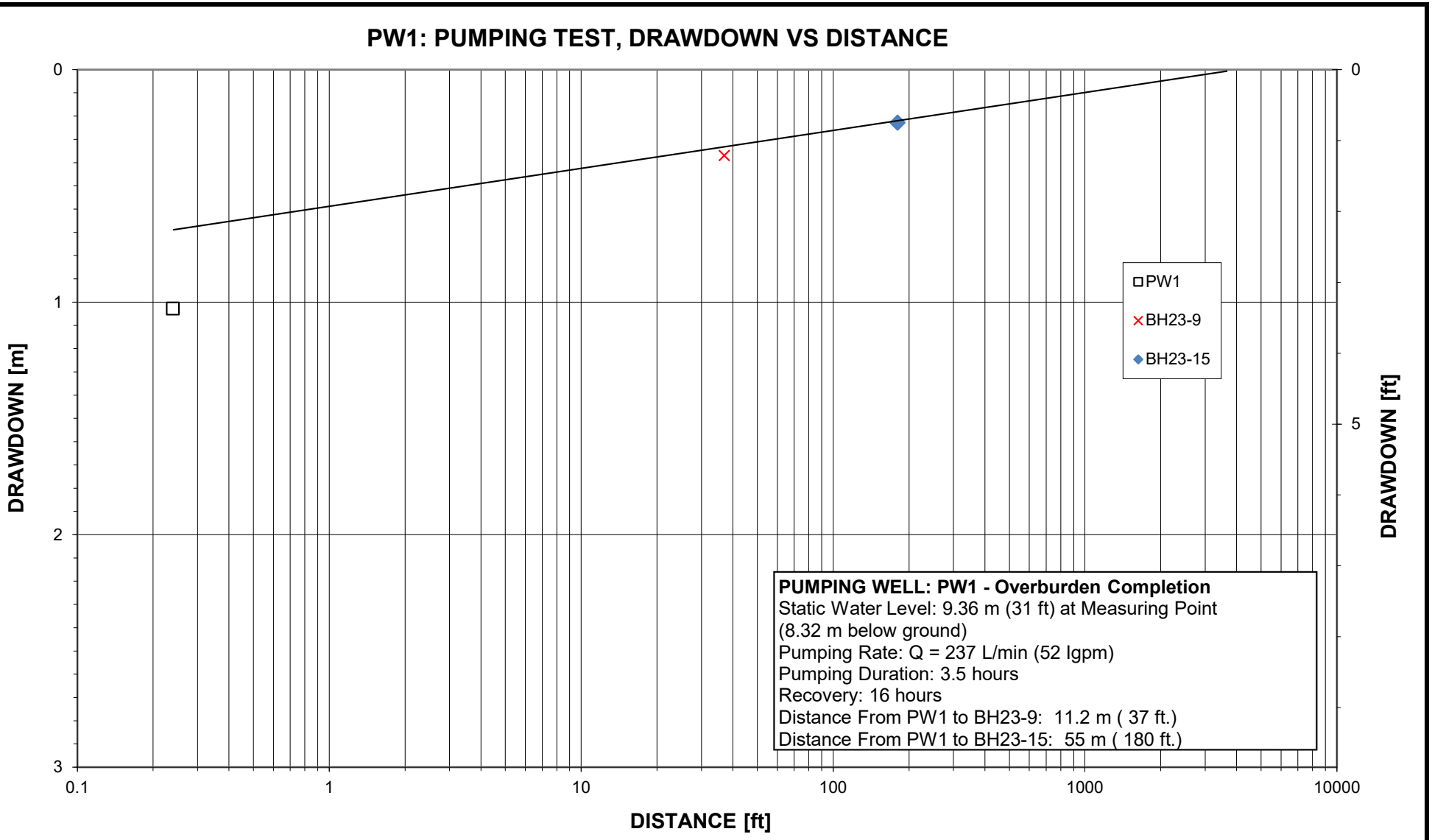


FIGURE D-6

PW1 PUMPING TEST 150 Steeles Ave. E Drawdown vs. Distance Milton, Ontario	**Project No.:** 21-122-106 **Date:** 30-Jun-23	DS CONSULTANTS LTD. Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

Appendix E: Groundwater Control Model for Construction Dewatering

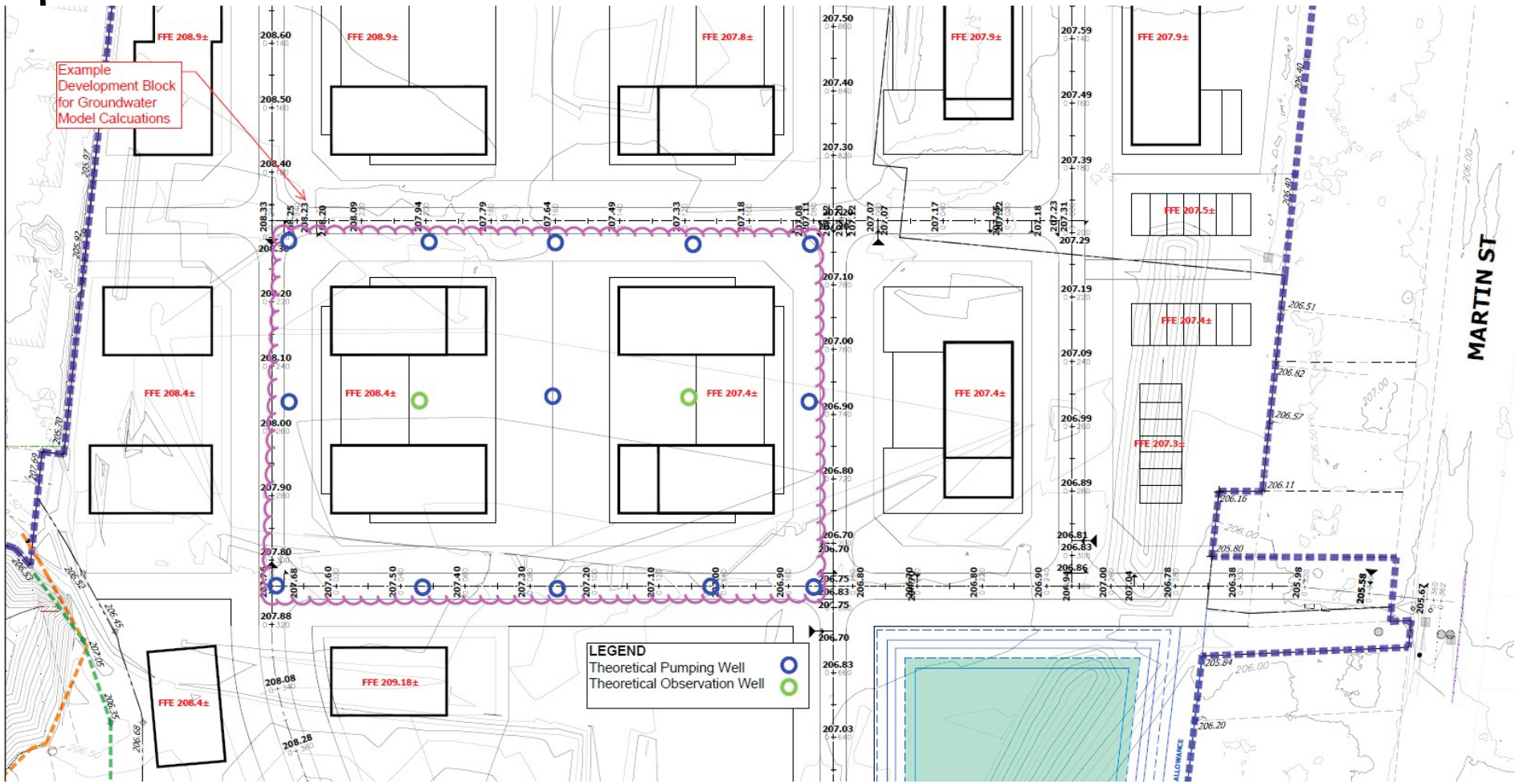


FIGURE E-1

GROUNDWATER MODEL THEORETICAL WELL LAYOUT

Hydrogeologic Investigation

150 Steeles Avenue E.
Milton, Ontario

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

Drawdown in a well from pumping and interference from all other pumping wells

Groundwater Control Model for Construction Dewatering (P2 Design) - Drawdown and Interference at Theoretical Well Locations

	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	PW9	PW10	PW11	PW12	PW13		OW1	OW2	
PW1	1.00	0.44	0.39	0.36	0.33	0.33	0.34	0.40	0.38	0.45	0.38	0.36	0.34		0.42	0.36	
PW2	0.44	1.00	0.44	0.38	0.33	0.34	0.33	0.38	0.40	0.42	0.42	0.36	0.36		0.45	0.36	
PW3	0.39	0.44	1.00	0.40	0.34	0.33	0.33	0.36	0.38	0.38	0.45	0.34	0.36		0.42	0.36	
PW4	0.36	0.38	0.40	1.00	0.40	0.38	0.36	0.39	0.44	0.38	0.45	0.38	0.45		0.42	0.42	
PW5	0.33	0.33	0.34	0.40	1.00	0.44	0.39	0.36	0.38	0.34	0.36	0.38	0.45		0.36	0.42	
PW6	0.33	0.34	0.33	0.38	0.44	1.00	0.44	0.38	0.40	0.36	0.36	0.42	0.42		0.36	0.45	
PW7	0.34	0.33	0.33	0.36	0.39	0.44	1.00	0.40	0.38	0.36	0.34	0.45	0.38		0.36	0.42	
PW8	0.40	0.38	0.36	0.39	0.36	0.38	0.40	1.00	0.42	0.38	0.45	0.38	0.40		0.42	0.42	
PW9	0.38	0.40	0.38	0.44	0.38	0.40	0.38	0.44	1.00	0.42	0.42	0.42	0.42		0.45	0.45	
PW10	0.45	0.42	0.38	0.38	0.34	0.36	0.36	0.45	0.42	1.00	0.39	0.40	0.36		0.44	0.38	
PW11	0.38	0.42	0.45	0.45	0.36	0.36	0.34	0.38	0.42	0.39	1.00	0.36	0.40		0.44	0.38	
PW12	0.36	0.36	0.34	0.38	0.38	0.42	0.45	0.45	0.42	0.40	0.36	1.00	0.39		0.38	0.44	
PW13	0.34	0.36	0.36	0.45	0.45	0.42	0.38	0.38	0.42	0.36	0.40	0.39	1.00		0.38	0.44	
Total Drawdown at each location (ft)	**5.50**	**5.61**	**5.50**	**5.78**	**5.50**	**5.61**	**5.50**	**5.78**	**5.87**	**5.63**	**5.78**	**5.63**	**5.72**		**5.32**	**5.32**	
Total Drawdown at each location (m)	1.68	*1.71*	*1.68*	*1.76*	*1.68*	*1.71*	*1.68*	*1.76*	*1.79*	*1.72*	*1.76*	1.72	*1.74*		*1.62*	*1.62*	
Final Pumping Elev. (masl)	**196.22**	**196.19**	**196.22**	**196.14**	**196.22**	**196.19**	**196.22**	**196.14**	**196.11**	**196.18**	**196.14**	**196.18**	**196.16**		**196.28**	**196.28**	

Finished Floor Elevation	**207.4**							
Current Ground Level Elev. (masl)	**206.2**	**Well**	**$Q_{S\ (IGPM)}$**	**Q (l/min)**	**Units**			
Static Water Elev. (masl)	**197.9**	PW1-PW13	22.00	99.9	S	2.6.E-04		
Est. Elevator Pit (masl) -P2 Design (199.9masl - 2.5m)	**197.4**	Total	286.0	1298	t	12	day(s)	
Factor of safety 1 m	**1**				T	59700	igpd/ft	
Target Pumping Water Level	**196.40**							

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.

FIGURE E-2

GROUNDWATER CONTROL MODEL P2 DESIGN
Hydrogeological Investigation
150 Steeles Ave. E
Milton, Ontario

Project No.: **21-122-106**

Date: **30-Jun-23**

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Drawdown in a well from pumping and interference from all other pumping wells

Groundwater Control Model for Construction Dewatering (P3 Design) - Drawdown and Interference at Theoretical Well Locations

	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	PW9	PW10	PW11	PW12	PW13		OW1	OW2	
PW1	4.00	1.25	1.09	1.02	0.92	0.94	0.95	1.11	1.08	1.28	1.07	1.02	0.97		1.18	1.00	
PW2	1.25	4.00	1.25	1.08	0.94	0.95	0.94	1.08	1.11	1.18	1.18	1.00	1.00		1.28	1.02	
PW3	1.09	1.25	4.00	1.11	0.95	0.94	0.92	1.02	1.08	1.07	1.28	0.97	1.02		1.18	1.00	
PW4	1.02	1.08	1.11	4.00	1.11	1.08	1.02	1.09	1.25	1.07	1.28	1.07	1.28		1.18	1.18	
PW5	0.92	0.94	0.95	1.11	4.00	1.25	1.09	1.02	1.08	0.97	1.02	1.07	1.28		1.00	1.18	
PW6	0.94	0.95	0.94	1.08	1.25	4.00	1.25	1.08	1.11	1.00	1.00	1.18	1.18		1.02	1.28	
PW7	0.95	0.94	0.92	1.02	1.09	1.25	4.00	1.11	1.08	1.02	0.97	1.28	1.07		1.00	1.18	
PW8	1.11	1.08	1.02	1.09	1.02	1.08	1.11	4.00	1.18	1.07	1.28	1.07	1.11		1.18	1.18	
PW9	1.08	1.11	1.08	1.25	1.08	1.11	1.08	1.25	4.00	1.18	1.18	1.18	1.18		1.28	1.28	
PW10	1.28	1.18	1.07	1.07	0.97	1.00	1.02	1.28	1.18	4.00	1.09	1.11	1.02		1.25	1.08	
PW11	1.07	1.18	1.28	1.28	1.02	1.00	0.97	1.07	1.18	1.09	4.00	1.02	1.11		1.25	1.08	
PW12	1.02	1.00	0.97	1.07	1.07	1.18	1.28	1.28	1.18	1.11	1.02	4.00	1.09		1.08	1.25	
PW13	0.97	1.00	1.02	1.28	1.28	1.18	1.07	1.07	1.18	1.02	1.11	1.09	4.00		1.08	1.25	
Total Drawdown at each location (ft)	**16.69**	**16.98**	**16.69**	**17.46**	**16.69**	**16.98**	**16.69**	**17.46**	**17.73**	**17.05**	**17.48**	**17.05**	**17.31**		**14.98**	**14.98**	
Total Drawdown at each location (m)	*5.09*	*5.18*	*5.09*	*5.32*	*5.09*	*5.18*	*5.09*	*5.32*	*5.40*	*5.20*	*5.33*	*5.20*	*5.28*		*4.57*	*4.57*	
Final Pumping Elev. (masl)	**192.81**	**192.72**	**192.81**	**192.58**	**192.81**	**192.72**	**192.81**	**192.58**	**192.50**	**192.70**	**192.57**	**192.70**	**192.62**		**193.33**	**193.33**	

Finished Floor Elevation	**207.4**							
Current Ground Level Elev. (masl)	**206.2**	**Well**	**$Q_{S\ (IGPM)}$**	**Q (l/min)**	**Units**			
Static Water Elev. (masl)	**197.9**	PW1-PW13	62.00	281	S	2.6.E-04		
Est. Elevator Pit (masl) -P3 Design (196.9masl - 2.5m)	**194.4**	Total	806.0	3659	t	12	day(s)	
Factor of safety 1 m	**1**				T	59700	igpd/ft	
Target Pumping Water Level	**193.40**							

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.

FIGURE E-3

GROUNDWATER CONTROL MODEL P3 DESIGN
Hydrogeological Investigation
150 Steeles Ave. E
Milton, Ontario

Project No.: **21-122-106**

Date: **4-Jul-23**

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Appendix F: Groundwater Control Model for Permanent Drainage System

Drawdown in a well from pumping and interference from all other pumping wells

Groundwater Control Model for Permanent Drainage (P3 Design) - Drawdown and Interference at Theoretical Well Locations

	PW1	PW2	PW3	PW4	PW5	PW6	PW7	PW8	PW9	PW10	PW11	PW12	PW13		OW1	OW2	
PW1	2.00	0.41	0.36	0.34	0.30	0.31	0.31	0.37	0.36	0.42	0.35	0.34	0.32		0.39	0.33	
PW2	0.41	2.00	0.41	0.36	0.31	0.31	0.31	0.36	0.37	0.39	0.39	0.33	0.33		0.42	0.34	
PW3	0.36	0.41	2.00	0.37	0.31	0.31	0.30	0.34	0.36	0.35	0.42	0.32	0.34		0.39	0.33	
PW4	0.34	0.36	0.37	2.00	0.37	0.36	0.34	0.36	0.41	0.35	0.42	0.35	0.42		0.39	0.39	
PW5	0.30	0.31	0.31	0.37	2.00	0.41	0.36	0.34	0.36	0.32	0.34	0.35	0.42		0.33	0.39	
PW6	0.31	0.31	0.31	0.36	0.41	2.00	0.41	0.36	0.37	0.33	0.33	0.39	0.39		0.34	0.42	
PW7	0.31	0.31	0.30	0.34	0.36	0.41	2.00	0.37	0.36	0.34	0.32	0.42	0.35		0.33	0.39	
PW8	0.37	0.36	0.34	0.36	0.34	0.36	0.37	2.00	0.39	0.35	0.42	0.35	0.37		0.39	0.39	
PW9	0.36	0.37	0.36	0.41	0.36	0.37	0.36	0.41	2.00	0.39	0.39	0.39	0.39		0.42	0.42	
PW10	0.42	0.39	0.35	0.35	0.32	0.33	0.34	0.42	0.39	2.00	0.36	0.37	0.34		0.41	0.36	
PW11	0.35	0.39	0.42	0.42	0.34	0.33	0.32	0.35	0.39	0.36	2.00	0.34	0.37		0.41	0.36	
PW12	0.34	0.33	0.32	0.35	0.35	0.39	0.42	0.42	0.39	0.37	0.34	2.00	0.36		0.36	0.41	
PW13	0.32	0.33	0.34	0.42	0.42	0.39	0.35	0.35	0.39	0.34	0.37	0.36	2.00		0.36	0.41	
Total Drawdown at each location (ft)	**6.20**	**6.29**	**6.20**	**6.45**	**6.20**	**6.29**	**6.20**	**6.45**	**6.53**	**6.31**	**6.45**	**6.31**	**6.40**		**4.94**	**4.94**	
Total Drawdown at each location (m)	1.89	*1.92*	*1.89*	*1.97*	*1.89*	*1.92*	*1.89*	*1.97*	*1.99*	*1.92*	*1.97*	1.92	*1.95*		*1.51*	*1.51*	
Final Pumping Elev. (masl)	**196.01**	**195.98**	**196.01**	**195.93**	**196.01**	**195.98**	**196.01**	**195.93**	**195.91**	**195.98**	**195.93**	**195.98**	**195.95**		**196.39**	**196.39**	

Finished Floor Elevation	**207.4**							
Current Ground Level Elev. (masl)	**206.2**	**Well**	**$Q_{S\ (IGPM)}$**	**Q (l/min)**	**Units**			
Static Water Elev. (masl)	**197.9**	PW1-PW13	20.00	91	S	2.6.E-04		
Est. P3 SOG (masl)	**196.9**	Total	260.0	1180	t	15	day(s)	
Factor of safety 0.5 m	**0.5**				T	59700	igpd/ft	
Target Drainage Water Level	**196.40**							

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.

FIGURE F-1

GROUNDWATER CONTROL MODEL P3 DESIGN
Hydrogeological Investigation
150 Steeles Ave. E
Milton, Ontario

Project No.: **21-122-106**

Date: **4-Jul-23**

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Appendix G: Groundwater Quality Certificate of Analysis

Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 934281-01-01

Attention: Meysam Jafari

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/07/05
Report #: R7701176
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3D4767
Received: 2023/05/11, 16:46

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonaceous BOD	1	2023/05/13	2023/05/18	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2023/05/12	2023/05/16	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2023/05/12	2023/05/16	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2023/05/16	2023/05/16	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2023/05/15	2023/05/16	CAM SOP-00408	EPA 6010D m
Total Metals Analysis by ICPMS	1	2023/05/16	2023/05/18	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2023/05/11	CAM SOP-00552	MECP E3371
Animal and Vegetable Oil and Grease	1	N/A	2023/05/20	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/19	2023/05/19	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2023/05/16	2023/05/17	CAM SOP-00318	EPA 8270E
pH	1	2023/05/12	2023/05/16	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/16	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	1	N/A	2023/05/18	CAM SOP-00464	SM 23 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2023/05/12	2023/05/16	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/19	2023/05/19	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2023/05/16	2023/05/16	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2023/05/15	CAM SOP-00228	EPA 8260D

Remarks:

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

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

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

Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 934281-01-01

Attention: Meysam Jafari

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/07/05
Report #: R7701176
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3D4767
Received: 2023/05/11, 16:46
customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

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

Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID				VUD712		
Sampling Date				2023/05/11 11:30		
COC Number				934281-01-01		
	UNITS	Criteria	Criteria-2	MW23-20	RDL	QC Batch
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	-	150	1.2	0.50	8659113
Inorganics						
Total Carbonaceous BOD	mg/L	-	300	<2	2	8663349
Fluoride (F-)	mg/L	-	10	0.13	0.10	8662442
Total Kjeldahl Nitrogen (TKN)	mg/L	-	100	0.21	0.10	8663021
pH	pH	6.5:8.5	6.0:10.0	7.83		8662450
Phenols-4AAP	mg/L	-	1	<0.0010	0.0010	8667786
Total Suspended Solids	mg/L	-	350	74	10	8661748
Dissolved Sulphate (SO4)	mg/L	-	1500	69	1.0	8662235
Total Cyanide (CN)	mg/L	-	2	<0.0050	0.0050	8660971
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	-	-	1.2	0.50	8675238
Total Oil & Grease Mineral/Synthetic	mg/L	-	-	<0.50	0.50	8675253

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Storm Sewer ByLaw
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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

Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Metals					
Total Aluminum (Al)	mg/L	50	<0.1	0.1	8665796
Total Antimony (Sb)	mg/L	5	<0.02	0.02	8665796
Total Arsenic (As)	mg/L	1	<0.01	0.01	8665796
Total Beryllium (Be)	mg/L	5	<0.0005	0.0005	8665796
Total Cadmium (Cd)	mg/L	1	<0.002	0.002	8665796
Total Chromium (Cr)	mg/L	3	<0.01	0.01	8665796
Total Cobalt (Co)	mg/L	5	<0.002	0.002	8665796
Total Copper (Cu)	mg/L	3	<0.01	0.01	8665796
Total Iron (Fe)	mg/L	50	1.2	0.02	8665796
Total Lead (Pb)	mg/L	3	<0.01	0.01	8665796
Total Manganese (Mn)	mg/L	5	0.043	0.001	8665796
Mercury (Hg)	mg/L	0.05	<0.00010	0.00010	8666881
Total Molybdenum (Mo)	mg/L	5	<0.005	0.005	8665796
Total Nickel (Ni)	mg/L	3	<0.005	0.005	8665796
Total Phosphorus (P)	mg/L	10	<0.05	0.05	8665796
Total Selenium (Se)	mg/L	5	<0.02	0.02	8665796
Total Silver (Ag)	mg/L	5	<0.01	0.01	8665796
Total Tin (Sn)	mg/L	5	<0.02	0.02	8665796
Total Titanium (Ti)	mg/L	5	<0.005	0.005	8665796
Total Zinc (Zn)	mg/L	3	<0.005	0.005	8665796
Total Aluminum (Al)	ug/L	50000	93	4.9	8667576
Total Antimony (Sb)	ug/L	5000	<0.50	0.50	8667576
Total Arsenic (As)	ug/L	1000	3.5	1.0	8667576
Total Barium (Ba)	ug/L	-	51	2.0	8667576
Total Beryllium (Be)	ug/L	5000	<0.40	0.40	8667576
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	8667576
Total Boron (B)	ug/L	-	94	10	8667576
Total Cadmium (Cd)	ug/L	1000	<0.090	0.090	8667576
Total Calcium (Ca)	ug/L	-	120000	200	8667576
Total Chromium (Cr)	ug/L	3000	<5.0	5.0	8667576

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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

Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Total Cobalt (Co)	ug/L	5000	<0.50	0.50	8667576
Total Copper (Cu)	ug/L	3000	<0.90	0.90	8667576
Total Iron (Fe)	ug/L	50000	1300	100	8667576
Total Lead (Pb)	ug/L	3000	<0.50	0.50	8667576
Total Lithium (Li)	ug/L	-	33	5.0	8667576
Total Magnesium (Mg)	ug/L	-	53000	50	8667576
Total Manganese (Mn)	ug/L	5000	43	2.0	8667576
Total Molybdenum (Mo)	ug/L	5000	1.3	0.50	8667576
Total Nickel (Ni)	ug/L	3000	<1.0	1.0	8667576
Total Potassium (K)	ug/L	-	3800	200	8667576
Total Selenium (Se)	ug/L	5000	<2.0	2.0	8667576
Total Silicon (Si)	ug/L	-	7900	50	8667576
Total Silver (Ag)	ug/L	5000	<0.090	0.090	8667576
Total Sodium (Na)	ug/L	-	31000	100	8667576
Total Strontium (Sr)	ug/L	-	3400	1.0	8667576
Total Tellurium (Te)	ug/L	-	<1.0	1.0	8667576
Total Thallium (Tl)	ug/L	-	<0.050	0.050	8667576
Total Tin (Sn)	ug/L	5000	1.0	1.0	8667576
Total Titanium (Ti)	ug/L	5000	<5.0	5.0	8667576
Total Tungsten (W)	ug/L	-	<1.0	1.0	8667576
Total Uranium (U)	ug/L	-	1.5	0.10	8667576
Total Vanadium (V)	ug/L	-	0.79	0.50	8667576
Total Zinc (Zn)	ug/L	3000	<5.0	5.0	8667576
Total Zirconium (Zr)	ug/L	-	<1.0	1.0	8667576

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Polyaromatic Hydrocarbons					
Naphthalene	ug/L	140	<0.050	0.050	8667408
Surrogate Recovery (%)					
D10-Anthracene	%	-	102		8667408
D14-Terphenyl (FS)	%	-	80		8667408
D8-Acenaphthylene	%	-	88		8667408

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Volatile Organics					
Benzene	ug/L	10	<0.20	0.20	8664241
Chloroform	ug/L	40	<0.20	0.20	8664241
1,4-Dichlorobenzene	ug/L	80	<0.40	0.40	8664241
Ethylbenzene	ug/L	160	<0.20	0.20	8664241
Methylene Chloride(Dichloromethane)	ug/L	2000	<2.0	2.0	8664241
Tetrachloroethylene	ug/L	1000	<0.20	0.20	8664241
Toluene	ug/L	16	<0.20	0.20	8664241
Trichloroethylene	ug/L	400	<0.20	0.20	8664241
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	100		8664241
D4-1,2-Dichloroethane	%	-	110		8664241
D8-Toluene	%	-	94		8664241

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

MICROBIOLOGY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Microbiological					
Escherichia coli	CFU/100mL	200	<10	10	8660593

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Storm Sewer ByLaw

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

TEST SUMMARY

Bureau Veritas ID: VUD712
Sample ID: MW23-20
Matrix: Water

Collected: 2023/05/11
Shipped:
Received: 2023/05/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8663349	2023/05/13	2023/05/18	Gurjot Kaur
Total Cyanide	SKAL/CN	8660971	2023/05/12	2023/05/16	Prgya Panchal
Fluoride	ISE	8662442	2023/05/12	2023/05/16	Kien Tran
Mercury in Water by CVAA	CV/AA	8666881	2023/05/16	2023/05/16	Jaswinder Kaur
Total Metals Analysis by Axial ICP	ICPX	8665796	2023/05/15	2023/05/16	Gagandeep Rai
Total Metals Analysis by ICPMS	ICP/MS	8667576	2023/05/16	2023/05/18	Prempal Bhatti
E.coli, (CFU/100mL)	PL	8660593	N/A	2023/05/11	Soham Patel
Animal and Vegetable Oil and Grease	BAL	8659113	N/A	2023/05/20	Automated Statchk
Total Oil and Grease	BAL	8675238	2023/05/19	2023/05/19	Rutvik Patel
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8667408	2023/05/16	2023/05/17	Mitesh Raj
pH	AT	8662450	2023/05/12	2023/05/16	Kien Tran
Phenols (4AAP)	TECH/PHEN	8667786	N/A	2023/05/16	Mandeep Kaur
Sulphate by Automated Turbidimetry	KONE	8662235	N/A	2023/05/18	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	8663021	2023/05/12	2023/05/16	Jency Sara Johnson
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8675253	2023/05/19	2023/05/19	Rutvik Patel
Total Suspended Solids	BAL	8661748	2023/05/16	2023/05/16	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	8664241	N/A	2023/05/15	Hai Son Tran

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GENERAL COMMENTS

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

Package 1	15.0°C

Revised Report[5/24/2023]: PWQO criteria added to C of A

Results relate only to the items tested.

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8664241	4-Bromofluorobenzene	2023/05/15	99	70 - 130	99	70 - 130	100	%				
8664241	D4-1,2-Dichloroethane	2023/05/15	107	70 - 130	105	70 - 130	106	%				
8664241	D8-Toluene	2023/05/15	96	70 - 130	97	70 - 130	96	%				
8667408	D10-Anthracene	2023/05/17	100	50 - 130	81	50 - 130	111	%				
8667408	D14-Terphenyl (FS)	2023/05/17	96	50 - 130	91	50 - 130	98	%				
8667408	D8-Acenaphthylene	2023/05/17	91	50 - 130	88	50 - 130	95	%				
8660971	Total Cyanide (CN)	2023/05/16	110	80 - 120	111	80 - 120	<0.0050	mg/L	NC	20		
8661748	Total Suspended Solids	2023/05/16					<10	mg/L	NC	20	98	85 - 115
8662235	Dissolved Sulphate (SO4)	2023/05/18	89	75 - 125	97	80 - 120	<1.0	mg/L	NC	20		
8662442	Fluoride (F-)	2023/05/16	64 (1)	80 - 120	98	80 - 120	<0.10	mg/L	NC	20		
8662450	pH	2023/05/16			102	98 - 103			1.3	N/A		
8663021	Total Kjeldahl Nitrogen (TKN)	2023/05/16	106	80 - 120	104	80 - 120	<0.10	mg/L	14	20	99	80 - 120
8663349	Total Carbonaceous BOD	2023/05/18					<2	mg/L	1.1	30	98	85 - 115
8664241	1,4-Dichlorobenzene	2023/05/15	99	70 - 130	103	70 - 130	<0.40	ug/L	NC	30		
8664241	Benzene	2023/05/15	84	70 - 130	88	70 - 130	<0.20	ug/L	NC	30		
8664241	Chloroform	2023/05/15	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30		
8664241	Ethylbenzene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8664241	Methylene Chloride(Dichloromethane)	2023/05/15	88	70 - 130	90	70 - 130	<2.0	ug/L	NC	30		
8664241	Tetrachloroethylene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8664241	Toluene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	3.2	30		
8664241	Trichloroethylene	2023/05/15	89	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
8665796	Total Aluminum (Al)	2023/05/16	101	80 - 120	94	80 - 120	<0.1	mg/L	NC	20		
8665796	Total Antimony (Sb)	2023/05/16	103	80 - 120	101	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Arsenic (As)	2023/05/16	105	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Beryllium (Be)	2023/05/16	103	80 - 120	104	80 - 120	<0.0005	mg/L				
8665796	Total Cadmium (Cd)	2023/05/16	104	80 - 120	102	80 - 120	<0.002	mg/L	NC	20		
8665796	Total Chromium (Cr)	2023/05/16	102	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Cobalt (Co)	2023/05/16	96	80 - 120	100	80 - 120	<0.002	mg/L	NC	20		
8665796	Total Copper (Cu)	2023/05/16	103	80 - 120	103	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Iron (Fe)	2023/05/16	102	80 - 120	102	80 - 120	<0.02	mg/L	4.6	20		
8665796	Total Lead (Pb)	2023/05/16	94	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8665796	Total Manganese (Mn)	2023/05/16	102	80 - 120	105	80 - 120	<0.001	mg/L	0.93	20		
8665796	Total Molybdenum (Mo)	2023/05/16	100	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Nickel (Ni)	2023/05/16	96	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Phosphorus (P)	2023/05/16	105	80 - 120	102	80 - 120	<0.05	mg/L	NC	20		
8665796	Total Selenium (Se)	2023/05/16	106	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Silver (Ag)	2023/05/16	96	80 - 120	96	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Tin (Sn)	2023/05/16	97	80 - 120	101	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Titanium (Ti)	2023/05/16	101	80 - 120	102	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Zinc (Zn)	2023/05/16	98	80 - 120	102	80 - 120	<0.005	mg/L	1.3	20		
8666881	Mercury (Hg)	2023/05/16	98	75 - 125	101	80 - 120	<0.00010	mg/L	NC	20		
8667408	Naphthalene	2023/05/17	102	50 - 130	96	50 - 130	<0.050	ug/L	NC	30		
8667576	Total Aluminum (Al)	2023/05/19	100	80 - 120	96	80 - 120	<4.9	ug/L	4.1	20		
8667576	Total Antimony (Sb)	2023/05/18	112	80 - 120	106	80 - 120	<0.50	ug/L				
8667576	Total Arsenic (As)	2023/05/19	101	80 - 120	99	80 - 120	<1.0	ug/L	4.2	20		
8667576	Total Barium (Ba)	2023/05/18	96	80 - 120	93	80 - 120	<2.0	ug/L				
8667576	Total Beryllium (Be)	2023/05/18	95	80 - 120	92	80 - 120	<0.40	ug/L				
8667576	Total Bismuth (Bi)	2023/05/18	88	80 - 120	93	80 - 120	<1.0	ug/L				
8667576	Total Boron (B)	2023/05/18	NC	80 - 120	91	80 - 120	<10	ug/L				
8667576	Total Cadmium (Cd)	2023/05/18	95	80 - 120	96	80 - 120	<0.090	ug/L				
8667576	Total Calcium (Ca)	2023/05/18	NC	80 - 120	98	80 - 120	<200	ug/L				
8667576	Total Chromium (Cr)	2023/05/19	96	80 - 120	94	80 - 120	<5.0	ug/L	NC	20		
8667576	Total Cobalt (Co)	2023/05/19	94	80 - 120	94	80 - 120	<0.50	ug/L	4.1	20		
8667576	Total Copper (Cu)	2023/05/19	97	80 - 120	94	80 - 120	<0.90	ug/L	0.64	20		
8667576	Total Iron (Fe)	2023/05/18	98	80 - 120	99	80 - 120	<100	ug/L				
8667576	Total Lead (Pb)	2023/05/19	90	80 - 120	96	80 - 120	<0.50	ug/L	1.4	20		
8667576	Total Lithium (Li)	2023/05/18	NC	80 - 120	97	80 - 120	<5.0	ug/L				
8667576	Total Magnesium (Mg)	2023/05/18	NC	80 - 120	96	80 - 120	<50	ug/L				
8667576	Total Manganese (Mn)	2023/05/19	94	80 - 120	94	80 - 120	<2.0	ug/L	2.7	20		
8667576	Total Molybdenum (Mo)	2023/05/19	105	80 - 120	99	80 - 120	<0.50	ug/L	0.71	20		
8667576	Total Nickel (Ni)	2023/05/19	91	80 - 120	94	80 - 120	<1.0	ug/L	4.3	20		
8667576	Total Potassium (K)	2023/05/18	NC	80 - 120	96	80 - 120	<200	ug/L				

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8667576	Total Selenium (Se)	2023/05/19	98	80 - 120	102	80 - 120	<2.0	ug/L	NC	20		
8667576	Total Silicon (Si)	2023/05/18	100	80 - 120	97	80 - 120	<50	ug/L				
8667576	Total Silver (Ag)	2023/05/19	92	80 - 120	94	80 - 120	<0.090	ug/L	NC	20		
8667576	Total Sodium (Na)	2023/05/19	NC	80 - 120	97	80 - 120	<100	ug/L	0.63	20		
8667576	Total Strontium (Sr)	2023/05/18	NC	80 - 120	96	80 - 120	<1.0	ug/L				
8667576	Total Tellurium (Te)	2023/05/18	95	80 - 120	98	80 - 120	<1.0	ug/L				
8667576	Total Thallium (Tl)	2023/05/18	90	80 - 120	97	80 - 120	<0.050	ug/L				
8667576	Total Tin (Sn)	2023/05/19	102	80 - 120	98	80 - 120	<1.0	ug/L	0.89	20		
8667576	Total Titanium (Ti)	2023/05/19	100	80 - 120	96	80 - 120	<5.0	ug/L	NC	20		
8667576	Total Tungsten (W)	2023/05/18	98	80 - 120	99	80 - 120	<1.0	ug/L				
8667576	Total Uranium (U)	2023/05/18	95	80 - 120	97	80 - 120	<0.10	ug/L				
8667576	Total Vanadium (V)	2023/05/18	98	80 - 120	94	80 - 120	<0.50	ug/L				
8667576	Total Zinc (Zn)	2023/05/19	93	80 - 120	100	80 - 120	<5.0	ug/L	0.84	20		
8667576	Total Zirconium (Zr)	2023/05/18	106	80 - 120	99	80 - 120	<1.0	ug/L				
8667786	Phenols-4AAP	2023/05/16	105	80 - 120	103	80 - 120	<0.0010	mg/L	NC	20		
8675238	Total Oil & Grease	2023/05/19			99	85 - 115	<0.50	mg/L	0.76	25		
8675253	Total Oil & Grease Mineral/Synthetic	2023/05/19			98	85 - 115	<0.50	mg/L	1.5	25		

N/A = Not Applicable

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

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

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

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

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

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

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

Soham Patel, Senior Analyst

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Bureau Veritas Job #: C3D4767
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

Exceedance Summary Table – Halton Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Halton Sanitary Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 934281-01-01

Attention: Meysam Jafari

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/24
Report #: R7642032
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3D4767
Received: 2023/05/11, 16:46

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonaceous BOD	1	2023/05/13	2023/05/18	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2023/05/12	2023/05/16	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2023/05/12	2023/05/16	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2023/05/16	2023/05/16	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2023/05/15	2023/05/16	CAM SOP-00408	EPA 6010D m
Total Metals Analysis by ICPMS	1	2023/05/16	2023/05/18	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2023/05/11	CAM SOP-00552	MECP E3371
Animal and Vegetable Oil and Grease	1	N/A	2023/05/20	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/19	2023/05/19	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2023/05/16	2023/05/17	CAM SOP-00318	EPA 8270E
pH	1	2023/05/12	2023/05/16	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/16	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	1	N/A	2023/05/18	CAM SOP-00464	SM 23 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2023/05/12	2023/05/16	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/19	2023/05/19	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2023/05/16	2023/05/16	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2023/05/15	CAM SOP-00228	EPA 8260D

Remarks:

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

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

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

Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 934281-01-01

Attention: Meysam Jafari

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/24
Report #: R7642032
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3D4767
Received: 2023/05/11, 16:46
customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Ashton Gibson
Project Manager
24 May 2023 15:49:02

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

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

Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	-	1.2	0.50	8659113
Inorganics					
Total Carbonaceous BOD	mg/L	-	<2	2	8663349
Fluoride (F-)	mg/L	-	0.13	0.10	8662442
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.21	0.10	8663021
pH	pH	6.5:8.5	7.83		8662450
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	8667786
Total Suspended Solids	mg/L	-	74	10	8661748
Dissolved Sulphate (SO4)	mg/L	-	69	1.0	8662235
Total Cyanide (CN)	mg/L	-	<0.0050	0.0050	8660971
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	-	1.2	0.50	8675238
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	<0.50	0.50	8675253

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Metals					
Total Aluminum (Al)	mg/L	-	<0.1	0.1	8665796
Total Antimony (Sb)	mg/L	0.02	<0.02	0.02	8665796
Total Arsenic (As)	mg/L	0.1	<0.01	0.01	8665796
Total Beryllium (Be)	mg/L	0.011	<0.0005	0.0005	8665796
Total Cadmium (Cd)	mg/L	0.0002	**<0.002 (1)**	0.002	8665796
Total Chromium (Cr)	mg/L	-	<0.01	0.01	8665796
Total Cobalt (Co)	mg/L	0.0009	**<0.002 (1)**	0.002	8665796
Total Copper (Cu)	mg/L	0.005	**<0.01 (1)**	0.01	8665796
Total Iron (Fe)	mg/L	0.3	**1.2**	0.02	8665796
Total Lead (Pb)	mg/L	0.005	**<0.01 (1)**	0.01	8665796
Total Manganese (Mn)	mg/L	-	0.043	0.001	8665796
Mercury (Hg)	mg/L	0.0002	<0.00010	0.00010	8666881
Total Molybdenum (Mo)	mg/L	0.04	<0.005	0.005	8665796
Total Nickel (Ni)	mg/L	0.025	<0.005	0.005	8665796
Total Phosphorus (P)	mg/L	0.01	**<0.05 (1)**	0.05	8665796
Total Selenium (Se)	mg/L	0.1	<0.02	0.02	8665796
Total Silver (Ag)	mg/L	0.0001	**<0.01 (1)**	0.01	8665796
Total Tin (Sn)	mg/L	-	<0.02	0.02	8665796
Total Titanium (Ti)	mg/L	-	<0.005	0.005	8665796
Total Zinc (Zn)	mg/L	0.03	<0.005	0.005	8665796
Total Aluminum (Al)	ug/L	-	93	4.9	8667576
Total Antimony (Sb)	ug/L	20	<0.50	0.50	8667576
Total Arsenic (As)	ug/L	100	3.5	1.0	8667576
Total Barium (Ba)	ug/L	-	51	2.0	8667576
Total Beryllium (Be)	ug/L	11	<0.40	0.40	8667576
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	8667576
Total Boron (B)	ug/L	200	94	10	8667576
Total Cadmium (Cd)	ug/L	0.2	<0.090	0.090	8667576

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
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(1) RDL exceeds criteria

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Total Calcium (Ca)	ug/L	-	120000	200	8667576
Total Chromium (Cr)	ug/L	-	<5.0	5.0	8667576
Total Cobalt (Co)	ug/L	0.9	<0.50	0.50	8667576
Total Copper (Cu)	ug/L	5	<0.90	0.90	8667576
Total Iron (Fe)	ug/L	300	**1300**	100	8667576
Total Lead (Pb)	ug/L	5	<0.50	0.50	8667576
Total Lithium (Li)	ug/L	-	33	5.0	8667576
Total Magnesium (Mg)	ug/L	-	53000	50	8667576
Total Manganese (Mn)	ug/L	-	43	2.0	8667576
Total Molybdenum (Mo)	ug/L	40	1.3	0.50	8667576
Total Nickel (Ni)	ug/L	25	<1.0	1.0	8667576
Total Potassium (K)	ug/L	-	3800	200	8667576
Total Selenium (Se)	ug/L	100	<2.0	2.0	8667576
Total Silicon (Si)	ug/L	-	7900	50	8667576
Total Silver (Ag)	ug/L	0.1	<0.090	0.090	8667576
Total Sodium (Na)	ug/L	-	31000	100	8667576
Total Strontium (Sr)	ug/L	-	3400	1.0	8667576
Total Tellurium (Te)	ug/L	-	<1.0	1.0	8667576
Total Thallium (Tl)	ug/L	0.3	<0.050	0.050	8667576
Total Tin (Sn)	ug/L	-	1.0	1.0	8667576
Total Titanium (Ti)	ug/L	-	<5.0	5.0	8667576
Total Tungsten (W)	ug/L	30	<1.0	1.0	8667576
Total Uranium (U)	ug/L	5	1.5	0.10	8667576
Total Vanadium (V)	ug/L	6	0.79	0.50	8667576
Total Zinc (Zn)	ug/L	30	<5.0	5.0	8667576
Total Zirconium (Zr)	ug/L	4	<1.0	1.0	8667576

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Polyaromatic Hydrocarbons					
Naphthalene	ug/L	7	<0.050	0.050	8667408
Surrogate Recovery (%)					
D10-Anthracene	%	-	102		8667408
D14-Terphenyl (FS)	%	-	80		8667408
D8-Acenaphthylene	%	-	88		8667408

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Volatile Organics					
Benzene	ug/L	100	<0.20	0.20	8664241
Chloroform	ug/L	-	<0.20	0.20	8664241
1,4-Dichlorobenzene	ug/L	4	<0.40	0.40	8664241
Ethylbenzene	ug/L	8	<0.20	0.20	8664241
Methylene Chloride(Dichloromethane)	ug/L	100	<2.0	2.0	8664241
Tetrachloroethylene	ug/L	50	<0.20	0.20	8664241
Toluene	ug/L	0.8	<0.20	0.20	8664241
Trichloroethylene	ug/L	20	<0.20	0.20	8664241
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	100		8664241
D4-1,2-Dichloroethane	%	-	110		8664241
D8-Toluene	%	-	94		8664241

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

MICROBIOLOGY (WATER)

Bureau Veritas ID			VUD712		
Sampling Date			2023/05/11 11:30		
COC Number			934281-01-01		
	UNITS	Criteria	MW23-20	RDL	QC Batch
Microbiological					
Escherichia coli	CFU/100mL	100	<10	10	8660593

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

TEST SUMMARY

Bureau Veritas ID: VUD712
Sample ID: MW23-20
Matrix: Water

Collected: 2023/05/11
Shipped:
Received: 2023/05/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8663349	2023/05/13	2023/05/18	Gurjot Kaur
Total Cyanide	SKAL/CN	8660971	2023/05/12	2023/05/16	Prgya Panchal
Fluoride	ISE	8662442	2023/05/12	2023/05/16	Kien Tran
Mercury in Water by CVAA	CV/AA	8666881	2023/05/16	2023/05/16	Jaswinder Kaur
Total Metals Analysis by Axial ICP	ICPX	8665796	2023/05/15	2023/05/16	Gagandeep Rai
Total Metals Analysis by ICPMS	ICP/MS	8667576	2023/05/16	2023/05/18	Prempal Bhatti
E.coli, (CFU/100mL)	PL	8660593	N/A	2023/05/11	Soham Patel
Animal and Vegetable Oil and Grease	BAL	8659113	N/A	2023/05/20	Automated Statchk
Total Oil and Grease	BAL	8675238	2023/05/19	2023/05/19	Rutvik Patel
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8667408	2023/05/16	2023/05/17	Mitesh Raj
pH	AT	8662450	2023/05/12	2023/05/16	Kien Tran
Phenols (4AAP)	TECH/PHEN	8667786	N/A	2023/05/16	Mandeep Kaur
Sulphate by Automated Turbidimetry	KONE	8662235	N/A	2023/05/18	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	8663021	2023/05/12	2023/05/16	Jency Sara Johnson
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8675253	2023/05/19	2023/05/19	Rutvik Patel
Total Suspended Solids	BAL	8661748	2023/05/16	2023/05/16	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	8664241	N/A	2023/05/15	Hai Son Tran

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GENERAL COMMENTS

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

Package 1	15.0°C

Revised Report[5/24/2023]: PWQO criteria added to C of A

Results relate only to the items tested.

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8664241	4-Bromofluorobenzene	2023/05/15	99	70 - 130	99	70 - 130	100	%				
8664241	D4-1,2-Dichloroethane	2023/05/15	107	70 - 130	105	70 - 130	106	%				
8664241	D8-Toluene	2023/05/15	96	70 - 130	97	70 - 130	96	%				
8667408	D10-Anthracene	2023/05/17	100	50 - 130	81	50 - 130	111	%				
8667408	D14-Terphenyl (FS)	2023/05/17	96	50 - 130	91	50 - 130	98	%				
8667408	D8-Acenaphthylene	2023/05/17	91	50 - 130	88	50 - 130	95	%				
8660971	Total Cyanide (CN)	2023/05/16	110	80 - 120	111	80 - 120	<0.0050	mg/L	NC	20		
8661748	Total Suspended Solids	2023/05/16					<10	mg/L	NC	20	98	85 - 115
8662235	Dissolved Sulphate (SO4)	2023/05/18	89	75 - 125	97	80 - 120	<1.0	mg/L	NC	20		
8662442	Fluoride (F-)	2023/05/16	64 (1)	80 - 120	98	80 - 120	<0.10	mg/L	NC	20		
8662450	pH	2023/05/16			102	98 - 103			1.3	N/A		
8663021	Total Kjeldahl Nitrogen (TKN)	2023/05/16	106	80 - 120	104	80 - 120	<0.10	mg/L	14	20	99	80 - 120
8663349	Total Carbonaceous BOD	2023/05/18					<2	mg/L	1.1	30	98	85 - 115
8664241	1,4-Dichlorobenzene	2023/05/15	99	70 - 130	103	70 - 130	<0.40	ug/L	NC	30		
8664241	Benzene	2023/05/15	84	70 - 130	88	70 - 130	<0.20	ug/L	NC	30		
8664241	Chloroform	2023/05/15	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30		
8664241	Ethylbenzene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8664241	Methylene Chloride(Dichloromethane)	2023/05/15	88	70 - 130	90	70 - 130	<2.0	ug/L	NC	30		
8664241	Tetrachloroethylene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8664241	Toluene	2023/05/15	80	70 - 130	85	70 - 130	<0.20	ug/L	3.2	30		
8664241	Trichloroethylene	2023/05/15	89	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
8665796	Total Aluminum (Al)	2023/05/16	101	80 - 120	94	80 - 120	<0.1	mg/L	NC	20		
8665796	Total Antimony (Sb)	2023/05/16	103	80 - 120	101	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Arsenic (As)	2023/05/16	105	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Beryllium (Be)	2023/05/16	103	80 - 120	104	80 - 120	<0.0005	mg/L				
8665796	Total Cadmium (Cd)	2023/05/16	104	80 - 120	102	80 - 120	<0.002	mg/L	NC	20		
8665796	Total Chromium (Cr)	2023/05/16	102	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Cobalt (Co)	2023/05/16	96	80 - 120	100	80 - 120	<0.002	mg/L	NC	20		
8665796	Total Copper (Cu)	2023/05/16	103	80 - 120	103	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Iron (Fe)	2023/05/16	102	80 - 120	102	80 - 120	<0.02	mg/L	4.6	20		
8665796	Total Lead (Pb)	2023/05/16	94	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8665796	Total Manganese (Mn)	2023/05/16	102	80 - 120	105	80 - 120	<0.001	mg/L	0.93	20		
8665796	Total Molybdenum (Mo)	2023/05/16	100	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Nickel (Ni)	2023/05/16	96	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Phosphorus (P)	2023/05/16	105	80 - 120	102	80 - 120	<0.05	mg/L	NC	20		
8665796	Total Selenium (Se)	2023/05/16	106	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Silver (Ag)	2023/05/16	96	80 - 120	96	80 - 120	<0.01	mg/L	NC	20		
8665796	Total Tin (Sn)	2023/05/16	97	80 - 120	101	80 - 120	<0.02	mg/L	NC	20		
8665796	Total Titanium (Ti)	2023/05/16	101	80 - 120	102	80 - 120	<0.005	mg/L	NC	20		
8665796	Total Zinc (Zn)	2023/05/16	98	80 - 120	102	80 - 120	<0.005	mg/L	1.3	20		
8666881	Mercury (Hg)	2023/05/16	98	75 - 125	101	80 - 120	<0.00010	mg/L	NC	20		
8667408	Naphthalene	2023/05/17	102	50 - 130	96	50 - 130	<0.050	ug/L	NC	30		
8667576	Total Aluminum (Al)	2023/05/19	100	80 - 120	96	80 - 120	<4.9	ug/L	4.1	20		
8667576	Total Antimony (Sb)	2023/05/18	112	80 - 120	106	80 - 120	<0.50	ug/L				
8667576	Total Arsenic (As)	2023/05/19	101	80 - 120	99	80 - 120	<1.0	ug/L	4.2	20		
8667576	Total Barium (Ba)	2023/05/18	96	80 - 120	93	80 - 120	<2.0	ug/L				
8667576	Total Beryllium (Be)	2023/05/18	95	80 - 120	92	80 - 120	<0.40	ug/L				
8667576	Total Bismuth (Bi)	2023/05/18	88	80 - 120	93	80 - 120	<1.0	ug/L				
8667576	Total Boron (B)	2023/05/18	NC	80 - 120	91	80 - 120	<10	ug/L				
8667576	Total Cadmium (Cd)	2023/05/18	95	80 - 120	96	80 - 120	<0.090	ug/L				
8667576	Total Calcium (Ca)	2023/05/18	NC	80 - 120	98	80 - 120	<200	ug/L				
8667576	Total Chromium (Cr)	2023/05/19	96	80 - 120	94	80 - 120	<5.0	ug/L	NC	20		
8667576	Total Cobalt (Co)	2023/05/19	94	80 - 120	94	80 - 120	<0.50	ug/L	4.1	20		
8667576	Total Copper (Cu)	2023/05/19	97	80 - 120	94	80 - 120	<0.90	ug/L	0.64	20		
8667576	Total Iron (Fe)	2023/05/18	98	80 - 120	99	80 - 120	<100	ug/L				
8667576	Total Lead (Pb)	2023/05/19	90	80 - 120	96	80 - 120	<0.50	ug/L	1.4	20		
8667576	Total Lithium (Li)	2023/05/18	NC	80 - 120	97	80 - 120	<5.0	ug/L				
8667576	Total Magnesium (Mg)	2023/05/18	NC	80 - 120	96	80 - 120	<50	ug/L				
8667576	Total Manganese (Mn)	2023/05/19	94	80 - 120	94	80 - 120	<2.0	ug/L	2.7	20		
8667576	Total Molybdenum (Mo)	2023/05/19	105	80 - 120	99	80 - 120	<0.50	ug/L	0.71	20		
8667576	Total Nickel (Ni)	2023/05/19	91	80 - 120	94	80 - 120	<1.0	ug/L	4.3	20		
8667576	Total Potassium (K)	2023/05/18	NC	80 - 120	96	80 - 120	<200	ug/L				

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8667576	Total Selenium (Se)	2023/05/19	98	80 - 120	102	80 - 120	<2.0	ug/L	NC	20		
8667576	Total Silicon (Si)	2023/05/18	100	80 - 120	97	80 - 120	<50	ug/L				
8667576	Total Silver (Ag)	2023/05/19	92	80 - 120	94	80 - 120	<0.090	ug/L	NC	20		
8667576	Total Sodium (Na)	2023/05/19	NC	80 - 120	97	80 - 120	<100	ug/L	0.63	20		
8667576	Total Strontium (Sr)	2023/05/18	NC	80 - 120	96	80 - 120	<1.0	ug/L				
8667576	Total Tellurium (Te)	2023/05/18	95	80 - 120	98	80 - 120	<1.0	ug/L				
8667576	Total Thallium (Tl)	2023/05/18	90	80 - 120	97	80 - 120	<0.050	ug/L				
8667576	Total Tin (Sn)	2023/05/19	102	80 - 120	98	80 - 120	<1.0	ug/L	0.89	20		
8667576	Total Titanium (Ti)	2023/05/19	100	80 - 120	96	80 - 120	<5.0	ug/L	NC	20		
8667576	Total Tungsten (W)	2023/05/18	98	80 - 120	99	80 - 120	<1.0	ug/L				
8667576	Total Uranium (U)	2023/05/18	95	80 - 120	97	80 - 120	<0.10	ug/L				
8667576	Total Vanadium (V)	2023/05/18	98	80 - 120	94	80 - 120	<0.50	ug/L				
8667576	Total Zinc (Zn)	2023/05/19	93	80 - 120	100	80 - 120	<5.0	ug/L	0.84	20		
8667576	Total Zirconium (Zr)	2023/05/18	106	80 - 120	99	80 - 120	<1.0	ug/L				
8667786	Phenols-4AAP	2023/05/16	105	80 - 120	103	80 - 120	<0.0010	mg/L	NC	20		
8675238	Total Oil & Grease	2023/05/19			99	85 - 115	<0.50	mg/L	0.76	25		
8675253	Total Oil & Grease Mineral/Synthetic	2023/05/19			98	85 - 115	<0.50	mg/L	1.5	25		

N/A = Not Applicable

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

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

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

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

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

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

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

Soham Patel, Senior Analyst

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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Bureau Veritas Job #: C3D4767
Report Date: 2023/05/24

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW23-20	VUD712-05	Total Iron (Fe)	300	1300	100	ug/L
MW23-20	VUD712-05	Total Iron (Fe)	0.3	1.2	0.02	mg/L

Detection Limit Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW23-20	VUD712-05	Total Cadmium (Cd)	0.0002	<0.002	0.002	mg/L
MW23-20	VUD712-05	Total Cobalt (Co)	0.0009	<0.002	0.002	mg/L
MW23-20	VUD712-05	Total Copper (Cu)	0.005	<0.01	0.01	mg/L
MW23-20	VUD712-05	Total Lead (Pb)	0.005	<0.01	0.01	mg/L
MW23-20	VUD712-05	Total Phosphorus (P)	0.01	<0.05	0.05	mg/L
MW23-20	VUD712-05	Total Silver (Ag)	0.0001	<0.01	0.01	mg/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 935407-01-01

Attention: Abdul Qadir

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/07/05
Report #: R7701142
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3E3168
Received: 2023/05/18, 18:30

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonaceous BOD	1	2023/05/19	2023/05/24	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2023/05/23	2023/05/23	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2023/05/20	2023/05/23	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2023/05/23	2023/05/23	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2023/05/23	2023/05/24	CAM SOP-00408	EPA 6010D m
E.coli, (CFU/100mL)	1	N/A	2023/05/18	CAM SOP-00552	MECP E3371
Animal and Vegetable Oil and Grease	1	N/A	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/26	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2023/05/24	2023/05/25	CAM SOP-00318	EPA 8270E
pH	1	2023/05/20	2023/05/23	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/24	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	1	N/A	2023/05/25	CAM SOP-00464	SM 23 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2023/05/23	2023/05/24	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/26	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2023/05/24	2023/05/25	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2023/05/24	CAM SOP-00228	EPA 8260D

Remarks:

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

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

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

Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 935407-01-01

Attention: Abdul Qadir

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/07/05
Report #: R7701142
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3E3168

Received: 2023/05/18, 18:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID				VVX490		
Sampling Date				2023/05/18 11:00		
COC Number				935407-01-01		
	UNITS	Criteria	Criteria-2	PW1	RDL	QC Batch
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	-	150	<0.50	0.50	8671696
Inorganics						
Total Carbonaceous BOD	mg/L	-	300	4	2	8674463
Fluoride (F-)	mg/L	-	10	0.13	0.10	8677210
Total Kjeldahl Nitrogen (TKN)	mg/L	-	100	0.31	0.10	8676524
pH	pH	6.5:8.5	6.0:10.0	7.53		8677213
Phenols-4AAP	mg/L	-	1	<0.0010	0.0010	8682239
Total Suspended Solids	mg/L	-	350	18	10	8681749
Dissolved Sulphate (SO4)	mg/L	-	1500	78	1.0	8677246
Total Cyanide (CN)	mg/L	-	2	<0.0050	0.0050	8678607
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	-	-	<0.50	0.50	8685950
Total Oil & Grease Mineral/Synthetic	mg/L	-	-	<0.50	0.50	8685952

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Storm Sewer ByLaw
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VVX490			VVX490		
Sampling Date			2023/05/18 11:00			2023/05/18 11:00		
COC Number			935407-01-01			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch	PW1 Lab-Dup	RDL	QC Batch
Metals								
Total Aluminum (Al)	mg/L	50	0.2	0.1	8679547	0.2	0.1	8679547
Total Antimony (Sb)	mg/L	5	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Arsenic (As)	mg/L	1	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Beryllium (Be)	mg/L	5	<0.0005	0.0005	8679547	<0.0005	0.0005	8679547
Total Cadmium (Cd)	mg/L	1	<0.002	0.002	8679547	<0.002	0.002	8679547
Total Chromium (Cr)	mg/L	3	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Cobalt (Co)	mg/L	5	<0.002	0.002	8679547	<0.002	0.002	8679547
Total Copper (Cu)	mg/L	3	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Iron (Fe)	mg/L	50	2.7	0.02	8679547	2.7	0.02	8679547
Total Lead (Pb)	mg/L	3	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Manganese (Mn)	mg/L	5	0.082	0.001	8679547	0.082	0.001	8679547
Mercury (Hg)	mg/L	0.05	<0.00010	0.00010	8678866			
Total Molybdenum (Mo)	mg/L	5	0.011	0.005	8679547	0.005	0.005	8679547
Total Nickel (Ni)	mg/L	3	<0.005	0.005	8679547	<0.005	0.005	8679547
Total Phosphorus (P)	mg/L	10	<0.05	0.05	8679547	<0.05	0.05	8679547
Total Selenium (Se)	mg/L	5	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Silver (Ag)	mg/L	5	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Tin (Sn)	mg/L	5	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Titanium (Ti)	mg/L	5	<0.005	0.005	8679547	<0.005	0.005	8679547
Total Zinc (Zn)	mg/L	3	<0.005	0.005	8679547	<0.005	0.005	8679547

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Polyaromatic Hydrocarbons					
Naphthalene	ug/L	140	0.42	0.050	8681534
Surrogate Recovery (%)					
D10-Anthracene	%	-	104		8681534
D14-Terphenyl (FS)	%	-	94		8681534
D8-Acenaphthylene	%	-	99		8681534

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Volatile Organics					
Benzene	ug/L	10	<0.20	0.20	8677631
Chloroform	ug/L	40	<0.20	0.20	8677631
1,4-Dichlorobenzene	ug/L	80	<0.40	0.40	8677631
Ethylbenzene	ug/L	160	<0.20	0.20	8677631
Methylene Chloride(Dichloromethane)	ug/L	2000	<2.0	2.0	8677631
Tetrachloroethylene	ug/L	1000	<0.20	0.20	8677631
Toluene	ug/L	16	<0.20	0.20	8677631
Trichloroethylene	ug/L	400	<0.20	0.20	8677631
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	98		8677631
D4-1,2-Dichloroethane	%	-	122		8677631
D8-Toluene	%	-	86		8677631

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

MICROBIOLOGY (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Microbiological					
Escherichia coli	CFU/100mL	200	<10	10	8674241

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Storm Sewer ByLaw

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

TEST SUMMARY

Bureau Veritas ID: VVX490
Sample ID: PW1
Matrix: Water

Collected: 2023/05/18
Shipped:
Received: 2023/05/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8674463	2023/05/19	2023/05/24	Gurjot Kaur
Total Cyanide	SKAL/CN	8678607	2023/05/23	2023/05/23	Prgya Panchal
Fluoride	ISE	8677210	2023/05/20	2023/05/23	Kien Tran
Mercury in Water by CVAA	CV/AA	8678866	2023/05/23	2023/05/23	Jaswinder Kaur
Total Metals Analysis by Axial ICP	ICPX	8679547	2023/05/23	2023/05/24	Medhat Nasr
E.coli, (CFU/100mL)	PL	8674241	N/A	2023/05/18	Soham Patel
Animal and Vegetable Oil and Grease	BAL	8671696	N/A	2023/05/26	Automated Statchk
Total Oil and Grease	BAL	8685950	2023/05/26	2023/05/26	Navneet Singh
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8681534	2023/05/24	2023/05/25	Mitesh Raj
pH	AT	8677213	2023/05/20	2023/05/23	Kien Tran
Phenols (4AAP)	TECH/PHEN	8682239	N/A	2023/05/24	Mandeep Kaur
Sulphate by Automated Turbidimetry	KONE	8677246	N/A	2023/05/25	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	8676524	2023/05/23	2023/05/24	Jency Sara Johnson
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8685952	2023/05/26	2023/05/26	Navneet Singh
Total Suspended Solids	BAL	8681749	2023/05/24	2023/05/25	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	8677631	N/A	2023/05/24	Skylar Canning

Bureau Veritas ID: VVX490 Dup
Sample ID: PW1
Matrix: Water

Collected: 2023/05/18
Shipped:
Received: 2023/05/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by Axial ICP	ICPX	8679547	2023/05/23	2023/05/24	Medhat Nasr

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

GENERAL COMMENTS

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

Package 1	13.7°C

Revised Report[7/5/2023]: criteria added to C of A.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8677631	4-Bromofluorobenzene	2023/05/24	99	70 - 130	102	70 - 130	100	%				
8677631	D4-1,2-Dichloroethane	2023/05/24	109	70 - 130	108	70 - 130	114	%				
8677631	D8-Toluene	2023/05/24	98	70 - 130	107	70 - 130	87	%				
8681534	D10-Anthracene	2023/05/24	113	50 - 130	106	50 - 130	111	%				
8681534	D14-Terphenyl (FS)	2023/05/24	105	50 - 130	96	50 - 130	98	%				
8681534	D8-Acenaphthylene	2023/05/24	103	50 - 130	96	50 - 130	101	%				
8674463	Total Carbonaceous BOD	2023/05/24					<2	mg/L	4.0	30	96	85 - 115
8676524	Total Kjeldahl Nitrogen (TKN)	2023/05/24	102	80 - 120	104	80 - 120	<0.10	mg/L	3.1	20	105	80 - 120
8677210	Fluoride (F-)	2023/05/23	104	80 - 120	101	80 - 120	<0.10	mg/L	5.7	20		
8677213	pH	2023/05/23			101	98 - 103			0.57	N/A		
8677246	Dissolved Sulphate (SO4)	2023/05/25	123	75 - 125	100	80 - 120	<1.0	mg/L	1.4	20		
8677631	1,4-Dichlorobenzene	2023/05/24	110	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
8677631	Benzene	2023/05/24	93	70 - 130	98	70 - 130	<0.20	ug/L	NC	30		
8677631	Chloroform	2023/05/24	101	70 - 130	106	70 - 130	<0.20	ug/L	2.3	30		
8677631	Ethylbenzene	2023/05/24	91	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8677631	Methylene Chloride(Dichloromethane)	2023/05/24	98	70 - 130	109	70 - 130	<2.0	ug/L	NC	30		
8677631	Tetrachloroethylene	2023/05/24	88	70 - 130	89	70 - 130	<0.20	ug/L	NC	30		
8677631	Toluene	2023/05/24	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30		
8677631	Trichloroethylene	2023/05/24	101	70 - 130	103	70 - 130	<0.20	ug/L	NC	30		
8678607	Total Cyanide (CN)	2023/05/23	100	80 - 120	101	80 - 120	<0.0050	mg/L	NC	20		
8678866	Mercury (Hg)	2023/05/23	98	75 - 125	103	80 - 120	<0.00010	mg/L	NC	20		
8679547	Total Aluminum (Al)	2023/05/24	126 (1)	80 - 120	104	80 - 120	<0.1	mg/L	12	20		
8679547	Total Antimony (Sb)	2023/05/24	107	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Arsenic (As)	2023/05/24	110	80 - 120	105	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Beryllium (Be)	2023/05/24	104	80 - 120	103	80 - 120	<0.0005	mg/L	NC	20		
8679547	Total Cadmium (Cd)	2023/05/24	108	80 - 120	104	80 - 120	<0.002	mg/L	NC	20		
8679547	Total Chromium (Cr)	2023/05/24	109	80 - 120	104	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Cobalt (Co)	2023/05/24	98	80 - 120	101	80 - 120	<0.002	mg/L	NC	20		
8679547	Total Copper (Cu)	2023/05/24	102	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Iron (Fe)	2023/05/24	NC	80 - 120	108	80 - 120	<0.02	mg/L	0.67	20		
8679547	Total Lead (Pb)	2023/05/24	96	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8679547	Total Manganese (Mn)	2023/05/24	101	80 - 120	102	80 - 120	<0.001	mg/L	0.12	20		
8679547	Total Molybdenum (Mo)	2023/05/24	101	80 - 120	102	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Nickel (Ni)	2023/05/24	100	80 - 120	103	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Phosphorus (P)	2023/05/24	102	80 - 120	99	80 - 120	<0.05	mg/L	NC	20		
8679547	Total Selenium (Se)	2023/05/24	109	80 - 120	107	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Silver (Ag)	2023/05/24	98	80 - 120	96	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Tin (Sn)	2023/05/24	98	80 - 120	100	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Titanium (Ti)	2023/05/24	101	80 - 120	98	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Zinc (Zn)	2023/05/24	101	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8681534	Naphthalene	2023/05/25	110	50 - 130	105	50 - 130	<0.050	ug/L	NC	30		
8681749	Total Suspended Solids	2023/05/25					<10	mg/L	4.7	20	101	85 - 115
8682239	Phenols-4AAP	2023/05/24	101	80 - 120	100	80 - 120	<0.0010	mg/L	NC	20		
8685950	Total Oil & Grease	2023/05/26			99	85 - 115	<0.50	mg/L	0.25	25		
8685952	Total Oil & Grease Mineral/Synthetic	2023/05/26			96	85 - 115	<0.50	mg/L	0	25		

N/A = Not Applicable

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

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

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

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

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

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

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Soham N Patel

Soham Patel, Senior Analyst

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DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

Exceedance Summary Table – Halton Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Halton Sanitary Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 935407-01-01

Attention: Abdul Qadir

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/07/05
Report #: R7701069
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3E3168
Received: 2023/05/18, 18:30

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonaceous BOD	1	2023/05/19	2023/05/24	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2023/05/23	2023/05/23	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2023/05/20	2023/05/23	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2023/05/23	2023/05/23	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2023/05/23	2023/05/24	CAM SOP-00408	EPA 6010D m
E.coli, (CFU/100mL)	1	N/A	2023/05/18	CAM SOP-00552	MECP E3371
Animal and Vegetable Oil and Grease	1	N/A	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/26	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2023/05/24	2023/05/25	CAM SOP-00318	EPA 8270E
pH	1	2023/05/20	2023/05/23	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/24	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	1	N/A	2023/05/25	CAM SOP-00464	SM 23 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2023/05/23	2023/05/24	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/26	2023/05/26	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2023/05/24	2023/05/25	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2023/05/24	CAM SOP-00228	EPA 8260D

Remarks:

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

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

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

Your Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Your C.O.C. #: 935407-01-01

Attention: Abdul Qadir

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CANADA L4H 0K8

Report Date: 2023/07/05
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CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3E3168

Received: 2023/05/18, 18:30

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Ashton Gibson
Project Manager
05 Jul 2023 13:46:02

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	-	<0.50	0.50	8671696
Inorganics					
Total Carbonaceous BOD	mg/L	-	4	2	8674463
Fluoride (F-)	mg/L	-	0.13	0.10	8677210
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.31	0.10	8676524
pH	pH	6.5:8.5	7.53		8677213
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	8682239
Total Suspended Solids	mg/L	-	18	10	8681749
Dissolved Sulphate (SO4)	mg/L	-	78	1.0	8677246
Total Cyanide (CN)	mg/L	-	<0.0050	0.0050	8678607
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	-	<0.50	0.50	8685950
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	<0.50	0.50	8685952

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VVX490			VVX490		
Sampling Date			2023/05/18 11:00			2023/05/18 11:00		
COC Number			935407-01-01			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch	PW1 Lab-Dup	RDL	QC Batch
Metals								
Total Aluminum (Al)	mg/L	-	0.2	0.1	8679547	0.2	0.1	8679547
Total Antimony (Sb)	mg/L	0.02	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Arsenic (As)	mg/L	0.1	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Beryllium (Be)	mg/L	0.011	<0.0005	0.0005	8679547	<0.0005	0.0005	8679547
Total Cadmium (Cd)	mg/L	0.0002	**<0.002 (1)**	0.002	8679547	**<0.002 (1)**	0.002	8679547
Total Chromium (Cr)	mg/L	-	<0.01	0.01	8679547	<0.01	0.01	8679547
Total Cobalt (Co)	mg/L	0.0009	**<0.002 (1)**	0.002	8679547	**<0.002 (1)**	0.002	8679547
Total Copper (Cu)	mg/L	0.005	**<0.01 (1)**	0.01	8679547	**<0.01 (1)**	0.01	8679547
Total Iron (Fe)	mg/L	0.3	**2.7**	0.02	8679547	**2.7**	0.02	8679547
Total Lead (Pb)	mg/L	0.005	**<0.01 (1)**	0.01	8679547	**<0.01 (1)**	0.01	8679547
Total Manganese (Mn)	mg/L	-	0.082	0.001	8679547	0.082	0.001	8679547
Mercury (Hg)	mg/L	0.0002	<0.00010	0.00010	8678866			
Total Molybdenum (Mo)	mg/L	0.04	0.011	0.005	8679547	0.005	0.005	8679547
Total Nickel (Ni)	mg/L	0.025	<0.005	0.005	8679547	<0.005	0.005	8679547
Total Phosphorus (P)	mg/L	0.01	**<0.05 (1)**	0.05	8679547	**<0.05 (1)**	0.05	8679547
Total Selenium (Se)	mg/L	0.1	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Silver (Ag)	mg/L	0.0001	**<0.01 (1)**	0.01	8679547	**<0.01 (1)**	0.01	8679547
Total Tin (Sn)	mg/L	-	<0.02	0.02	8679547	<0.02	0.02	8679547
Total Titanium (Ti)	mg/L	-	<0.005	0.005	8679547	<0.005	0.005	8679547
Total Zinc (Zn)	mg/L	0.03	<0.005	0.005	8679547	<0.005	0.005	8679547

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
(1) RDL exceeds criteria

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Polyaromatic Hydrocarbons					
Naphthalene	ug/L	7	0.42	0.050	8681534
Surrogate Recovery (%)					
D10-Anthracene	%	-	104		8681534
D14-Terphenyl (FS)	%	-	94		8681534
D8-Acenaphthylene	%	-	99		8681534

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Volatile Organics					
Benzene	ug/L	100	<0.20	0.20	8677631
Chloroform	ug/L	-	<0.20	0.20	8677631
1,4-Dichlorobenzene	ug/L	4	<0.40	0.40	8677631
Ethylbenzene	ug/L	8	<0.20	0.20	8677631
Methylene Chloride(Dichloromethane)	ug/L	100	<2.0	2.0	8677631
Tetrachloroethylene	ug/L	50	<0.20	0.20	8677631
Toluene	ug/L	0.8	<0.20	0.20	8677631
Trichloroethylene	ug/L	20	<0.20	0.20	8677631
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	98		8677631
D4-1,2-Dichloroethane	%	-	122		8677631
D8-Toluene	%	-	86		8677631

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

MICROBIOLOGY (WATER)

Bureau Veritas ID			VVX490		
Sampling Date			2023/05/18 11:00		
COC Number			935407-01-01		
	UNITS	Criteria	PW1	RDL	QC Batch
Microbiological					
Escherichia coli	CFU/100mL	100	<10	10	8674241

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E3168
Report Date: 2023/07/05

DS Consultants Limited
Client Project #: 21-122-106
Site Location: 150 STEELES AVE, MILTON
Sampler Initials: AQ

TEST SUMMARY

Bureau Veritas ID: VVX490
Sample ID: PW1
Matrix: Water

Collected: 2023/05/18
Shipped:
Received: 2023/05/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8674463	2023/05/19	2023/05/24	Gurjot Kaur
Total Cyanide	SKAL/CN	8678607	2023/05/23	2023/05/23	Prgya Panchal
Fluoride	ISE	8677210	2023/05/20	2023/05/23	Kien Tran
Mercury in Water by CVAA	CV/AA	8678866	2023/05/23	2023/05/23	Jaswinder Kaur
Total Metals Analysis by Axial ICP	ICPX	8679547	2023/05/23	2023/05/24	Medhat Nasr
E.coli, (CFU/100mL)	PL	8674241	N/A	2023/05/18	Soham Patel
Animal and Vegetable Oil and Grease	BAL	8671696	N/A	2023/05/26	Automated Statchk
Total Oil and Grease	BAL	8685950	2023/05/26	2023/05/26	Navneet Singh
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8681534	2023/05/24	2023/05/25	Mitesh Raj
pH	AT	8677213	2023/05/20	2023/05/23	Kien Tran
Phenols (4AAP)	TECH/PHEN	8682239	N/A	2023/05/24	Mandeep Kaur
Sulphate by Automated Turbidimetry	KONE	8677246	N/A	2023/05/25	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	8676524	2023/05/23	2023/05/24	Jency Sara Johnson
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8685952	2023/05/26	2023/05/26	Navneet Singh
Total Suspended Solids	BAL	8681749	2023/05/24	2023/05/25	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	8677631	N/A	2023/05/24	Skylar Canning

Bureau Veritas ID: VVX490 Dup
Sample ID: PW1
Matrix: Water

Collected: 2023/05/18
Shipped:
Received: 2023/05/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by Axial ICP	ICPX	8679547	2023/05/23	2023/05/24	Medhat Nasr

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DS Consultants Limited
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GENERAL COMMENTS

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

Package 1	13.7°C

Revised Report[7/5/2023]: criteria added to C of A.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8677631	4-Bromofluorobenzene	2023/05/24	99	70 - 130	102	70 - 130	100	%				
8677631	D4-1,2-Dichloroethane	2023/05/24	109	70 - 130	108	70 - 130	114	%				
8677631	D8-Toluene	2023/05/24	98	70 - 130	107	70 - 130	87	%				
8681534	D10-Anthracene	2023/05/24	113	50 - 130	106	50 - 130	111	%				
8681534	D14-Terphenyl (FS)	2023/05/24	105	50 - 130	96	50 - 130	98	%				
8681534	D8-Acenaphthylene	2023/05/24	103	50 - 130	96	50 - 130	101	%				
8674463	Total Carbonaceous BOD	2023/05/24					<2	mg/L	4.0	30	96	85 - 115
8676524	Total Kjeldahl Nitrogen (TKN)	2023/05/24	102	80 - 120	104	80 - 120	<0.10	mg/L	3.1	20	105	80 - 120
8677210	Fluoride (F-)	2023/05/23	104	80 - 120	101	80 - 120	<0.10	mg/L	5.7	20		
8677213	pH	2023/05/23			101	98 - 103			0.57	N/A		
8677246	Dissolved Sulphate (SO4)	2023/05/25	123	75 - 125	100	80 - 120	<1.0	mg/L	1.4	20		
8677631	1,4-Dichlorobenzene	2023/05/24	110	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
8677631	Benzene	2023/05/24	93	70 - 130	98	70 - 130	<0.20	ug/L	NC	30		
8677631	Chloroform	2023/05/24	101	70 - 130	106	70 - 130	<0.20	ug/L	2.3	30		
8677631	Ethylbenzene	2023/05/24	91	70 - 130	85	70 - 130	<0.20	ug/L	NC	30		
8677631	Methylene Chloride(Dichloromethane)	2023/05/24	98	70 - 130	109	70 - 130	<2.0	ug/L	NC	30		
8677631	Tetrachloroethylene	2023/05/24	88	70 - 130	89	70 - 130	<0.20	ug/L	NC	30		
8677631	Toluene	2023/05/24	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30		
8677631	Trichloroethylene	2023/05/24	101	70 - 130	103	70 - 130	<0.20	ug/L	NC	30		
8678607	Total Cyanide (CN)	2023/05/23	100	80 - 120	101	80 - 120	<0.0050	mg/L	NC	20		
8678866	Mercury (Hg)	2023/05/23	98	75 - 125	103	80 - 120	<0.00010	mg/L	NC	20		
8679547	Total Aluminum (Al)	2023/05/24	126 (1)	80 - 120	104	80 - 120	<0.1	mg/L	12	20		
8679547	Total Antimony (Sb)	2023/05/24	107	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Arsenic (As)	2023/05/24	110	80 - 120	105	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Beryllium (Be)	2023/05/24	104	80 - 120	103	80 - 120	<0.0005	mg/L	NC	20		
8679547	Total Cadmium (Cd)	2023/05/24	108	80 - 120	104	80 - 120	<0.002	mg/L	NC	20		
8679547	Total Chromium (Cr)	2023/05/24	109	80 - 120	104	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Cobalt (Co)	2023/05/24	98	80 - 120	101	80 - 120	<0.002	mg/L	NC	20		
8679547	Total Copper (Cu)	2023/05/24	102	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Iron (Fe)	2023/05/24	NC	80 - 120	108	80 - 120	<0.02	mg/L	0.67	20		
8679547	Total Lead (Pb)	2023/05/24	96	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8679547	Total Manganese (Mn)	2023/05/24	101	80 - 120	102	80 - 120	<0.001	mg/L	0.12	20		
8679547	Total Molybdenum (Mo)	2023/05/24	101	80 - 120	102	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Nickel (Ni)	2023/05/24	100	80 - 120	103	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Phosphorus (P)	2023/05/24	102	80 - 120	99	80 - 120	<0.05	mg/L	NC	20		
8679547	Total Selenium (Se)	2023/05/24	109	80 - 120	107	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Silver (Ag)	2023/05/24	98	80 - 120	96	80 - 120	<0.01	mg/L	NC	20		
8679547	Total Tin (Sn)	2023/05/24	98	80 - 120	100	80 - 120	<0.02	mg/L	NC	20		
8679547	Total Titanium (Ti)	2023/05/24	101	80 - 120	98	80 - 120	<0.005	mg/L	NC	20		
8679547	Total Zinc (Zn)	2023/05/24	101	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8681534	Naphthalene	2023/05/25	110	50 - 130	105	50 - 130	<0.050	ug/L	NC	30		
8681749	Total Suspended Solids	2023/05/25					<10	mg/L	4.7	20	101	85 - 115
8682239	Phenols-4AAP	2023/05/24	101	80 - 120	100	80 - 120	<0.0010	mg/L	NC	20		
8685950	Total Oil & Grease	2023/05/26			99	85 - 115	<0.50	mg/L	0.25	25		
8685952	Total Oil & Grease Mineral/Synthetic	2023/05/26			96	85 - 115	<0.50	mg/L	0	25		

N/A = Not Applicable

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

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

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

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

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

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

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Report Date: 2023/07/05

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VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Soham N Patel

Soham Patel, Senior Analyst

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Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
PW1	VVX490-04-Lab Dup	Total Iron (Fe)	0.3	2.7	0.02	mg/L
PW1	VVX490-04	Total Iron (Fe)	0.3	2.7	0.02	mg/L

Detection Limit Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
PW1	VVX490-04-Lab Dup	Total Cadmium (Cd)	0.0002	<0.002	0.002	mg/L
PW1	VVX490-04	Total Cadmium (Cd)	0.0002	<0.002	0.002	mg/L
PW1	VVX490-04	Total Cobalt (Co)	0.0009	<0.002	0.002	mg/L
PW1	VVX490-04-Lab Dup	Total Cobalt (Co)	0.0009	<0.002	0.002	mg/L
PW1	VVX490-04-Lab Dup	Total Copper (Cu)	0.005	<0.01	0.01	mg/L
PW1	VVX490-04	Total Copper (Cu)	0.005	<0.01	0.01	mg/L
PW1	VVX490-04-Lab Dup	Total Lead (Pb)	0.005	<0.01	0.01	mg/L
PW1	VVX490-04	Total Lead (Pb)	0.005	<0.01	0.01	mg/L
PW1	VVX490-04-Lab Dup	Total Phosphorus (P)	0.01	<0.05	0.05	mg/L
PW1	VVX490-04	Total Phosphorus (P)	0.01	<0.05	0.05	mg/L
PW1	VVX490-04	Total Silver (Ag)	0.0001	<0.01	0.01	mg/L
PW1	VVX490-04-Lab Dup	Total Silver (Ag)	0.0001	<0.01	0.01	mg/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Appendix H: MECP Water Wells Records

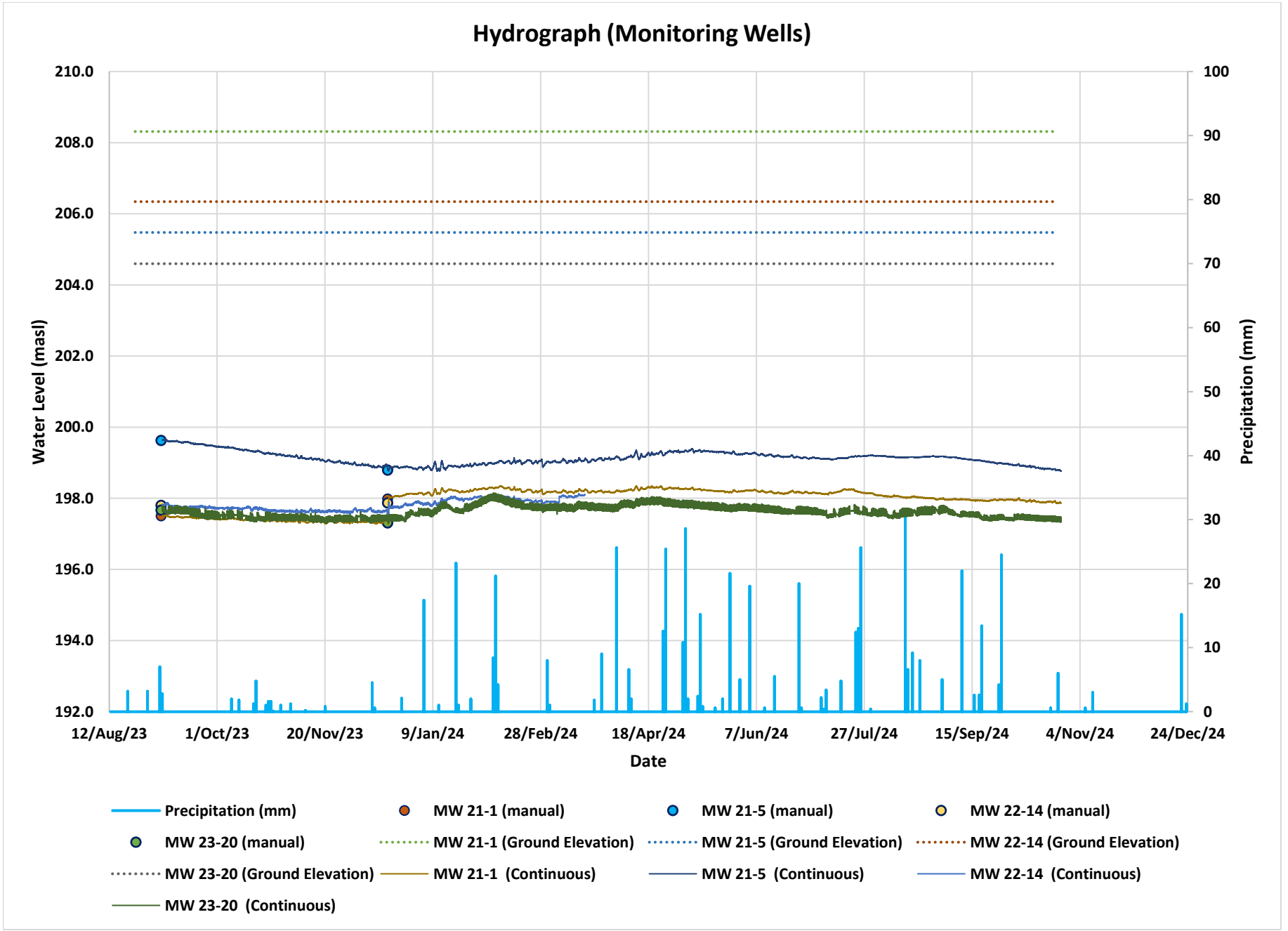
Preliminary Hydrogeological Investigation - 150 Steeles Avenue East, Milton, ON												
TOWNSHIP C	**UTM**	**E**	**N**	**DATE CNTR**	**CASING**	**WATER**	**PUMP TEST**	**WELL USE**	**SCREEN**	**WELL**	**1**	**FORMATION**
MILTON TOWN (ESQUESI	17 W	588833	4819274	2012/08 7215						7188476	(C19383) A136173 P	
MILTON TOWN (ESQUESI	17 W	589533	4819537	2012/05 6607						7188798	(C18001) A115277 P	
MILTON TOWN (ESQUESI	17 W	588657	4819141	2013/08 6032	2			MO		7220266	(Z158163) A102001	GREY STNS HARD 0000 BRWN GRVL SAND LOOS 0002 RED SILT
MILTON TOWN (ESQUESI	17 W	588784	4818946	2012/04 6607						7189039	(C17936) A132947 P	
MILTON TOWN (ESQUESI	17 W	589056	4819013	2012/04 6607						7180021	(Z147803) A	
MILTON TOWN (ESQUESI	17 W	589046	4819052	2012/01 6607	2			MO	0012 10	7177417	(Z130562) A126292	0001 BRWN SAND GRVL LOOS 0015 GREY SILT SAND DNSE 0020
MILTON TOWN (ESQUESI	17 W	589087	4818980	2012/01 6607	2			MO	0015 10	7177413	(Z130560) A126123	0001 BRWN SAND GRVL DNSE 0007 BRWN SILT SAND HARD
MILTON TOWN (ESQUESI	17 W	589464	4819593	2010/04 7241	2.04			MT	0013 10	7145313	(Z113235) A097160	BRWN SAND GRVL LOOS 0003 BRWN SILT FSND HARD 0023
MILTON TOWN (ESQUESI	17 W	588840	4819170	2005/07 6607	2	15			0012 10	2810432	(Z32303) A027625	BRWN SAND GRVL 0003 GREY SILT CLAY 0011 GREY SILT SAND
MILTON TOWN (ESQUESI	17 W	589100	4819093	2015/12 7241	2			MT	0015 10	7256655	(Z224905) A183513	BRWN CLAY 0014 BRWN CLAY 0025
MILTON TOWN (ESQUESI	17 W	589109	4819065	2015/12 7241	2			MT	0017 10	7256656	(Z224906) A188386	BRWN CLAY 0016 GREY CLAY DNSE 0027
MILTON TOWN (ESQUESI	17 W	589118	4819081	2015/12 7241	1.25			MT	0019 10	7256657	(Z224907) A183387	BRWN CLAY 0019 GREY CLAY 0029
MILTON TOWN (ESQUESI	17 W	589124	4819115	2015/12 7241	2			MT	0015 10	7256654	(Z224904) A162977	BRWN CLAY 0017 GREY CLAY DNSE 0025
MILTON TOWN (ESQUESI	17 W	588863	4819120	2015/05 7215	2			TH	0025 10	7247726	(Z203512) A178741	BRWN SAND DRY 0010 GREY SILT SAND WBRG 0025
MILTON TOWN (ESQUESI	17 W	588864	4819120	2015/05 7215				TH		7247725	(Z203491) A	GREY 0015
TON TOWN (ESQUESI CON 02	17 W	588635	4819007	2016/09 7464						7275759	(C35018) A208379 P	
TON TOWN (ESQUESI CON 02	17 W	588685	4818495	1961/04 4838	6 6	0035 FR 0	5/72/1/2:3	CO		2800711	()	PRDG 0005 CLAY GRVL 0027 RED SHLE 0072
TON TOWN (ESQUESI CON 02	17 W	588892	4818804	1965/03 4101	7 7	0076 FR 0	5/80/12/2:	CO		2800712	()	BRWN CLAY 0058 HPAN 0067 LMSN 0085
TON TOWN (ESQUESI CON 02	17 W	588798	4819173	2012/07 7147						7188813	(C16643) A132947 P	
TON TOWN (ESQUESI CON 02	17 W	588680	4818515	1951/11 1634	6 6	FR 0044	17//2/:	DO		2800707	()	CLAY 0031 RED SHLE 0048

TON TOWN (ESQUESI CON 02	17 L	588641	4818887	1993/02 6607		FR 0020		NU	0020 20	2808109	-117963	BRWN SILT CLAY DRY 0020 GREY SILT CLAY WBRG 0040
TON TOWN (ESQUESI CON 03	17 W	589407	4819637	2008/12 7215				TH	0020 10	7117890	(Z93459) A075233	BRWN GRVL FILL LOOS 0008 BRWN SILT TILL 0025 GREY SILT
MILTON TOWN (MILTON)	17 W	588966	4818925	2010/08 7241	1.5			MT	0010 10	7150312	(Z113282) A103000	BRWN SAND GRVL FILL 0002 BRWN SILT GRVL CLAY 0015 GREY
MILTON TOWN (MILTON)	17 W	589460	4818899	2009/10 7295	1.79			MO	0025 10	7135147	(Z108034) A090343	BRWN TILL SOFT 0035
MILTON TOWN (MILTON)	17 W	589419	4819329	2005/09 6607	2	11			0006 10	2810388	(Z35424) A031692	BRWN SILT SAND GRVL 0015 GREY SILT SAND 0016
MILTON TOWN (MILTON)	17 W	589399	4819103	2006/06 6607		FR 0007				2810570	(Z49075) A	
MILTON TOWN (MILTON)	17 W	589411	4819322	2005/05 6607	2	FR 0007			0005 15	2810267	(Z27797) A026529	BRWN SAND FILL 0013 BLCK GRVL SAND 0017 GREY SILT FSND 0020
MILTON TOWN (MILTON)	17 W	589632	4819547	2010/04 7241	2.04			MT	0010 5	7145312	(Z113234) A097158	BRWN SAND GRVL LOOS 0003 BRWN SAND SOFT 0015
MILTON TOWN (MILTON)	17 W	589196	4819179	2007/12 6607	2	UK 0009		NU		7102060	(M00769) A059238	BRWN SAND 0007 GREY TILL 0010 GREY SHLE 0020
MILTON TOWN (MILTON)	17 W	589631	4819606	2010/04 7241	2.04			MT	0015 10	7145314	(Z113233) A097157	BRWN SAND GRVL LOOS 0003 BRWN SILT FSND HARD 0025
MILTON TOWN (MILTON)	17 W	588956	4819079	2010/05 7215				TH	0018 5	7147731	(Z112567) A100088	BRWN FILL DRY 0006 BRWN SILT TILL ---- 0017 GREY SILT TILL ----
MILTON TOWN (MILTON)	17 W	589671	4818366	2005/01 6370	0.98	FR 0013		NU	0021 10	2810383	(Z17625) A004125	BRWN GRVL SAND PCKD 0000 BLCK FILL PCKD 0003 BRWN GRVL
MILTON TOWN (MILTON)	17 W	589294	4818588	1952/03 1642	6	FR 0028	15//20/:	NU		2802488	()	MSND 0028
MILTON TOWN (MILTON)	17 W	589106	4818606	1953/07 1642	6 6	FR 0041	/10/5/0:30	DO		2801687	()	PRDG 0006 CLAY MSND 0026 RED SHLE 0043
MILTON TOWN (MILTON)	17 W	589626	4818303	1957/09 1642	6 6	FR 0060	20/20/7/:	IN		2801695	()	FILL 0015 CLAY 0041 RED SHLE 0063
MILTON TOWN (MILTON)	17 W	589660	4818187	1959/11 1718	7 7	FR 0080	19/80/2/1:0	IN		2801696	()	PRDG 0038 RED SHLE 0085
MILTON TOWN (MILTON)	17 W	590154	4818696	1959/11 1307	30	FR 0025	8//25/:	IN		2801697	()	BRWN LOAM CLAY 0010 RED CLAY 0025 CSND 0028 RED SHLE
MILTON TOWN (MILTON)	17 W	588953	4819007	2010/08 7241	1.5			MT	0003 8	7150316	(Z113283) A091005	BRWN GRVL SAND FILL 0002 BRWN SILT SAND GRVL 0011
MILTON TOWN (MILTON)	17 W	588928	4818956	2010/08 7241	1.5			MT	0008 10	7150313	(Z113287) A102999	BRWN SAND GRVL FILL 0002 BRWN SILT GRVL TILL 0014 GREY
MILTON TOWN (MILTON)	17 W	590122	4818774	1973/11 3413	30	FR 0061	50/50/4/4:0	DO		2804329	()	BRWN CLAY 0015 BLUE CLAY 0043 GRVL 0045 BLUE CLAY 0061
MILTON TOWN (MILTON)	17 W	589629	4819112	1992/12 4868	60			DO		2808072	-103933	UNKN 0012 CMTD 0016 UNKN 0018 STNS 0025

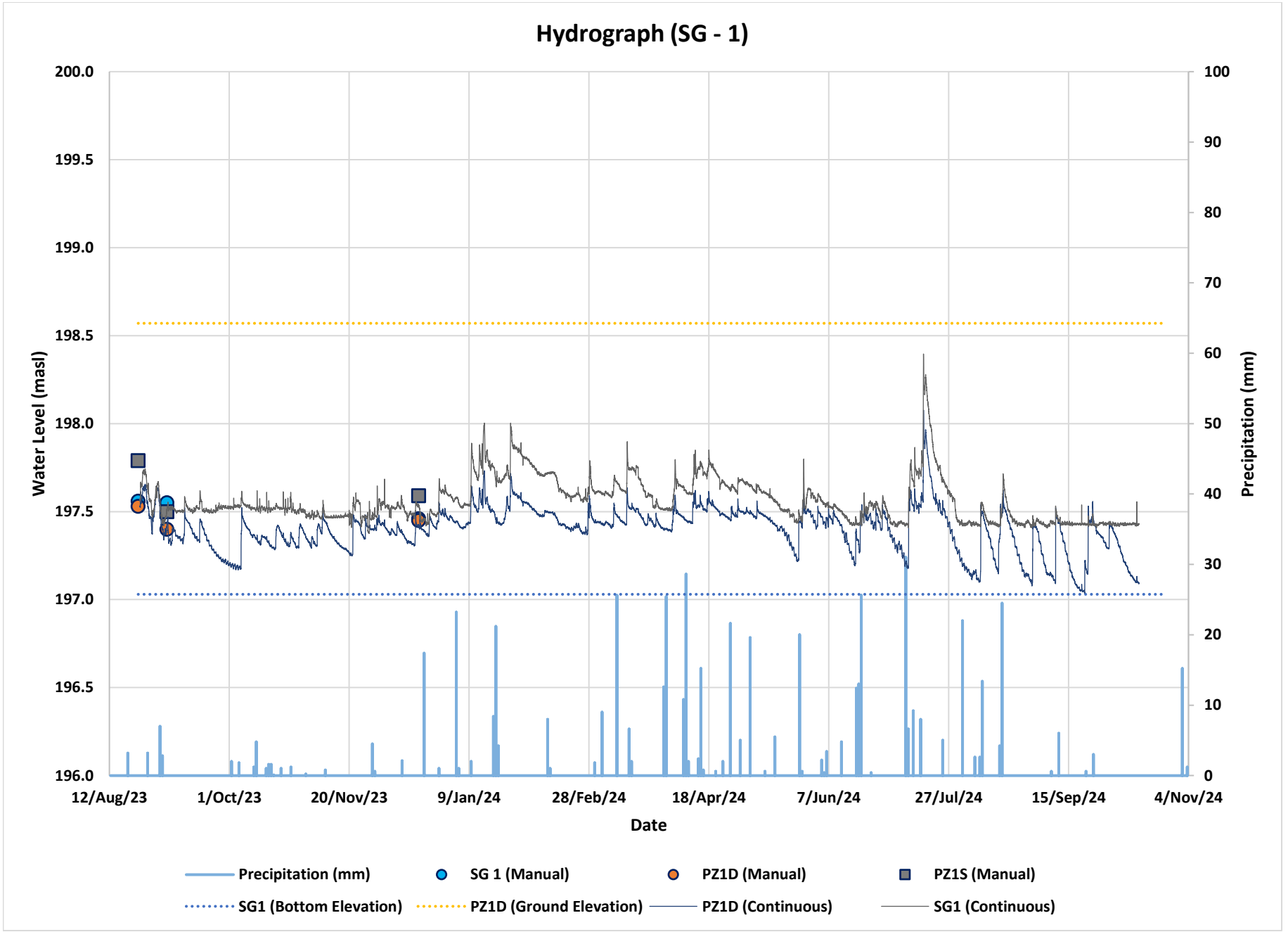
MILTON TOWN (MILTON)	17 W	588977	4818973	2010/08 7241	1.5			MT	0008 15	7150317	(Z113285) A080473	BRWN GRVL SAND FILL 0002 BRWN SILT CLAY SAND 0015 GREY
MILTON TOWN (MILTON)	17 W	588916	4818731	2007/10 6607	0.98	FR 0045	///:	NU		7101600	(Z60501) A054618	BRWN SAND SILT CLAY 0050
MILTON TOWN (MILTON)	17 W	588978	4819015	2010/08 7241	1.5			MT	0008 10	7150315	(Z113284) A099946	BRWN SAND GRVL FILL 0001 BRWN SILT CLAY GRVL 0012 GREY
MILTON TOWN (MILTON)	17 W	588957	4818896	2010/08 7241	1.5			MT	0008 10	7150314	(Z113286) A102962	BRWN GRVL SAND FILL 0001 BRWN SILT CLAY TILL 0010 GREY
MILTON TOWN (MILTON)	17 W	589725	4819119	1961/04 2801	2 2	FR 0039	1///:	NU	0044 10	2801698	()	LOAM 0001 BRWN CLAY GRVL 0016 BLUE CLAY GRVL 0039 BLUE
MILTON TOWN (MILTON) 00	17 W	589369	4819271	2004/05 4868				DO		2809943	(Z03986) A	
MILTON TOWN (TRAFALG	17 W	589587	4818771	2014/08 7215						7228292	(C26132) A163938 P	
MILTON TOWN (TRAFALG	17 W	589418	4819343	2013/03 7241	2			MT	0010 10	7200443	(Z167608) A145248	BRWN FILL GRVL WBRG 0012 BRWN SILT SAND WBRG 0020
MILTON TOWN (TRAFALG	17 W	589113	4818908	2013/02 7215	2			TH	0020 10	7199512	(Z163841) A142366	
MILTON TOWN (TRAFALG	17 W	589714	4818250	2015/06 7464						7252865	(C29655) P	
MILTON TOWN (TRAFALG	17 W	589474	4818380	2015/06 7464						7252866	(C29652) P	
MILTON TOWN (TRAFALG	17 W	589456	4819301	2013/03 7241	1.25			MT	0010 10	7200445	(Z167579) A145872	BRWN SILT 0011 GREY SILT 0020
MILTON TOWN (TRAFALG	17 W	589261	4818427	2012/03 7215						7202130	(C18047) A126330 P	
MILTON TOWN (TRAFALG	17 W	589714	4818270	2015/06 7464						7252864	(C29656) P	
MILTON TOWN (TRAFALG	17 W	589701	4818879	2013/10 7201						7210510	(M08261) A088529 P	
MILTON TOWN (TRAFALG	17 W	590228	4818859	2013/07 7295	1.79			MO	0020 10	7211605	(Z165874) A156071	BRWN SAND GRVL 0010 BRWN FILL SNDY 0020 BRWN SAND
MILTON TOWN (TRAFALG	17 W	589551	4818188	2013/11 7190	2			MO	0035 15	7214768	(Z169415) A146267	BRWN SILT CLAY 0010 RED SILT CLAY TILL 0035
MILTON TOWN (TRAFALG	17 W	589711	4818598	2009/05 7241	1.36			MO	0002 9	7123749	(Z098066) A086743	BLCK LOAM LOOS 0001 BRWN SAND GRVL DNSE 0011
MILTON TOWN (TRAFALG	17 W	589719	4818255	2015/06 7464						7252863	(C29657) P	
MILTON TOWN (TRAFALG	17 W	589123	4818753	2009/01 6607	2	UK 0023		MO	0020 10	7125331	(Z095141) A085385	BRWN SAND LOAM FILL 0005 BRWN CLAY TILL 0015 GREY CLAY
MILTON TOWN (TRAFALG	17 W	589103	4818934	2012/02 6607	2			MO	0017 10	7177414	(Z130561) A126311	BRWN GRVL SAND LOOS 0001 BRWN SAND GRVL DNSE 0003

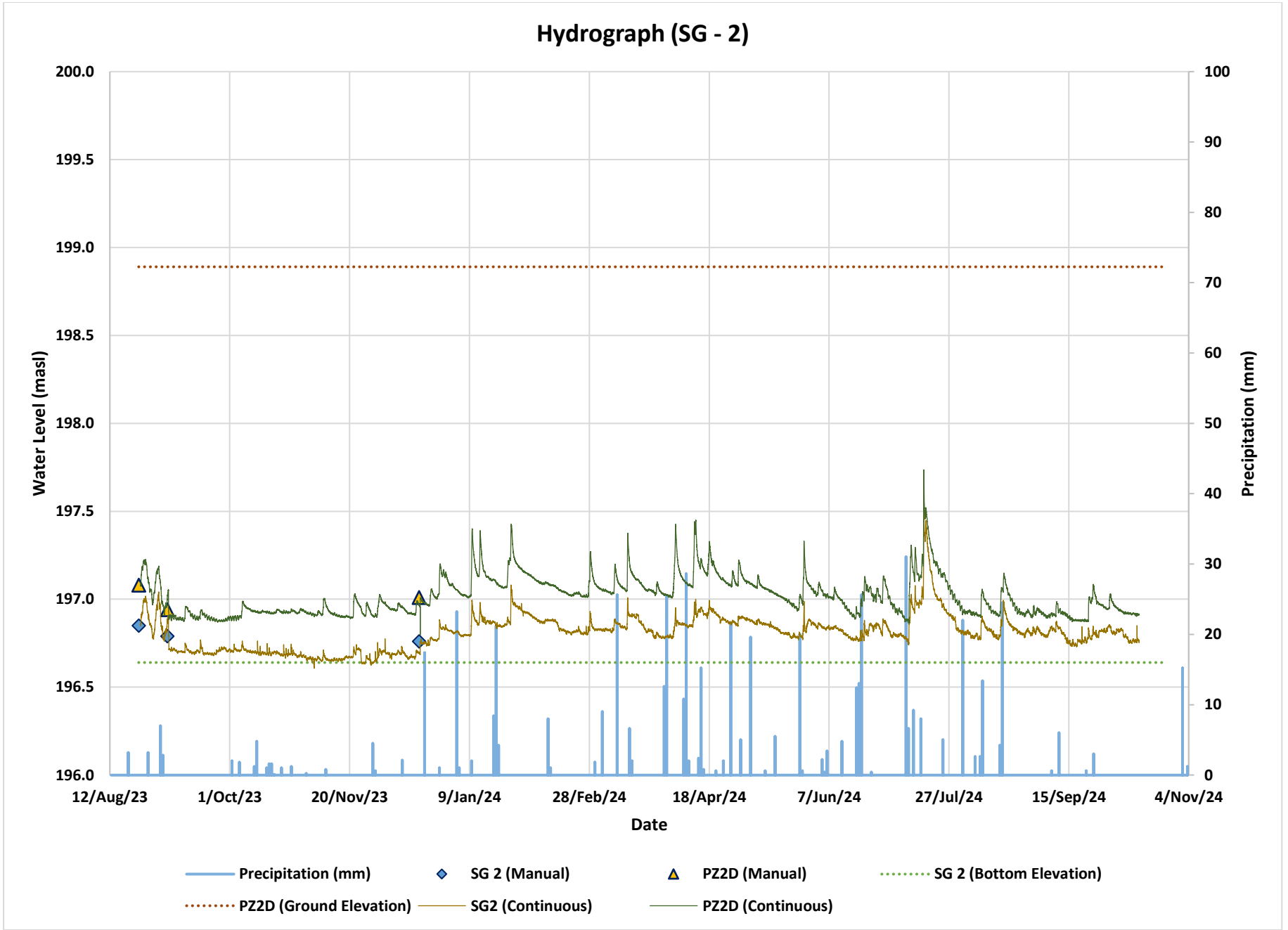
MILTON TOWN (TRAFALG	17 W	589430	4819328	2013/03 7241	1.25			MT	0010 10	7200444	(Z167578) A145253	BRWN SILT SAND 0011 GREY SAND SILT WBRG 0020
MILTON TOWN (TRAFALG	17 W	589704	4818285	2015/06 7464						7252862	(C29653) P	
MILTON TOWN (TRAFALG	17 W	589035	4818862	2014/12 7247	2	UT		MT	0010 10	7239499	(Z198498) A174053	BRWN CLAY FILL SLTY 0007 BRWN CLAY SAND GRVL 0020
MILTON TOWN (TRAFALG	17 W	589100	4818903	2009/01 6607	2	UK 0020		MO	0020 10	7125332	(Z095116) A082763	BRWN LOAM SAND 0005 BRWN CLAY GRVL 0013 BRWN TILL DNSE
MILTON TOWN (TRAFALG	17 W	589708	4818275	2015/06 7464						7252861	(C29654) P	
MILTON TOWN (TRAFALG	17 W	589426	4818351	2009/01 6607	2	UK 0020		MO	0014 11	7125401	(Z095142) A082715	BRWN GRVL SAND FILL 0005 BRWN SILT SAND 0015 BRWN
MILTON TOWN (TRAFALG	17 W	589780	4818904	2014/04 7190	2	UT 0012		MO	0030 10	7220848	(Z180430) A146279	BRWN GRVL FILL LOOS 0005 GREY CLAY SILT 0022 RED SHLE HARD
MILTON TOWN (TRAFALG	17 W	589480	4818879	2009/09 6607	1.25			MO		7133598	(M05678) A088155	BRWN TILL 0020 GREY CLAY SAND 0033
TON TOWN (TRAFALG NS 01	17 W	588831	4818273	1972/12 3637	30 7 7	FR 0015	2/40/2/1:0	CO		2804115	()	RED SHLE 0040
TON TOWN (TRAFALG NS 02	17 W	589416	4819346	2004/07 6607	1.97	FR 0025			0005 15	2810040	(Z17041) A015762	BLCK 0000 BRWN GRVL 0001 BRWN CLAY SILT 0012 GREY SILT
TON TOWN (TRAFALG NS 02	17 W	589416	4819346	2004/11 6607	1.97	FR 0007			0005 15	2810127	(Z21571) A015762 A	BLCK 0000 BRWN GRVL 0001 BRWN CLAY SILT 0012 GREY SILT
TON TOWN (TRAFALG NS 02	17 W	589730	4818938	2015/01 7247	0.75	OT		MT	0010 5	7251432	(Z214035) A174080	BRWN SILT CLYY 0002 BRWN SILT GRVL HARD 0015

Appendix I: Groundwater Hydrographs


Hydrograph (Monitoring Wells)
Water Level (masl)
Precipitation (mm)
Date
210.0
208.0
206.0
204.0
202.0
200.0
198.0
196.0
194.0
192.0
100
90
80
70
60
50
40
30
20
10
0
12/Aug/23
1/Oct/23
20/Nov/23
9/Jan/24
28/Feb/24
18/Apr/24
7/Jun/24
27/Jul/24
15/Sep/24
4/Nov/24
24/Dec/24
Precipitation (mm)
MW 21-1 (manual)
MW 21-5 (manual)
MW 22-14 (manual)
MW 23-20 (manual)
MW 21-1 (Ground Elevation)
MW 21-5 (Ground Elevation)
MW 22-14 (Ground Elevation)
MW 23-20 (Ground Elevation)
MW 21-1 (Continuous)
MW 21-5 (Continuous)
MW 22-14 (Continuous)
MW 23-20 (Continuous)

Appendix J: Wetland Hydrographs


Hydrograph (SG - 1)
Water Level (masl)
Precipitation (mm)
200.0
199.5
199.0
198.5
198.0
197.5
197.0
196.5
196.0
100
90
80
70
60
50
40
30
20
10
0
12/Aug/23
1/Oct/23
20/Nov/23
9/Jan/24
28/Feb/24
18/Apr/24
7/Jun/24
27/Jul/24
15/Sep/24
4/Nov/24
Date
Precipitation (mm)
SG 1 (Manual)
PZ1D (Manual)
PZ1S (Manual)
SG1 (Bottom Elevation)
PZ1D (Ground Elevation)
PZ1D (Continuous)
SG1 (Continuous)


Hydrograph (SG - 2)
Water Level (masl)
Precipitation (mm)
200.0
199.5
199.0
198.5
198.0
197.5
197.0
196.5
196.0
100
90
80
70
60
50
40
30
20
10
0
12/Aug/23
1/Oct/23
20/Nov/23
9/Jan/24
28/Feb/24
18/Apr/24
7/Jun/24
27/Jul/24
15/Sep/24
4/Nov/24
Date
Precipitation (mm)
SG 2 (Manual)
PZ2D (Manual)
SG 2 (Bottom Elevation)
PZ2D (Ground Elevation)
SG2 (Continuous)
PZ2D (Continuous)