3168 HS LP

PRELIMINARY HYDROGEOLOGICAL ASSESSMENT

PROPOSED MIXED-USE RE-DEVELOPMENT

3154 and 3168 Hurontario St. and 25 to 33 Hillcrest Ave. Mississauga, Ontario

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EXECUTIVE SUMMARY

Terrapex Environmental Ltd. (Terrapex) was retained by 3168 HS LP to review hydrogeological conditions for the proposed re-development planned for the adjoining properties of 25 and 33 Hillcrest Avenue and 3154 Hurontario Street in Mississauga Ontario (the Site). The re-development will include a common five-level underground parking garage that will essentially span the entire property.

An existing network of groundwater monitoring wells was expanded to include sixteen locations across the Site. Groundwater levels were measured at all sixteen wells for four events. Single well hydraulic tests were performed on nine monitoring wells. One groundwater sample was analysed for municipal bylaws that regulate discharges to a storm sewer.

The foundation slab will be at approximately 106.5 metres above sea level. The depth of excavation will vary from approximately 14 to 22 metres below grade (mbg), depending on location due to the sloping grade. In comparison, the shallowest water table encountered was at 2.8 mbg, indicating that the construction excavation and the underground parking structure will experience groundwater seepage that will need to be managed.

The anticipated maximum combined rate of groundwater seepage (596,240 L/day) and a larger stormwater event (510,670 litres) to be managed during construction will be 1,106,910 litres per day, which will require a Permit To Take Water (PTTW) to be issued by the provincial government. The foundation drains in post-construction could experience a maximum rate of 599,500 litres per day, which could be integrated with the construction PTTW.

Groundwater quality was acceptable for discharge to the Peel Region's sanitary/combined sewer. Groundwater quality was acceptable for discharge to the City of Mississauga's storm sewer with treatment for total suspended solids (TSS), total Kjeldahl nitrogen (TKN) and manganese. TSS can be reduced by filtering and settlement methods prior to discharge to the sewer. Removal or reduction of sediments by treating TSS might reduce the concentrations of TKN, pending further sample testing. The elevated manganese is in dissolved form that would require ongoing chemical treatment. Monitoring for organic chemicals during construction is advised due to possible presence of contaminated groundwater on site or in the vicinity.

Pre-construction and post-construction consist of impervious cover, allowing negligible recharge. Low impact development (LID) measures to improve infiltration are not feasible due to the parking garage occupying the entire site.

The hydrogeological investigation performed was based on an earlier design of the parking garage consisting of four subsurface levels. The more recent design has the garage extending to five subsurface levels. The base elevation for the new design is lower than existing groundwater monitoring wells, therefore new deeper monitoring wells and testing will be required to confirm the dewatering analysis. Groundwater seepage estimates herein assume that bedrock hydrogeological conditions at higher elevations will be similar at the lower elevation of the P5 parking garage and its excavation. These groundwater seepage estimates are not intended to be used in support of a Functional Servicing Report. Values are to be considered as preliminary.

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1.0 BACKGROUND

Terrapex Environmental Ltd. (Terrapex) was retained by 3168 HS LP to prepare this hydrogeological review for the proposed mixed-use redevelopment of the adjoining properties of 3154 and 3168 Hurontario Street and 25 to 33 Hillcrest Avenue (the Site) in Mississauga, Ontario, which is in the Region of Peel. This review herein is intended to satisfy hydrogeological requirements as part of the development submissions process administered by the municipality.

Companion studies were undertaken by Terrapex, including a Phase Two Environmental Site Assessment (2019, 2021) and a geotechnical study (2019, 2021), which are reported under separate covers. Subsurface investigations were undertaken earlier by other consulting firms, from which borehole records were considered (Arcadis Canada Inc., 2020 and Franz Environmental Inc., 2015).

2.0 LOCATION AND SETTING

2.1 LOCATION AND PROPERTY DIMENSIONS

The Site fronts on the west corner of Hurontario Street and Hillcrest Avenue. The general location is mapped on Figure 1. The approximate UTM coordinates are 17T 611273 m easting and 4826447 m northing.

Approximately, the Site is a rectangle that covers approximately 21,670 m^2, with dimensions of 197 m by an average width of 110 m, oriented northeast - southwest.

2.2 PRESENT LAND USE

The Site presently hosts three single-storey buildings have commercial / retail uses, which are located in the eastern portion. The remaining area is mostly asphalt paved open-air parking and driving lanes. Narrow strips of grass lawn with trees are located along the property lines and along a central boundary. The general Site layout is shown on Figure 2.

The surrounding area is developed mainly for mixed commercial, residential and institutional uses. Conditions in the vicinity are shown at different scales on Figure 3 and 4. Local land uses essentially consist of the following features.

- ***Southeast:*** Hillcrest Avenue, across which are a residential apartment tower and a secondary school. Further away is a mixture of single-family dwellings, residential townhouse blocks, residential towers, low-rise office and commercial / retail buildings.
- ***Northwest:*** Cooksville GO Station that is mostly a large parking area with a rail line. Further beyond are neighbourhoods of single-family dwellings.
- ***Northeast:*** Hurontario Street, across which are residential apartment towers, low-rise commercial, a truck storage yard, residential townhouse blocks, low to mid-rise residential and neighbourhoods of single-family dwellings.
- ***Southwest:*** A large paved parking lot, several high-rise towers in a complex with underground parking, large areas with active construction, parkland and school yard, and further beyond are neighbourhoods of single-family dwellings.

2.3 PROPOSED DEVELOPMENT

The proposed development will demolish the existing buildings and then will construct one building. The footprint of the proposed building is assumed to cover approximately 20,427 m^2 that will occupy almost the entire site. A common subsurface parking garage will extend to five levels.

2.4 SITE TOPOGRAPHY

Topographic mapping indicates the grade descends eastward, from 128.0 masl at the western corner to approximately 120.2 masl at the eastern corner (Vumap, 2021; R-PE Surveying Ltd., 2020). The grade elevations at the borehole locations ranged between 120.2 masl to 126.4 masl, surveyed by Terrapex using a Global Navigation Satellite System (GNSS) receiver relative to a local geodetic datum.

2.5 DRAINAGE

Surface water features are absent on site. Stormwater is managed by the municipal stormwater management system of catchbasins and piped drainage. The only surface water feature within 500 m is Cooksville Creek that is located approximately 380 m to the east. That watercourse discharges to Lake Ontario.

2.6 REGIONAL GEOLOGY

Most of the site is mapped as resting upon glacial lake deposits consisting primarily of sand and gravel, with minor silt and clay (Ontario Geological Survey, 2010). The western corner is mapped as Paleozoic bedrock at or near grade. See Section 5.1 for soil conditions actually encountered, which vary from the types mapped for the site.

The bedrock underlying the entire site is the Georgian Bay Formation that is dominantly shale and limestone (Ontario Geological Survey, 2007). Shale bedrock was encountered at shallow depths of less than 5.0 mbg in nearby wells, including No. 7291784 and No. 7154043 (MECP, 2019). Shale is found across the site, as described in Section 5.1.

Additional information on soils in the vicinity of the Site is also available from reports of wells in the database maintained by the Ministry of the Environment, Conservation and Parks (MECP).

2.7 SENSITIVE ECOLOGICAL RECEIVERS

Designated sensitive ecological areas, such as Areas of Natural and Scientific Interest (ANSI) or Environmentally Significant Areas (ESA's), are absent within 500 m of the Site. Similarly, there are also no woodlands or wetlands with or without special designation in proximity.

2.8 GROUNDWATER SUPPLY WELLS

The MECP water well database reports three local wells as having a purpose of water supply. These wells included one industrial supply (No. 4902210) and two domestic supplies (Nos. 4902211 and 4902212) that were further than 180 m from the site. These wells were installed between 1955 and 1968 that was prior to local urbanization. These supply wells are likely demolished and no longer in use.

The site was reviewed under the provincial Source Water Protection mapping (MECP, 2021) for possible location inside various types of sensitive groundwater classifications. The area within approximately 45 m of the western corner and within 25 m of the southern corner are classified as Highly Vulnerable Aquifer, with a score of 6. No aquifer layer was observed by on-site drilling.

3.0 FIELD PROGRAM

The following describes the methodology and locations of investigation in the field program. Observations are provided in Section 4 and interpretations are provided in Section 5.

3.1 DRILLING AND BOREHOLES

In November 2014, 11 boreholes; designated as BH101 through BH111, were advanced by Franz Environmental Inc. (Franz) at 3168 Hurontario properties and extended to approximate depths ranging from 6.1 to 7.1 mbg (Franz Environmental Inc., 2015).

In July 2019, twelve boreholes - designated as MW101 through MW105 and BH106 through BH112 - were advanced by Pontil Drilling Inc. (Pontil), a drilling contactor commissioned by Terrapex. The drilling contractor employed a hollow stem auger with split spoon method for overburden and HQ-sized coring methods for bedrock. Boreholes depths ranged from 4.5 mbg to 12.7 mbg. Boreholes left without monitoring wells are designated in the BH-series and with monitoring wells are designated in the MW-series.

In January 2020, six boreholes - designated as MW201 through MW206 - were advanced by Arcadis Canada Inc. (Arcadis) at 25-33 Hillcrest Avenue and 3168 Hurontario properties and extended to approximate depths ranging from 5.2 to 6.1 mbg (Arcadis Canada Inc., 2020).

Between 30 November 2020 and 4 December 2020, 19 boreholes were advanced by Pontil, under supervision of Terrapex personnel. Three of the boreholes - designated as MW301, MW312, MW318, and MW319 - were advanced by using hollow stem auger with split spoon method to approximate depths while in soil and the bedrock portion was cored using HQ-sized bit to approximate depths of 15.3 to 15.5 mbg. The remaining 15 boreholes were extended to approximate depths ranging from 2.0 to 6.1 mbg.

Grain-size analyses were carried out on two soil samples using sieve and hydrometer methods by Terrapex's geotechnical laboratory.

3.2 MONITORING WELLS

Terrapex installed 14 monitoring wells at ten locations that are designated MW101, MW102(S), MW102(D), MW103, MW104, MW105, MW301A, MW301B, MW307, MW312, MW318A, MW318B and MW319A, MW319B. The designation suffix of "S" or "B" is a well installed at a shallow depth and "D" or "A" for wells installed at a deeper depth. The bottoms of well screens were placed ranging from 4.5 to 15.3 mbg.

The monitoring wells were constructed in Terrapex programs used environmental grade, 50 mm diameter, Schedule 40, PVC piping with machine-slotted (10 slot) screens at the bottom. Each monitoring well was covered by a flush-mount casing. The well components and their

relationships to adjacent stratigraphy are shown in the borehole records provided in Appendix III and well construction details are reported in Table 1.

The well locations and elevations of the top of the standpipe and grade were surveyed by Terrapex using a Global Navigation Satellite System (GNSS) receiver. The GNSS model used was a Topcon HiPer V GNSS Receiver.

Franz installed nine monitoring wells in boreholes BH101 to BH109 and the boreholes were re-labelled as monitoring wells MW101 to MW109. Arcadis installed three monitoring wells at three locations, designated as MW201, MW203, and MW206. Refer to the original reports for well construction details by other consultants (Franz Environmental Inc., 2015 and Arcadis Canada Inc., 2020).

Monitoring wells, when no longer useful, must eventually be abandoned by a licensed water well contractor. Abandonment must proceed in accordance with Regulation 903 and its amendments issued under the Ontario Water Resources Act. The monitoring wells should remain until the time of construction to be available for observing future seasonal groundwater conditions closer to the time of construction for dewatering planning.

3.3 GROUNDWATER LEVEL MEASUREMENTS

Suites of groundwater levels were measured in the Terrapex monitoring well network in July and August 2019, December 2020, and January 2021. Levels were measured using an electric sounder device with graduated tape. See Table 2 for specific dates.

3.4 GROUNDWATER SAMPLING

The monitoring well selected for groundwater sampling was MW312, which is located close to the intersection of Hillcrest Avenue and Hurontario Street. The well was initially purged. Three well volumes were removed using a bailer prior to sampling on 19 January 2021. The sample was collected using a low-flow peristaltic pump. Sample water was discharged directly without filtering to pre-cleaned bottles supplied by the laboratory with preservatives as appropriate for parameters. These bottles were iced and held in a cooler under Chain of Custody protocols prior to delivery. Water quality analysis was performed by AGAT Laboratory of Mississauga, Ontario that was accredited to the Canadian Association for Laboratory Accreditation Inc. (CALA). The analysis suite consisted of the parameters specified under the Regional Municipality of Peel's bylaw 53-2010 for discharging to a sanitary sewer and the City of Mississauga's bylaw 0259-2005 for discharging to a storm sewer.

3.5 HYDRAULIC CONDUCTIVITY TESTS

Single well response tests to assess the hydraulic conductivity of formations were performed on monitoring wells MW101, MW102D, MW103, MW104, MW105, MW301A, MW301B, MW312, MW318B. The test method applied was a bail test, which is a rapid removal of a volume of water using an elongated bailer. The ensuing rising recovery to static level is observed over time using manual methods and by using Solinst levelogger brand leveloggers that were installed to record responses over a longer term, due to the slow recovery. The loggers recorded at one minute

intervals for at least one day. A barometric logger was also installed on site to allow removal of barometric pressure effects from the levelogger record.

Test data were analysed using the Aqtesolv software package by the Bouwer and Rice method.

4.0 OBSERVATIONS

4.1 SUBSURFACE MATERIALS AND HYDROSTRATIGRAPHY

The subsurface conditions encountered at each borehole are detailed on the borehole records provided in Appendix III. The following is a summary of stratigraphic layers encountered.

- *Asphaltic concrete*. All boreholes were advanced through the asphaltic concrete pavement with a thickness of approximately 0.1 m, with a granular base.
- *Fill*. Fill is present at all boreholes, extending to approximate depths ranging from 1.2 to 4.0 mbg. The fill texture varied, including crushed limestone, silty sand, sand, gravelly, sand, and clayey silt soils. Inclusions of construction debris were sometimes found.
- *Clayey silt*. Below the fill and rests on bedrock. Thickness varies from 0.3 to 4.0 m.
- *Bedrock*. Shale was encountered at depths greater than a range of 2.2 to 4.4 mbg. The corresponding elevations of top of bedrock ranged from 116.3 to 124.0 masl. The upper section is generally intensely fractured and very thin bedded, then with increasing depth becoming thinly to medium bedded and moderately fractured. Thin limestone layers and clay seams are occasionally present.

Isolated lenses of native granular material should be anticipated in the soil overburden. One such layer was encountered at MW103 that was gravelly sand at an approximate depth of 2.1 mbg. Silty sand layers were found in MW103 and MW104 at approximately 2.1 and 3.1 mbg, respectively. Such lenses were mostly encountered above the water table but are possible below the water table.

The above stratigraphic description is a generalization. Variations could occur in thickness, depth, presence and texture of units. Constructors and dewatering contractors should review the nearest borehole records for specific locations and if necessary, drill to confirm conditions if critical to their activities.

Sieve and hydrometer grain size analyse were carried out on three soil samples. The curves from the test are provided in Appendix V and are summarized below.

Borehole Number	Sample Depth and No.	Sample Description	Gravel %	Sand %	Silt %	Clay %
MW101	2.5 mbg (4)	Sandy Silt, some clay, trace gravel	4	22	58	16
MW103	1.8 mbg (3)	Sand, some silt, trace clay, trace gravel	3	79	13	5
BH307	2.6 mbg (4)	Clayey Silt, some gravel some sand	12	12	52	24

4.2 GROUNDWATER LEVELS

Groundwater level observations are presented as depths and as elevations on Table 2. The water table is indicated by the shallower wells of MW102(S), MW203, MW206, MW301B, MW307, MW312, MW318B and MW319B. The piezometric head is indicated in wells MW101, MW102(D), MW103, MW104, MW105, MW301A, MW318A, MW319A. The piezometric head observed in deeper wells does not represent the water table.

The average depth to the water table was 3.8 mbg based on shallower monitoring wells. The shallowest depth to the water table observed was 2.8 mbg in MW102(S) in the central portion of the south-eastern side.

The elevation of the water table grades down toward the east. The average elevation of the water table was observed at 119.2 masl, while the highest elevation of the water table was observed at MW319B at 122.3 masl. The water table trend, as presented on Figure 5, suggest that groundwater rises as high as 123 to 124 masl in the western corner and as low as 116 masl in the eastern corner.

The deeper piezometers at the MW102(S,D), MW301(A,B), and MW318(A,B) clusters had groundwater elevations that were approximately 3.1 m, 0.5 m, and 1.5 m lower than in the adjacent shallower piezometer, respectively.

Groundwater levels naturally fluctuate in response to seasons, to annual variations and possibly to major storm events. The measurements reported herein occurred during spring, which is typically the shallowest depth and highest elevation in the annual seasonal cycle. It is possible that the water table elevation could rise further (become shallower depth) to peak during a wetter period. As such, it is recommended to conduct two additional groundwater level measurement suites event in late March to May.

5.0 ANALYSIS

5.1 HYDRAULIC CONDUCTIVITY

Hydraulic conductivity is a parameter for quantifying the ability of a soil unit to transmit water. This parameter is necessary for predicting the rate of seepage into excavations to be collected by dewatering efforts during construction and by foundation drains in post-construction.

The bail tests were interpreted and analysis curves are presented in Appendix VI. The resulting interpreted hydraulic conductivity values are listed below:

- MW101, 6×10^{-8} m/s
- MW102D, 2×10^{-7} m/s
- MW103, 2×10^{-7} m/s
- MW104, 7×10^{-7} m/s (maximum)
- MW105, 4×10^{-7} m/s
- MW301A, 1×10^{-7} m/s

- MW301B, 3 x 10^{-8} m/s
- MW312, 6 x 10^{-7} m/s
- MW318B, 1 x 10^{-7} m/s

The above monitoring wells were screened in shale bedrock. The upper surface of the bedrock has a higher fracture density that is anticipated to offer a relatively higher hydraulic conductivity to deeper into the bedrock, but variations may occur due to fracture infilling.

5.2 HYDRAULIC GRADIENT

The water table surface is commonly a subdued reflection of the overlying ground surface with shallow groundwater movement parallel to the overlying general grade and toward watercourses. Based on this interpretation and local topography, shallow groundwater in the vicinity of the Site is anticipated to move eastward towards Cooksville Creek.

Piezometric contours of the water table were interpreted using shallower wells, as illustrated on Figure 5. The horizontal hydraulic gradient descends eastward with an average magnitude of approximately 0.04 m/m.

Local variations in topography, soil type, deeper building foundation drains and buried utilities trenches can influence the direction of the horizontal gradient.

Vertical hydraulic gradients were measured at the clusters of MW102, MW104 / MW312, MW301 and MW318. The two screens were typically separated by approximately 8 to 9 m in elevation. The gradient direction was consistently downward, which indicates the site functions as a recharge area. The average magnitude varied from 0.08 m/m at MW301 to 0.33 m at MW102. Across the site, the average water table elevation is generally about 3.0 m higher than the average piezometric head elevation, indicating downward gradient conditions likely prevail. The cluster at MW319 could not be used due to the groundwater levels in the deeper well not being static. The water levels in MW318 during 2020 are suspected to be not static.

5.3 GROUNDWATER QUALITY

The reported concentrations of tested parameters for the sample obtained from MW312 are provided in Table 3. The Certificate of Analysis issued by AGAT is provided in Appendix IV.

The groundwater quality was acceptable with respect to the criteria for discharge to the sanitary/combined sewer.

The following parameters exceeded the criterion specified under the City of Mississauga bylaw for storm sewer.

- Manganese was at a concentration of 0.267 mg/L, as compared to the storm sewer criterion of 0.05 mg/L;
- Total suspended solids was at a concentration of 30 mg/L, as compared to the storm sewer criterion of 15 mg/L; and,

- Total Kjeldahl Nitrogen was at 6.30 mg/L, as compared to the storm sewer criterion of 1 mg/L.

The groundwater quality was acceptable with respect to the criteria for discharge to the storm sewer with treatment for manganese, total suspended solids and Total Kjeldahl Nitrogen.

The datalogger in wells MW301A, MW301B, MW312, and MW318B, recorded average groundwater temperatures that were stable, with values ranging from 11.8 to 14.8 °C, depending on the individual well.

5.4 BUILDING GEOMETRY AND HYDROGEOLOGY

The parking garage will extend to five subsurface levels. The basement garage slab will be set at 106.5 mbg. The grade varies across the site from 120 to 128 masl, so relatively depth will vary from approximately 14 to 22 mbg.

We understand that building footings will be constructed to 1.0 m below the slab level. The excavation elevation is anticipated to be at 105.5 masl, with the depth ranging from approximately 15 to 23 mbg.

The average depth to water table observed to date was approximately 3.8 mbg. Thus, the excavation depths will be set deep into the saturated zone, so will require dewatering during construction. Similarly, the foundation slab will also be set below the water table, so foundation drains will also receive ongoing groundwater seepage to be discharged to a sewer.

The planned development will include buried municipal infrastructure, such as piped sanitary sewer, storm sewer and potable water. Construction will require excavation trenches, for which the depths are presently not determined.

The bedrock is mostly saturated. The water table is usually below the overburden / bedrock interface, resulting in the overburden being dry (above the water table). A few locations may experience a water table into the overburden. Calculations of groundwater inflow rates are provided in Section 6.

6.0 DEWATERING AND FOUNDATION DRAINAGE

6.1 RATES PREDICTIONS

The MECP requires a Permit to Take Water (PTTW) or an Environmental Activity and Sector Registry (EASR) for groundwater takings exceeding 50,000 litres per day (L/day). For the purpose of construction, a PTTW is required for dewatering extraction rate that exceeds 400,000 L/day. An EASR is required for a rate between 50,000 and 400,000 L/day.

Estimation of the rate of dewatering to counteract groundwater inflows is based on mathematical analogy to a simplified elongated rectangular trench (Powers et al, 2007). The equivalent trench dimensions are a length of 197 m and an average width of 103.7 m. The calculations anticipate that the subsurface will respond with hydrogeological behaviour similar to an unconfined aquifer. The formula, anticipated geometric conditions and input values in calculating construction dewatering are specified on Table 4.

The predicted maximum rate of groundwater seepage during construction is 596,240 litres per day. This rate should be anticipated as possible on days without precipitation.

The open excavation will capture incident precipitation. The excavation area of 20,430 m^2 and a relatively large precipitation event of 25 mm will capture approximately 510,675 litres. Such precipitation events are anticipated to recur four to five times per year. Obviously, larger precipitation events would produce larger amounts to manage, although occurring less frequently.

The precipitation amount must be added to the groundwater seepage amount in the application. The combined amount of groundwater seepage and precipitation is 1,106,910 litres per day, which indicates that construction dewatering will require a submission for an application for a PTTW.

The maximum amount that will be received by foundation drains was calculated using the analysis and values shown on Table 5. The method applied was similar to construction dewatering calculations. The foundation drain was set at a depth of 0.3 m below foundation slab. The predicted maximum amount of groundwater seepage is 599,500 litres per day, which is the value to specify for an application for a PTTW. The amount assumes that there are no contributions to the foundation drain by stormwater to ventilation or roof components or from a low impact development infiltration measure. The ongoing collection of groundwater by foundation drains is considered a groundwater taking under provincial regulations, so a PTTW will be required.

Lenses of silty sand and gravelly sand are present that may issue temporary larger flows until drained. Berms, ditches, and/or grading should be used during construction to divert stormwater flows from reaching the excavation that would otherwise require pumping.

The methods of dewatering of adjacent soils and bedrock, such as by wellpoints or by collection from sumps within the excavations should be decided by the construction and dewatering contractors.

The calculations are based on conservative assumptions that predict relatively high rates that are less likely, but remain possible. Calculations assumed that the entire site would be one open excavation (construction) and one contiguous five levels underground parking garage (post-construction). The hydraulic conductivity that is the highest observed was input, whereas average conditions are more likely to prevail. The values incorporate a factor of safety of 2.0 to allow for unknown conditions, such as a permeable soil horizon between boreholes or just beyond the excavation walls.

The cumulative amounts pumped from the excavation and finished building are required to be monitored daily to confirm that the requested pumping rate limit stated in the PTTW is not exceeded. Approval will have to be obtained from the municipality to allow dewatering discharge to the storm sewer or to the sanitary sewer, whichever type of outlet is proposed as a receiver.

The dewatering analysis was based on an earlier design of the parking garage consisting of four subsurface levels. The more recent design analysed has the garage extending to five subsurface levels. The base elevation for the new design is lower than the existing groundwater monitoring wells, therefore deeper monitoring wells and additional testing will be required to confirm the

dewatering analysis presented herein. The groundwater seepage estimates assumed that bedrock hydrogeological conditions encountered at higher elevation are consistent at the lower elevation of the P5 parking garage and its excavation. These groundwater seepage estimates are not intended to be used in support of a Functional Servicing Report. Values are to be considered as preliminary.

6.2 RADIUS OF INFLUENCE AND SENSITIVE RECEIVERS

The radius of influence is the distance range beyond which the drawdown on groundwater caused by dewatering is not expected to be detectable. The radius of influence is commonly estimated using the formula of Sichardt and Kryieleis (Powers et al, 2007), which is noted in Tables 4 and 5. The radius of influence is anticipated to be 41 m from the excavation boundary. No buildings or sensitive ecological receivers are situated within the radius of influence. Dewatering activities are not anticipated to adversely affect adjacent properties.

6.3 WATER QUALITY OF DISCHARGE

As noted in Section 5.3, collected groundwater can be discharged to the sanitary sewer without treatment. Collected groundwater can be discharged to the storm sewer with treatment for total suspended solids (TSS), total Kjeldahl nitrogen (TKN) and manganese.

The elevated total suspended solids concentration may be due to sampling from a well screen completed in shale bedrock that is comprised of consolidated clayey mineral grains. Most of the shallow subsurface is either soil or shale bedrock that can be anticipated to produce waters with elevated suspended solids. It is probable that the soils and bedrock will stabilize such that TSS would attenuate over the long-term. Construction should anticipate the requirement to filter and/or settle water to meet the discharge criterion. Dewatering extraction systems should be thoroughly developed prior to connection to sewers to reduce the production of particulates. Excavation soil walls, foundation drains and other infrastructure should be designed to prevent the mining out of adjacent sediments and bedrock.

In order to investigate whether elevated manganese was associated with particulates / sediments in the sample water, a filtered sample was submitted to the laboratory for analysis of metals. The manganese concentration in the filtered sample exceeded Mississauga's storm sewer by-law criterion, indicating that it is in dissolved form and chemical treatment would be required to discharge to the storm sewer. Additional sampling should be undertaken to confirm effectiveness of sediment removal for meeting criteria for TKN. A pilot-scale study should be undertaken if discharge to storm sewer is being considered.

7.0 WATER BALANCE ASPECTS

7.1 PRE-CONSTRUCTION AND POST-CONSTRUCTION INFILTRATION

Typically, incident precipitation infiltrates through a pervious soil surface, then moves down through the unsaturated zone and then recharges the shallow groundwater. In turn, this shallow groundwater moves toward watercourses to contribute to baseflow or to replenish aquifers, if

present. Impervious surfaces of buildings or paving block infiltration and divert precipitation to become runoff that is then directed to storm sewers.

The pre-construction land use is mostly impervious cover, as occupied by buildings and asphalt-paved driving lanes and parking areas, so mostly blocks infiltration. Minor areas of pervious cover, such as grasses and gravel strips, are present that permit limited infiltration.

The post-construction land usage will entirely consist of impervious cover of the new building and underlying parking garage and driveways. Thus, development will remove the limited pervious cover, with a consequent decrease in annual recharge of the shallow groundwater regime. Since the previous area is negligible, then change in recharge is also anticipated to be negligible.

7.2 LOW IMPACT DEVELOPMENT / AUGMENTED INFILTRATION

Low impact development (LID) measures to promote infiltration are not feasible since the impervious garage footprint will essentially span the entire site. The water table is relatively deep that would allow vertical setback for a buried stormwater system. The native soils are dominantly silty clay that would inhibit infiltration. Also, infiltration systems must be located at least 4 m beyond a foundation wall and outside of the building footprint.

8.0 CLOSURE

This report has been completed in accordance with the terms of reference for this project as agreed upon by 3168 HS LP (the Client) and Terrapex Environmental Ltd. (Terrapex) and generally accepted hydrogeological consulting practices in this area.

The reported information is believed to provide a reasonable representation of the general hydrogeological conditions at the site; however, studies of this nature have inherent limitations. The data were collected at specific locations and conditions may vary at other locations, or with the passage of time. Where applicable, the assessment of the environmental quality of groundwater was limited to a study of those chemical parameters specifically addressed in this report.

Terrapex has relied in good faith on information and representations obtained from the Client and third parties and, except where specifically identified, has made no attempt to verify such information. Terrapex accepts no responsibility for any deficiency or inaccuracy in this report as a result of any misstatement, omission, misrepresentation, or fraudulent act of those providing information. Terrapex shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time of the study.

This report has been prepared for the sole use of 3168 HS LP. Terrapex accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than 3168 HS LP.

Respectfully submitted,
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APPENDICES

APPENDIX I

FIGURES

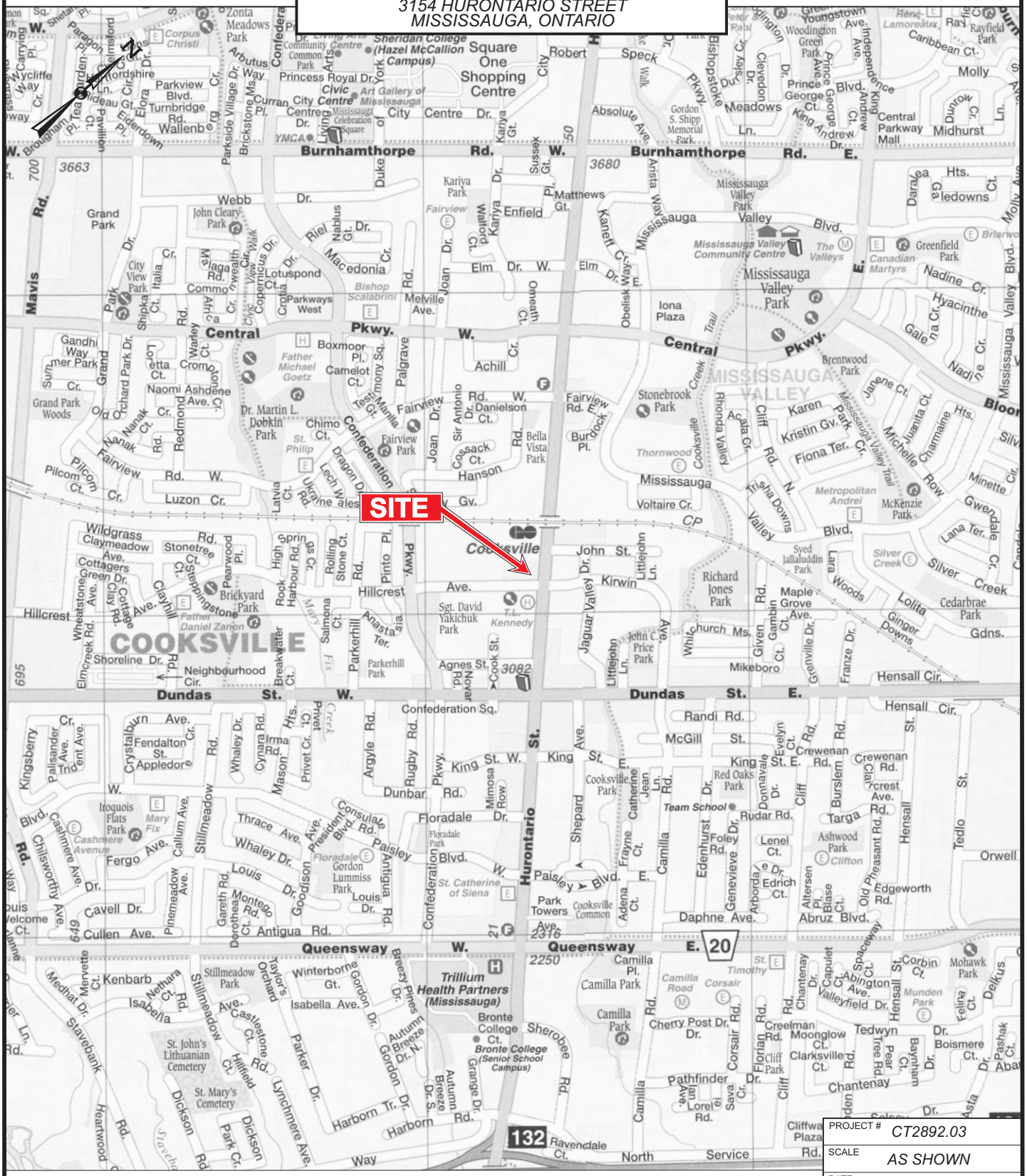
TERRAPEX

SITE LOCATION MAP

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	JANUARY 2021
DRAWN	SF/SW
CHECKED	
DRAWING #	FIGURE 1

SOURCE: CCCMAPS, THE GOLDEN HORSESHOE, 2015 EDITION, PAGES 35 AND 36.

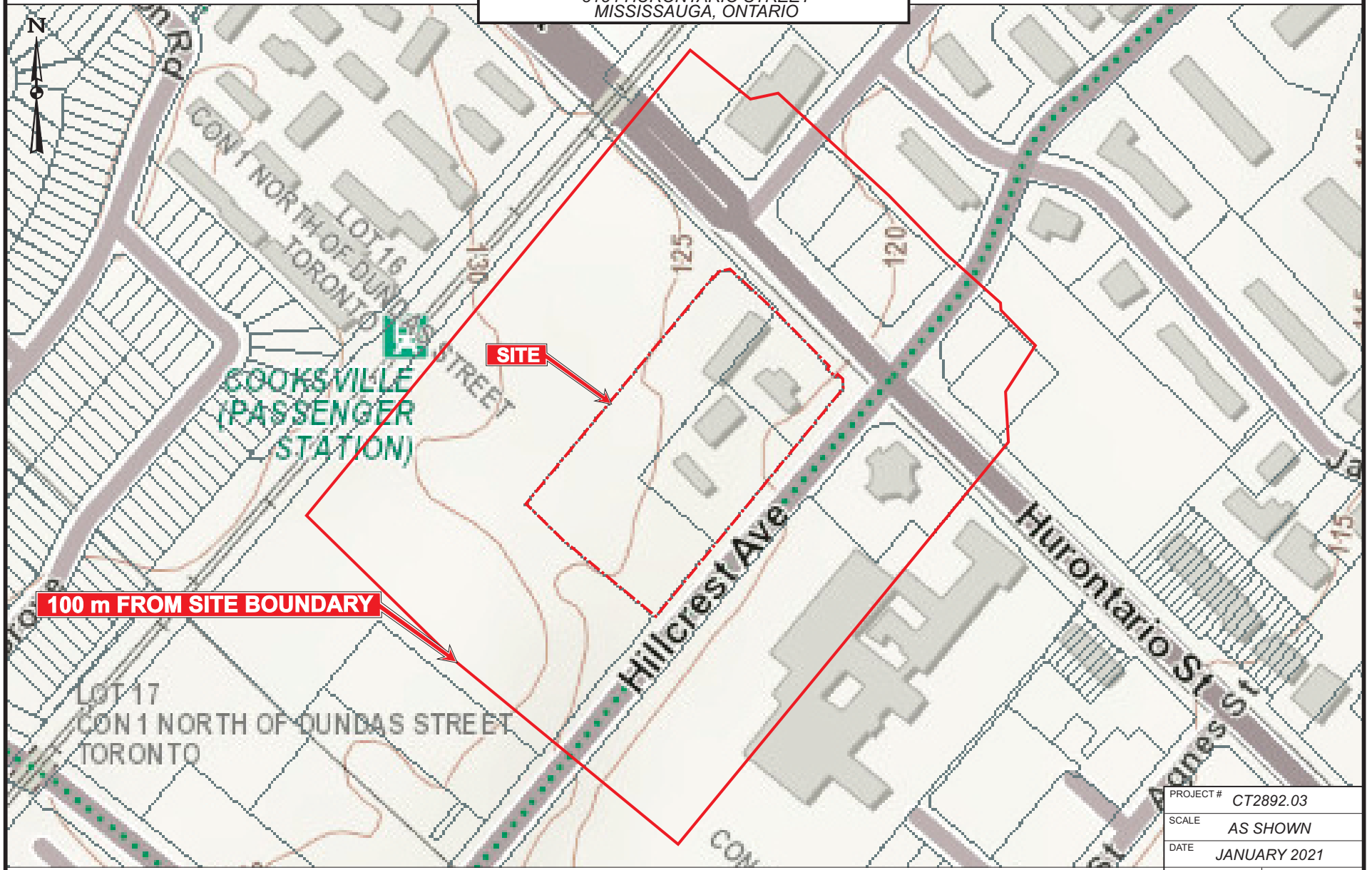
TERRAPEX

SITE VICINITY PLAN - 100 m

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



SOURCE: MINISTRY OF NATURAL RESOURCES AND FORESTRY, MAKE A MAP.

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	JANUARY 2021
DRAWN	SF/AB/SW
CHECKED	
DRAWING #	FIGURE 2

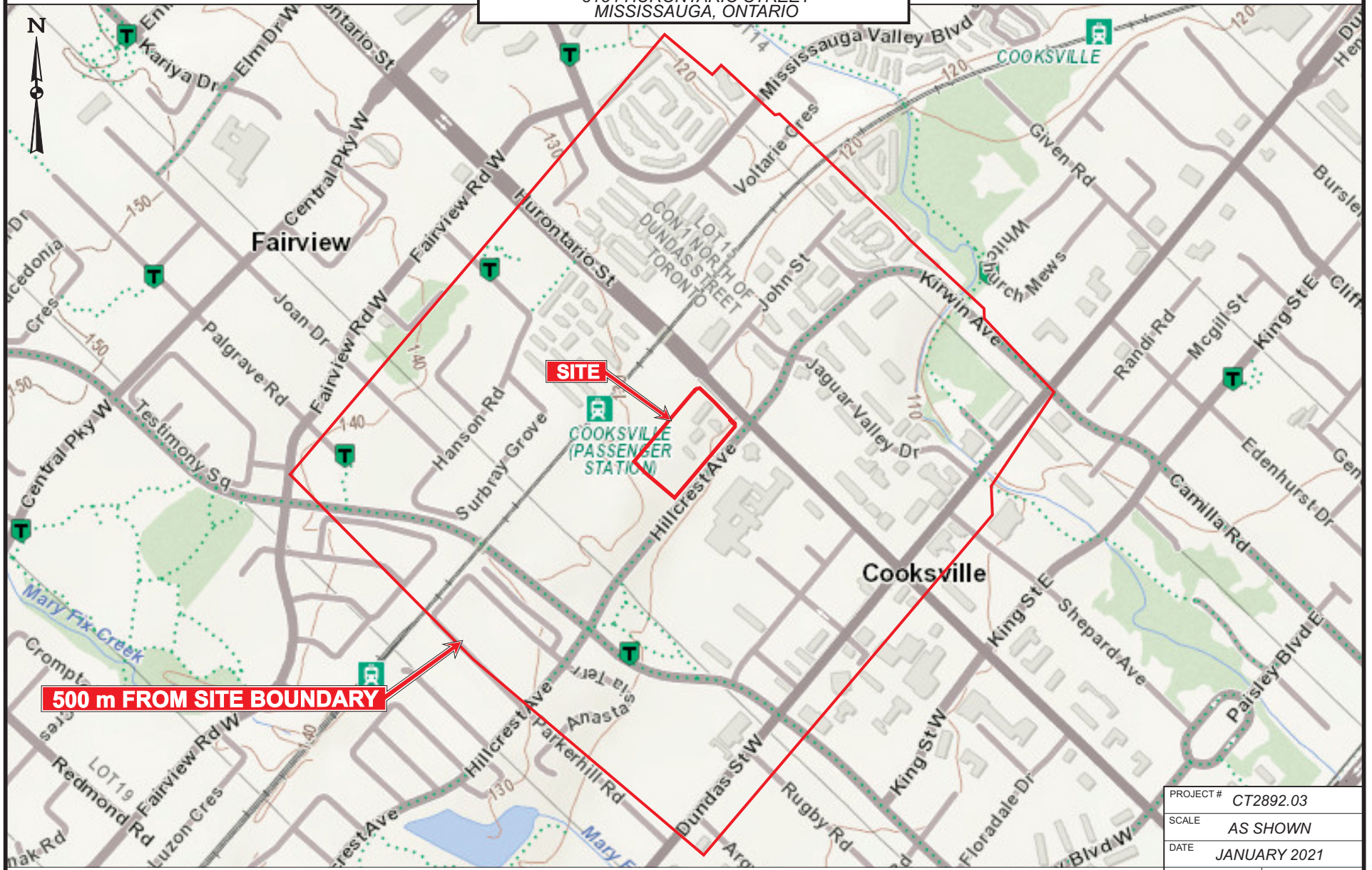
TERRAPEX

SITE VICINITY PLAN - 500 m

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



0 150m 300m
(APPROXIMATE)

SOURCE: MINISTRY OF NATURAL RESOURCES AND FORESTRY, MAKE A MAP.

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	JANUARY 2021
DRAWN	SF/AB/SW
CHECKED	
DRAWING #	FIGURE 3

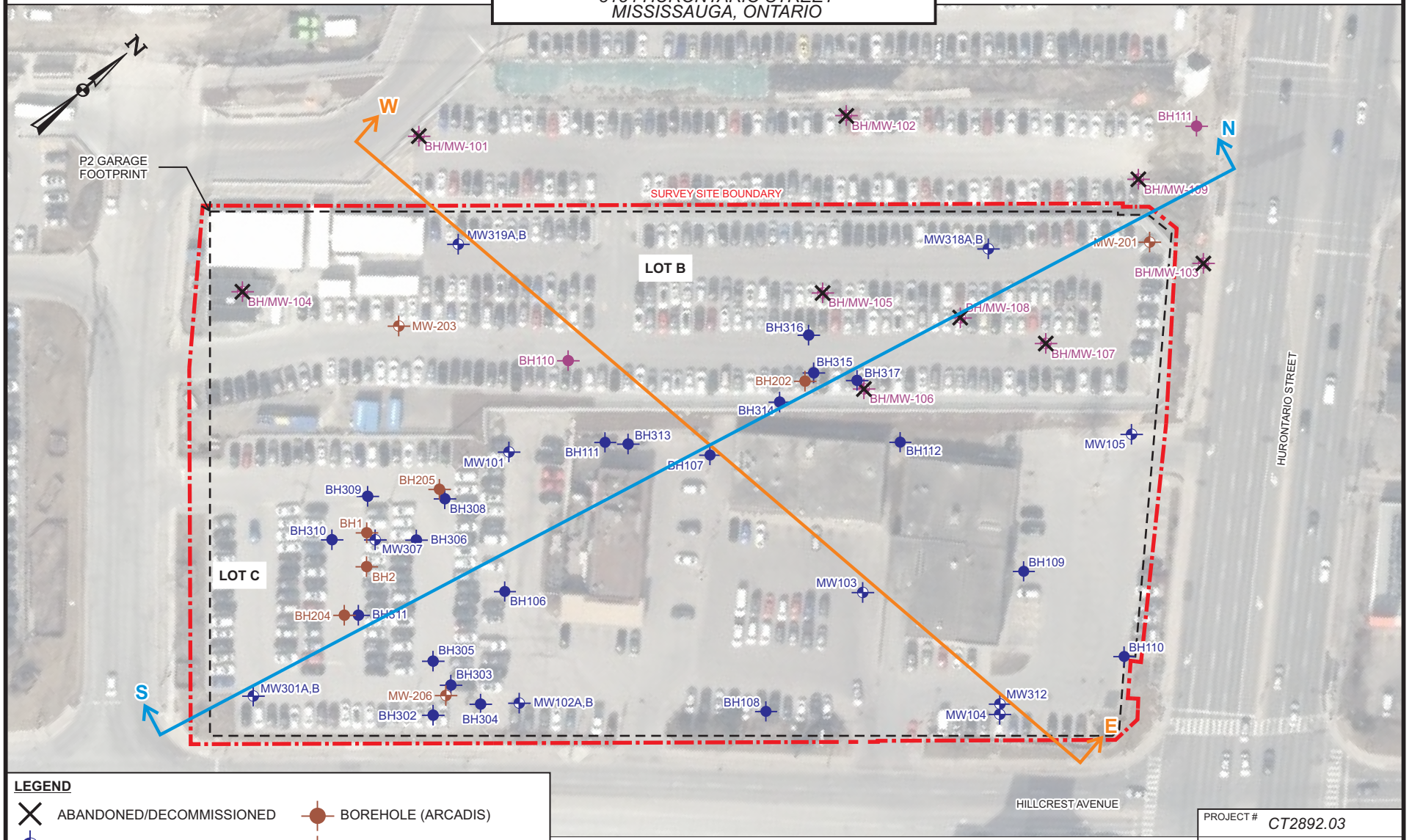
TERRAPEX

LOCATIONS OF INVESTIGATIONS

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



LEGEND

- ABANDONED/DECOMMISSIONED
- MONITORING WELL (TERRAPEX)
- BOREHOLE (TERRAPEX)
- MONITORING WELL (FRANZ)
- BOREHOLE (FRANZ, 2014)
- BOREHOLE (ARCADIS)
- MONITORING WELL (ARCADIS)
- CROSS SECTION WEST-EAST
- CROSS SECTION SOUTH-NORTH

0 25m 50m

SOURCE: VUMAP, FIRST BASE SOLUTIONS, 2018 IMAGERY. SURVEY PLAN PROVIDED BY THE CLIENT.

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	APRIL 2022
DRAWN	SF/AB/SW
CHECKED	
DRAWING #	FIGURE 4

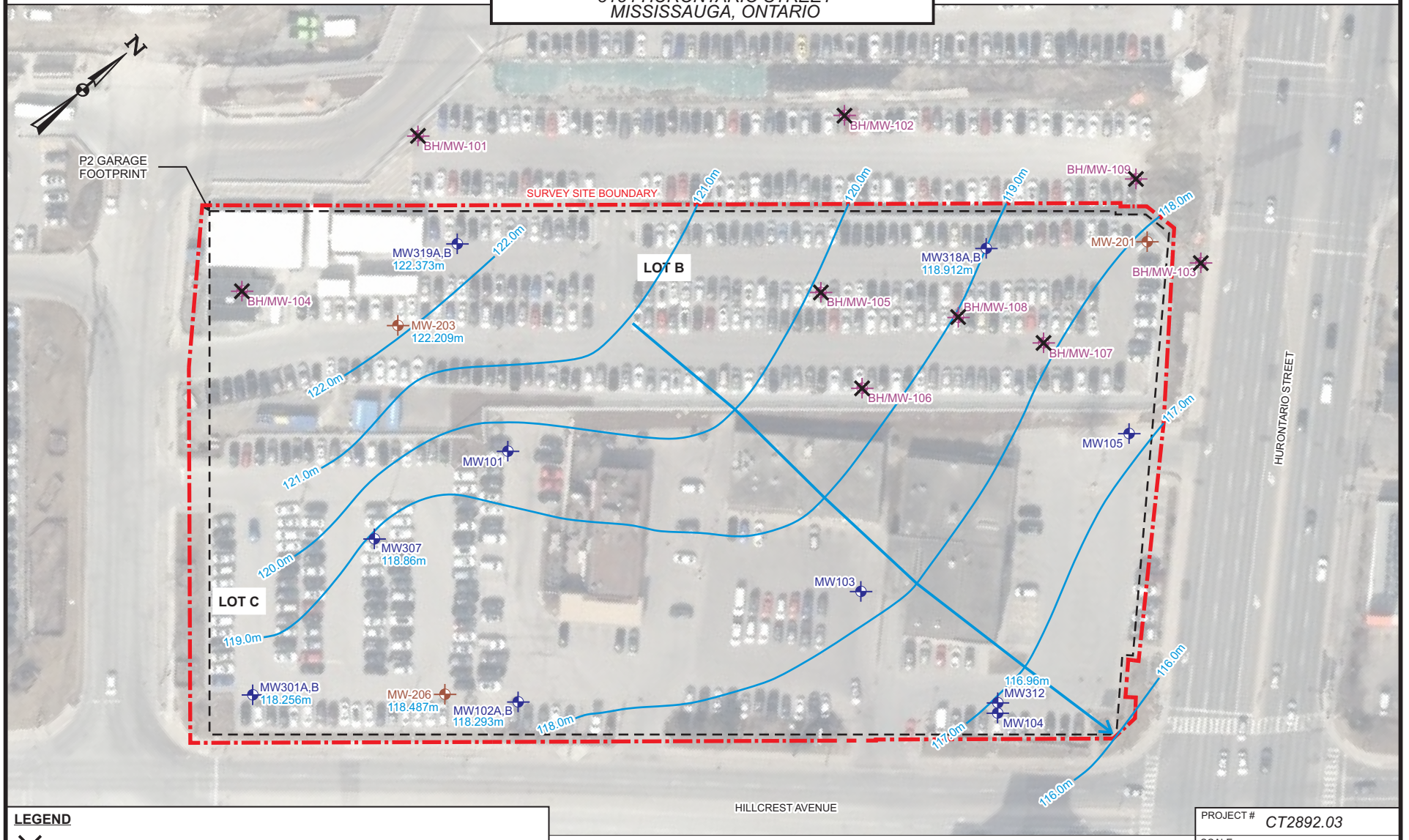
TERRAPEX

SHALLOW GROUNDWATER REGIME

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



LEGEND

- ABANDONED/DECOMMISSIONED
- MONITORING WELL (TERRAPEX)
- MONITORING WELL (FRANZ)
- MONITORING WELL (ARCADIS)
- 120.0m — EQUIPOTENTIAL CONTOUR STATIC WATER LEVEL (7 Jan 2021) (m ASL)
- INTERPRETED DIRECTION OF GROUNDWATER MOVEMENT

0 25m 50m

SOURCE: VUMAP, FIRST BASE SOLUTIONS, 2018 IMAGERY. SURVEY PLAN PROVIDED BY THE CLIENT.

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	APRIL 2022
DRAWN	SF/AB/SW
CHECKED	
DRAWING #	FIGURE 5

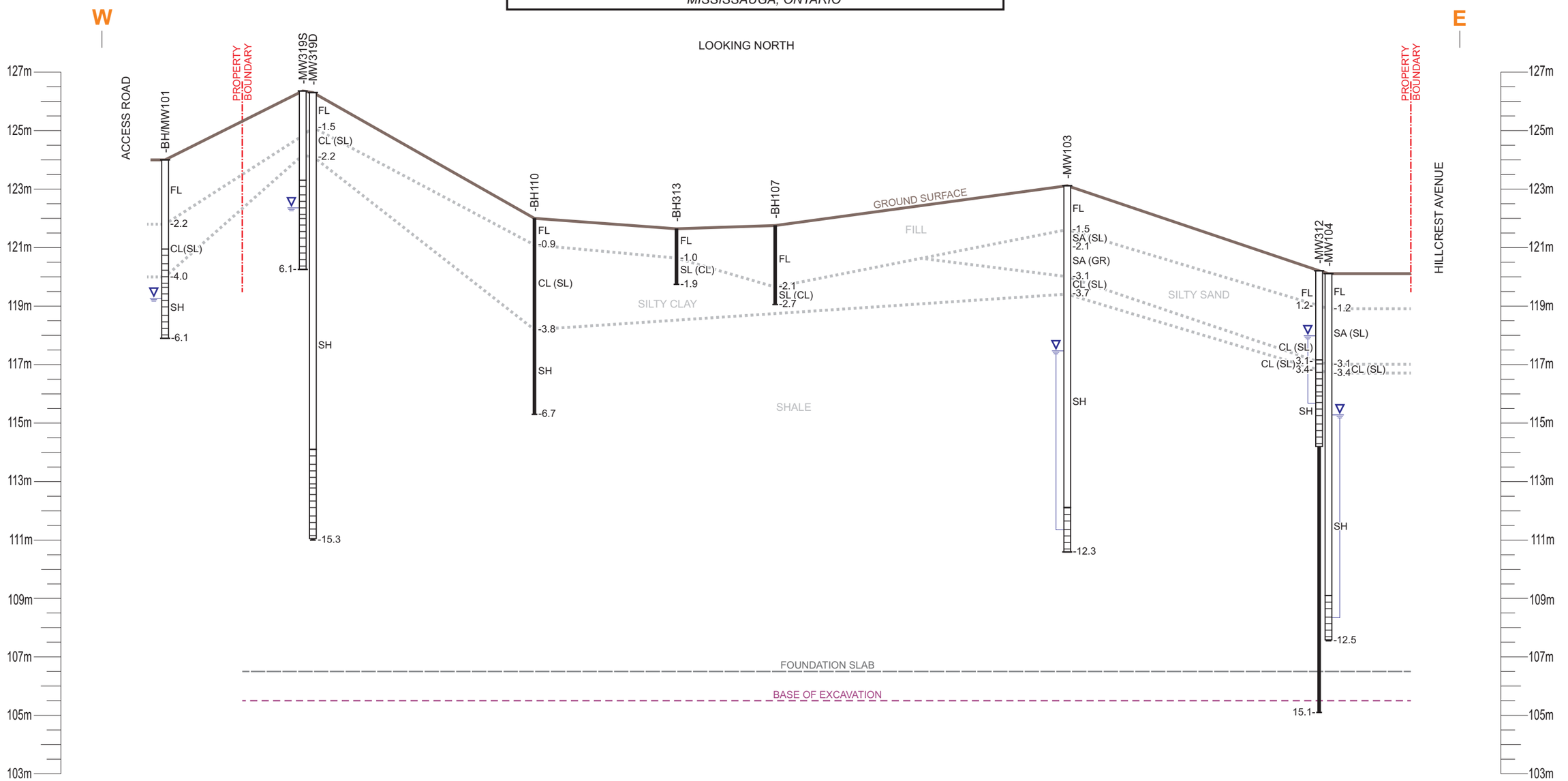
TERRAPEX

CROSS SECTION - WEST TO EAST

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

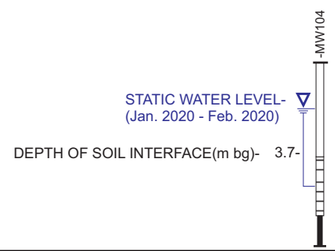
CLIENT

3168HS LP



LEGEND

TS	TOPSOIL	SH	SHALE BEDROCK
GR	GRAVEL	LS	LIMESTONE
SA	SAND	FR	FROZEN (NOT SAMPLED)
SL	SILT		
CL	CLAY		
FL	FILL		
TL	TILL		
PE	PEAT		
X(Y)	X IS A MAIN TEXTURE Y IS A SIGNIFICANT MINOR TEXTURE		



NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.

HORIZONTAL SCALE:

0 10m 20m

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	APRIL 2022
DRAWN	SW/ AB
CHECKED	
DRAWING #	FIGURE 6

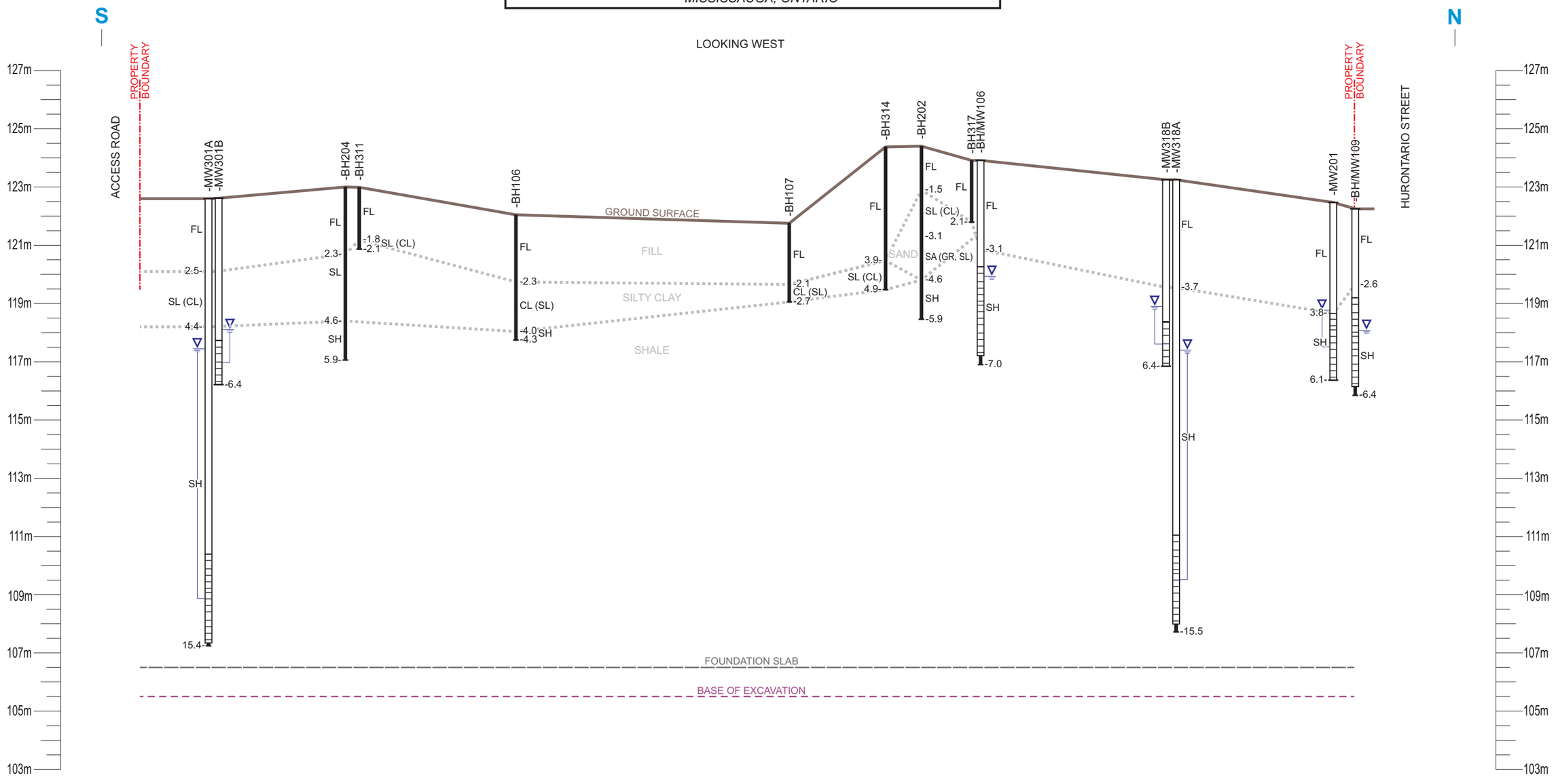
TERRAPEX

CROSS SECTION - SOUTH TO NORTH

25-33 HILLCREST AVENUE AND
3154 HURONTARIO STREET
MISSISSAUGA, ONTARIO

CLIENT

3168HS LP



LEGEND

TS	TOPSOIL	SH	SHALE BEDROCK
GR	GRAVEL	LS	LIMESTONE
SA	SAND	FR	FROZEN (NOT SAMPLED)
SL	SILT		
CL	CLAY		
FL	FILL		
TL	TILL		
PE	PEAT		
X(Y)	X IS A MAIN TEXTURE Y IS A SIGNIFICANT MINOR TEXTURE		

-MW104 - MONITORING WELL DESIGNATION

STATIC WATER LEVEL- (Jan. 2020 - Feb. 2020)

DEPTH OF SOIL INTERFACE(m bg)- 3.7-

- SCREENED ZONE

- BOREHOLE

NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.
3. GROUNDWATER LEVELS IN MW106, MW109, MW201 ARE HISTORIC.

HORIZONTAL SCALE:

0 10m 20m

PROJECT #	CT2892.03
SCALE	AS SHOWN
DATE	APRIL 2022
DRAWN	SW/ AB
CHECKED	
DRAWING #	FIGURE 7

APPENDIX II

TABLES

TABLE 1
Monitoring Well Construction Details
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario

Position and Depth

Well Desig. (m)	UTM Northing (m)	UTM Easting (m)	Date of Construct	Stick Down (m)	Depth of Borehole (m bg)	Depth to Well Bottom (m bg)	Screen Length (m)	Depth to Screen Bottom (m bg)	Depth to Screen Top (m bg)	Depth to Top Sand (m bg)
MW101	4826403	611250	22-Jul-19	-0.07	12.50	12.50	1.52	12.50	10.98	10.7
MW102(S)	4826373	611288	23-Jul-19	-0.14	4.50	4.50	3.05	4.50	1.45	1.2
MW102(D)	4826372	611288	23-Jul-19	-0.10	12.50	12.50	1.52	12.50	10.98	10.7
MW103	4826444	611317	24-Jul-19	-0.11	12.50	12.50	1.52	12.50	10.98	10.7
MW104	4826448	611356	25-Jul-19	-0.12	12.55	12.55	1.52	12.55	11.03	10.7
MW105	4826502	611324	26-Jul-19	-0.17	12.70	12.70	1.52	12.70	11.18	10.9
18MW-1	4826407	611252	14-Mar-18	-0.14	6.71	6.71	3.05	6.71	3.66	3.4
18MW-2	4826435	611278	14-Mar-18	-0.16	7.70	6.25	3.05	6.25	3.20	2.9
18MW-3(S)	-	-	23-Mar-18	-	2.74	2.74	1.52	2.74	1.22	0.9
18MW-3(D)	4826460	611289	23-Mar-18	-0.27	6.50	6.15	3.05	6.15	3.10	2.8
18MW-4	4826414	611299	14-Mar-18	-0.12	6.15	3.90	1.52	3.90	2.38	2.1
18MW-5	4826425	611332	14-Mar-18	-0.13	8.08	6.10	-	6.10	-	-
BH1	4826476	611304	13-Apr-18	-0.09	5.49	5.49	3.05	5.49	2.44	2.1
BH2	4826507	611328	13-Apr-18	-0.10	4.72	4.72	3.20	4.72	1.52	1.2
BH3	4826447	611357	13-Apr-18	-0.13	4.27	4.27	3.05	4.27	1.22	0.9
MW203	4826398	611211	29-Jan-20	-0.17	6.10	6.10	3.05	6.10	3.05	2.8
MW206	4826364	611277	29-Jan-20	-0.08	6.10	6.10	3.05	6.10	3.05	2.8
MW301A	4826335	611254	30-Nov-20	-0.12	15.40	15.25	3.05	15.25	12.20	11.9
MW301B	4826409	611197	30-Nov-20	-0.14	6.40	6.40	1.52	6.40	4.88	4.6
MW307	4826372	611247	01-Dec-20	-0.11	6.10	6.10	3.05	6.10	3.05	2.8
MW312	4826450	611354	02-Dec-20	-0.09	15.10	6.10	3.05	6.10	3.05	2.8
MW318A	4826506	611277	03-Dec-20	-0.17	15.55	15.25	3.05	15.25	12.20	11.9
MW318B	4826504	611278	03-Dec-20	-0.23	6.40	6.40	1.52	6.40	4.88	4.6
MW319A	4826408	611198	03-Dec-20	-0.15	15.30	15.25	3.05	15.25	12.20	11.9
MW319B	4826409	611197	04-Dec-20	-0.11	6.10	6.10	3.05	6.10	3.05	2.8

TABLE 1
Monitoring Well Construction Details
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario
Key Elevations

Well Desig.	Ground Elev. (m asl)	End of Borehole Elev. (m asl)	Top of Pipe Elev. (m asl)	Screen Bottom Elev. (m asl)	Screen Top Elev. (m asl)
MW101	123.09	110.59	123.03	110.59	112.11
MW102(S)	121.12	116.62	120.98	116.62	119.67
MW102(D)	121.12	108.62	121.02	108.62	110.14
MW103	121.12	108.62	121.00	108.62	110.14
MW104	120.11	107.56	119.99	107.56	109.08
MW105	121.21	108.51	121.04	108.51	110.03
18MW-1	123.07	116.36	122.93	116.36	119.41
18MW-2	121.71	114.01	121.55	115.46	118.51
18MW-3(S)	-	-	-	-	-
18MW-3(D)	121.71	115.21	121.44	115.56	118.61
18MW-4	121.11	114.96	120.99	117.21	118.73
18MW-5	119.70	111.62	119.57	113.60	-
BH1	121.33	115.84	121.24	115.84	118.89
BH2	120.99	116.27	120.89	116.27	119.47
BH3	120.06	115.79	119.93	115.79	118.84
MW203	125.89	119.79	125.72	119.791	122.841
MW206	121.36	115.26	121.28	115.26	118.31
MW301A	122.662	107.26	122.539	107.412	110.462
MW301B	122.616	116.22	122.471	116.216	117.736
MW307	122.996	116.90	122.881	116.896	119.946
MW312	120.209	105.11	120.115	114.109	117.159
MW318A	123.248	107.70	123.083	107.998	111.048
MW318B	123.308	116.91	123.082	116.908	118.428
MW319A	126.302	111.00	126.148	111.052	114.102
MW319B	126.354	120.254	126.243	120.254	123.304

Notes:
1. m asl = metres above sea level
2. m bg = metres below ground (or grade)
3. Monitoring wells 18MW-1 through 18MW-5 were installed by Toronto Inspection Ltd.
5. Monitoring wells BH1 through BH3 were installed by Colestar Environmental Inc.
6. No well construction details provided in borehole logs for 18MW-5, field measured well depth used.

TABLE 2
Observed Groundwater Levels
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario

Well Desig.	Date	Ground Elev. (m asl)	Top Pipe Elev. (m asl)	Well Depth (m bg)	Groundwater Depth (m bmp)	Groundwater Depth (m bg)	Gr'water Elev. (m asl)	Comment
MW101	26-Jul-19	123.09	123.03	12.50	7.80	7.86	115.23	
	31-Jul-19				7.89	7.89	115.14	
	06-Aug-19				7.92	7.92	115.11	
	09-Aug-19				7.92	7.92	115.11	
MW102(S)	26-Jul-19	121.12	120.98	4.50	2.78	2.92	118.20	
	31-Jul-19				2.82	2.96	118.16	
	06-Aug-19				*2.85*	2.99	118.14	
	09-Aug-19				2.89	3.03	118.10	
	10-Dec-20				2.86	3.00	118.13	
	23-Dec-20				2.85	2.99	118.13	
	07-Jan-21				2.69	2.83	118.29	
MW102(D)	26-Jul-19	121.12	121.02	12.50	5.82	5.92	115.21	
	31-Jul-19				5.87	5.97	115.21	
	06-Aug-19				5.80	5.90	115.21	
	09-Aug-19				5.90	6.00	115.21	
	10-Dec-20				5.72	5.82	115.21	
	23-Dec-20				5.76	5.86	115.21	
	07-Jan-21				5.74	5.84	115.21	
MW103	26-Jul-19	121.12	121.00	12.50	5.58	5.70	115.42	
	31-Jul-19				5.80	5.92	115.21	
	06-Aug-19				5.84	5.96	115.16	
	09-Aug-19				5.86	5.98	115.15	
	10-Dec-20				5.65	5.77	115.36	
	23-Dec-20				5.66	5.78	115.34	
	07-Jan-21				5.63	5.75	115.38	
MW104	26-Jul-19	120.11	119.99	12.55	4.85	4.97	115.14	
	31-Jul-19				4.88	5.00	115.11	
	06-Aug-19				4.92	5.04	115.07	
	09-Aug-19				4.93	5.05	115.06	
	10-Dec-20				4.83	4.95	115.16	
	23-Dec-20				4.88	5.00	115.11	
	07-Jan-21				4.86	4.98	115.13	
MW105	26-Jul-19	121.21	121.04	12.70	3.88	4.04	117.17	
	31-Jul-19				4.92	5.08	116.13	
	06-Aug-19				4.98	5.14	116.07	
	09-Aug-19				5.00	5.17	116.04	
	10-Dec-20				4.99	5.16	116.05	
	23-Dec-20				4.97	5.14	116.07	
	07-Jan-21				4.94	5.11	116.10	
MW203	10-Dec-20	125.89	125.72	6.10	3.57	3.73	122.16	
	23-Dec-20				3.55	3.71	122.18	
	07-Jan-21				3.52	3.68	122.21	
	19-Jan-21				3.55	3.71	122.18	

TABLE 2
Observed Groundwater Levels
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario

Well Desig.	Date	Ground Elev. (m asl)	Top Pipe Elev. (m asl)	Well Depth (m bg)	Groundwater Depth (m bmp)	(m bg)	Gr'water Elev. (m asl)	Comment
MW206	10-Dec-20	121.36	121.28	6.10	3.04	3.12	118.24	
	23-Dec-20				2.98	3.05	118.31	
	07-Jan-21				2.80	2.87	118.49	
	19-Jan-21				2.85	2.93	118.43	
MW301A	10-Dec-20	122.66	122.54	15.25	5.16	5.28	117.38	
	23-Dec-20				5.13	5.25	117.41	
	07-Jan-21				5.06	5.18	117.48	
	19-Jan-21				4.76	4.88	117.78	
MW301B	10-Dec-20	122.62	122.47	6.40	4.51	4.66	117.96	
	23-Dec-20				4.36	4.50	118.12	
	07-Jan-21				4.22	4.36	118.26	
	19-Jan-21				4.20	4.35	118.27	
MW307	10-Dec-20	123.00	122.88	6.10	5.03	5.12	117.86	
	23-Dec-20				4.21	4.30	118.67	
	07-Jan-21				4.03	4.12	118.86	
	19-Jan-21				4.15	4.25	118.73	
MW312	10-Dec-20	120.21	120.12	6.10	2.23	2.32	117.89	
	23-Dec-20				3.29	3.39	116.82	
	07-Jan-21				3.16	3.25	116.96	
	19-Jan-21				3.29	3.39	116.82	
MW318A	10-Dec-20	123.25	123.08	15.25	2.65	2.81	120.44	possibly not static
	23-Dec-20				4.27	4.44	118.81	possibly not static
	07-Jan-21				5.66	5.83	117.42	
	19-Jan-21				5.91	6.07	117.18	
MW318B	10-Dec-20	123.31	123.08	6.40	4.17	4.39	118.92	
	23-Dec-20				4.31	4.54	118.77	
	07-Jan-21				4.17	4.40	118.91	
	19-Jan-21				4.40	4.63	118.68	
MW319A	10-Dec-20	126.30	126.15	15.30	2.71	2.86	123.44	
	23-Dec-20				14.54	14.69	111.61	still recovering from well development
	07-Jan-21				14.22	14.38	111.92	still recovering from well development
	19-Jan-21				12.66	12.82	113.49	still recovering from well development
MW319B	10-Dec-20	126.35	126.24	6.10	4.00	4.11	122.25	
	23-Dec-20				4.12	4.23	122.12	
	07-Jan-21				3.87	3.98	122.37	
	19-Jan-21				3.99	4.10	122.26	

Notes

1. Ground elevation surveyed with TOPCON GNSS Positioning System
2. Tops of pipe elevation surveyed with TOPCON GNSS Positioning System
3. m asl = metres above sea level
4. m bmp = metres below measurement point (Top of pipe)
5. m bg = metres below ground
6. >, < values are based on screen bottom depth and elevation

TABLE 3
Summary of Groundwater Quality
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario

	Units	Sewers Bylaw		MW312
		Peel Sanitary	Mississauga Storm	19-Jan-21
MISCELLANEOUS INORGANIC PARAMETERS				
Fluoride	mg/L	10		<0.33
pH	pH units	5.5-10	6.0-9.0	7.46
Total Suspended Solids	mg/L	350	***15***	***30***
Cyanide - Total (CN)	mg/L	2	0.02	<0.002
Total Residual Chlorine	mg/L	-	1	<0.1
METALS (Total)				
Aluminium (Al)	mg/L	50	1	0.791
Antimony (Sb)	mg/L	5	-	<0.020
Arsenic (As)	mg/L	1	0.02	<0.015
Cadmium (Cd)	mg/L	0.7	0.008	<0.005
Hexavalent Chromium (Cr VI)	mg/L	-	0.04	<0.005
Chromium (Cr)	mg/L	5	0.08	<0.015
Cobalt (Co)	mg/L	5	-	<0.020
Copper (Cu)	mg/L	3	0.04	<0.010
Lead (Pb)	mg/L	3	0.120	<0.020
Manganese (Mn)	mg/L	5	***0.05***	***0.267***
Mercury (Hg)	mg/L	0.01	0.0004	<0.0002
Molybdenum (Mo)	mg/L	5	-	<0.020
Nickel (N)	mg/L	3	0.08	<0.015
Selenium (Se)	mg/L	1	0.02	<0.020
Silver (Ag)	mg/L	5	0.12	<0.010
Tin (Sn)	mg/L	5	-	<0.025
Titanium (Ti)	mg/L	5	-	0.021
Zinc (Zn)	mg/L	3	0.04	<0.020
MICROBIOLOGICAL AND NUTRIENTS				
Escherichia coli	CFU/100 mL	-	200	<1
Oil & Grease: Animal and Vegetable	mg/L	150	-	<0.5
Oil & Grease: Mineral and Synthetic	mg/L	15	-	<0.5
Biological Oxygen Demand (BOD)	mg/L	300	15	5
Phenolics (4AAP)	mg/L	1.0	0.008	0.004
Phosphorus (P)	mg/L	10	0.4	0.04
Sulfate (SO4)	mg/L	1500	-	385
Total Kjeldahl Nitrogen (TKN)	mg/L	100	***1***	***6.30***

Notes

1. Criteria based on Peel Region sewer bylaw (53-2010) and City of Mississauga storm sewer bylaw (0259-2005)
2. Bold and italic values at least exceed either Table 1 or Table 2, as highlighted
3. mg/L = milligrams per litre
4. CFU/100mL = colony forming units per 100 millilitres
5. "-" indicates no established criteria for the parameter

TABLE 3
Summary of Groundwater Quality
25-33 Hillcrest Ave. & 3154 Hurontario St., Mississauga, Ontario

	Units	Sewers Bylaw		MW312
		Peel Sanitary	**Mississauga Storm**	19-Jan-21
VOLATILE ORGANIC COMPOUNDS				
Benzene	mg/L	0.01	0.002	<0.0002
Chloroform	mg/L	0.04	-	<0.0002
Methylene Chloride (Dichloromethane)	mg/L	2	-	<0.0003
Dichlorobenzene, 1,2-	mg/L	0.05	-	<0.0001
Dichlorobenzene,1,4-	mg/L	0.08	-	<0.0001
Dichloroethylene, cis-1,2-	mg/L	4	-	<0.0002
Dichloropropene, trans-1,3-	mg/L	0.14	-	<0.0003
Ethylbenzene	mg/L	0.16	0.002	<0.0001
Methyl Ethyl Ketone	mg/L	8.0	-	<0.0009
Styrene	mg/L	0.2	-	<0.0001
Tetrachloroethane, 1,1,2,2-	mg/L	1.4	-	<0.0001
Tetrachloroethylene	mg/L	1	-	<0.0001
Toluene	mg/L	0.27	0.002	<0.0002
Trichloroethylene	mg/L	0.4	-	<0.0002
Xylenes (Total)	mg/L	1.4	0.04	<0.0001
Polycyclic Aromatic Hydrocarbons	mg/L	-	0.002	<0.0003
SEMIVOLATILE ORGANIC COMPOUNDS				
Bis (2-ethylhexyl) phthalate	mg/L	0.012	-	<0.0005
Di-N-Butyl phthalate	mg/L	0.08	-	<0.0005
MISCELLANEOUS ORGANIC PARAMETERS				
Nonylphenols (Total)	mg/L	0.02		<0.001
Nonylphenol Ethoxylate (Total)	mg/L	0.2		<0.001
PCBs	mg/L	0.001		<0.0002

Notes

1. Criteria based on Peel Region sewer bylaw (53-2010) and City of Mississauga storm sewer bylaw (0259-2005)
2. Bold and italic values at least exceed either Table 1 or Table 2, as highlighted
3. mg/L = milligrams per litre
4. CFU/100mL = colony forming units per 100 millilitres
5. "-" indicates no established criteria for the parameter

TABLE 4
Predicted Construction Dewatering Rate
3154 and 3168 Hurontario St. and 25 to 33 Hillcrest Ave., Mississauga

Parameter	Value	Units	Symbol	Origin of Value
Aquifer Hydraulic Conditions				
Hydraulic conductivity	7.0E-07	m/s	K	Maximum observed in bail tests
Hydraulic connection to water table	Unconfined			Interpreted
Analogous Dewatering Array Dimensions				
Analogous shape	Rectangular trench			
Long axis along excavation	196.0	m	X	Based on property boundary
Short axis along exavation	104.2	m	J	= A / X, average width
Garage footprint area to be dewatered	20,427	m^2	A	Site plans
Radius of equivalent wells at short sides	52.1	m	R_W	= J / 2
Subsurface Vertical Dimensions				
Surface grade (current)	122.5	masl	E_G	Representative average, varies from 120 to 128 masl
Foundation slab (upper surface), depth	16.0	mbg	D_F	= E_G - E_F
Foundation slab (upper surface), elevation	106.5	masl	E_F	Design plan
Elevation difference between excavation base and foundation slab surface	1.0	m		= E_F - E_{EX}
Excavation base (bases of footings), elevation	105.5	masl	E_{EX}	Design plan
Excavation base (bases of footings), depth	17.0	mbg	D_{EX}	= E_G - E_{EX}
Assumed elevation difference between excavation base and reference datum	3.0	m		
Reference datum (for calculation)	102.5	masl	E_{RD}	Set at 3 m below base of excavation
Dewatering Levels and Dimensions				
Water table, elevation	119.7	masl	EW_{HIGH}	= E_G - DW_{SHALL}
Water table, depth	2.8	m	DW_{SHALL}	Shallowest water table observed
Buffer for seasonal fluctuation	1.0	m	B	Based on potential for higher water levels during spring
Water table elevation (pre-pumping level)	120.7	masl	$EW_{HIGHEST}$	= EW_{HIGH} + B. Allows for seasonal fluctuation
Height of water table above reference datum	18.2	m	H	= $EW_{HIGHEST}$ - E_{RD}
Target dewatering level, elevation	104.5	m asl	EW_{TARG}	Target is 1 m lower than excavation base = E_{EX} -1.0 m
Target dewatering level, depth	18.0	mbg	DW_{TARG}	Target is 1 m deeper than excavation bas. = D_{EX} + 1.0 m
Height of target water level above datum	2.0	m	h_T	
Radius of Influence				
Applied equation	$R_O = 3000 * (H - h_T) * (K)^{0.5}$			Sichardt and Kryieleis (1930)
Radius of Influence	41	m	R_O	As measured from excavation edge
Equivalent line source	20	m	L	Half of radius of influence
Incident Stormwater				
Excavation open area	20,427	m^2	A	Design plan
Typical large large storm	25	mm/day	P_T	Typically 4 to 5 events/year. Larger is possible.
Stormwater (i.e. from precipitation)	510.7	m^3/day	Q_{STORM}	= A * P_T
Change of units (rounded)	510,675	litres/day	Q_{STORM}	
Estimated Flows to be Managed				
Applied equation for trench long sides	$Q_{GW} = 2 * X * K * (H^2 - h_T^2) / (3.34 \times 10^{-5} * L)$			Powers et. al, 2007
Applied equation for trench short sides	$Q_{GW} = K * (H^2 - h_T^2) / (5.31 \times 10^{-6} * \ln((R_O+R_W)/R_W))$			Powers et. al, 2007
Groundwater seepage from long sides	132.2	litres/min	Q_{GW-LS}	Calculated from values in this sheet
Groundwater seepage from short sides	74.8	litres/min	Q_{GW-ShS}	Calculated from values in this sheet
Groundwater seepage from all sides	207.0	litres/min	Q_{GW-ShS} + Q_{GW-LS}	
Change of units	298,120	litres/day		
Safety factor	2.0			Allow for unknown conditions between boreholes or beyond the excavation walls
Groundwater seepage, with safety factor	596,239	litres/day		= Safety Factor x Q_{GW}
Groundwater seepage plus storm water	1,106,914	litres/day		= Safety Factor x Q_{GW} + Q_{STORM}
Applicable regulatory Instrument	**PTTW Required**			MECP, O.Reg 245/11, O.Reg 387/04; OWRA S.41
Value to specify in regulatory instrument	***1,106,910***	litres/day		Value includes stormwater. Rounded value.

Notes.

1. Patrick Powers, Arthur Corwin, Paul Schmall, Walter Kaeck. 2007. Construction Dewatering and Groundwater Control. Third Edition.
2. mbg = metres below ground level
3. masl = metres above sea level

TABLE 5
Predicted Foundation Drainage Rate
3154 and 3168 Hurontario St. and 25 to 33 Hillcrest Ave., Mississauga

Parameter	Value	Units	Symbol	Origin of Value
Aquifer Hydraulic Conditions				
Hydraulic conductivity	7.0E-07	m/s	K	Maximum observed in bail tests
Hydraulic connection to water table	Unconfined			Interpreted
Analogous Dewatering Array Dimensions				
Analogous shape	Rectangle / Trench			
Long axis along excavation	196.0	m	X	Based on property boundary
Average width of exavation	104.2	m	J	= A / X, average width
Garage footprint area to be dewatered	20,427	m^2	A	Site plans
Radius of an equivalent well at ends	52.1	m	R_W	= J / 2
Subsurface Vertical Dimensions				
Surface grade (approximate average)	122.5	masl	E_G	Representative average, varies from 120 to 128 masl
Foundation slab (upper surface), depth	16.0	mbg	D_F	= E_G - E_F
Foundation slab (upper surface), elevation	106.5	masl	E_F	Design plan
Elevation difference between foundation slab and foundation drains	0.3	m		Typical for this type of structure
Foundation drains, elevation	106.2	masl	E_{EX}	Assumed 0.3 m lower than foundation slab surface
Foundation drains, depth	16.3	mbg	D_{EX}	Assumed 0.3 m deeper than foundation slab surface
Elevation difference between foundation drain and reference datum	3.0	m		Assumed
Reference datum (for calculation)	103.2	masl	E_{RD}	Set at 3 m below foundation drains
Dewatering Levels and Dimensions				
Water table, elevation	119.7	masl	EW_{HIGH}	= E_G - DW_{SHALL}
Water table, depth	2.8	m	DW_{SHALL}	Shallowest water table observed
Buffer for seasonal fluctuation	1.0	m	B	Based on potential for higher water levels during spring
Water table elevation (pre-pumping level)	120.7	masl	$EW_{HIGHEST}$	= EW_{HIGH} + B. Allows for seasonal fluctuation
Height of water table above reference datum	17.5	m	H	= $EW_{HIGHEST}$ - E_{RD}
Target dewatering level, elevation	106.2	m asl	EW_{TARG}	Target is foundation drain elevation, E_{EX}
Target dewatering level, depth	16.3	mbg	DW_{TARG}	Target is foundation drain depth, D_{EX}
Height of target water level above datum	3.0	m	h_T	
Radius of Influence				
Applied equation	$R_O = 3000 * (H - h_T) * (K)^{0.5}$			Sichardt and Kryieleis (1930)
Radius of Influence	36	m	R_O	As measured from excavation edge
Equivalent line source	18	m	L	Half of radius of influence
Estimated Flows to be Managed				
Applied equation for trench long sides	$Q_{GW} = 2 * X * K * (H^2 - h_T^2) / (3.34 \times 10^{-5} * L)$			Powers et. al, 2007
Applied equation for trench short sides	$Q_{GW} = K * (H^2 - h_T^2) / (5.31 \times 10^{-6} * \ln((R_O+R_W)/R_W))$			Powers et. al, 2007
Groundwater seepage from long sides	134.2	litres/min	Q_{GW-LS}	Calculated from values in this sheet
Groundwater seepage from short sides	74.0	litres/min	Q_{GW-ShS}	Calculated from values in this sheet
Groundwater seepage from all sides	208.2	litres/min	Q	$Q = Q_{GW-ShS} + Q_{GW-LS}$
Change of units	299,774	litres/day		= Q * 24 * 60
Safety factor	2.0			Allow for unknown conditions between boreholes or beyond the excavation walls
Groundwater seepage, with safety factor	599,500	litres/day		= Safety Factor x Q_{GW}

Notes

1. Patrick Powers, Arthur Corwin, Paul Schmall, Walter Kaeck. 2007. Construction Dewatering and Groundwater Control. Third Edition.
2. mbg = metres below ground level
3. masl = metres above sea level

APPENDIX III

BOREHOLE RECORDS

CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW101**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 123.094	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) / N-Value (Blows/300mm)	Water Content (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (50 mm) Granular base (50 mm)	0	123	10	7	1A		10	<5/0		Groundwater was measured at 7.99 mbgs on Aug 6, 2019. S1B: M&I
		0.5	122.5			1B			<5/0		
	very stiff to stiff, damp, brown clayey silt trace gravel, trace sand occasional brick pieces (FILL)	1	122	21	11	2		21	<5/0		
		1.5	121.5		12						S3: BTEX, PHCs(F1-F4), VOCs (DUP)
		2	121	9		3		9	<5/50		
		2.5	120.5	86/200	8	4		86/200	45/0		S4: EC/SAR
	hard, damp, brown to grey SILTY CLAY S6: trace shale TCR= 78% fragments RQD= 0%	3	120	50/75	9	5		50/75	<5/0		
		3.5	119.5		7	6					
	S7: TCR= 100% RQD= 83%	4	119			7					
	S8: TCR= 99% RQD= 27%	4.5	118.5								
		5	118			8					
	S9: TCR= 97% RQD= 50%	5.5	117.5								
		6	117			9					
	S10: Georgian Bay Formation: TCR= 100% grey RQD= 46% Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin	6.5	116.5								
		7	116			10					
		7.5	115.5								
▽	S11: limestone beddings TCR= 98% occasional thin RQD= 68% clay seams	8	115								
		8.5	114.5			11					
		9	114								
	S12: TCR= 100% RQD= 57%	9.5	113.5								

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW101**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 123.094	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		UCS at 10.1= 60.2 MPa	10	113			12					
		S13: TCR= 92% RQD= 62% Georgian Bay Formation: grey Medium strong SHALE moderately weathered moderately fractured occasional thin limestone beddings occasional thin clay seams	10.5	112.5								
			11	112								
			11.5	111.5			13					
			12	111								
		END OF BOREHOLE										

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW102D**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.124	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (125 mm)	0	121	25	13	1A		25	10/0		Groundwater was measured at 5.91 mbgs on Aug 6, 2019.
	Granular Base (400 mm)	0.5	120.5			1B			<5/0		
	loose, damp, reddish brown silty sand, trace gravel (FILL)	1	120	10	19	2		10	10/0		
		1.5	119.5		11						
		2	119	8		3		8	<5/0		
		2.5	118.5	15	14	4A		15	<5/0		
	hard, damp, brown SILTY CLAY trace shale fragments	3	118			4B			<5/0		S4B: EC/SAR (DUP)
		3.5	117.5	47	15	5		47	<5/0		
	grey WEATHERED SHALE	4	117	50/25	13	6		50/25	<5/0		
	S7: TCR= 94% RQD= 44%	4.5	116.5			7					
	S8: TCR= 72% RQD= 42%	5	116								
		5.5	115.5			8					
▽	S9: TCR= 80% RQD= 24% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	6	115								
		6.5	114.5			9					
	S10: TCR= 100% RQD= 73%	7	114								
		7.5	113.5			10					
	S11: TCR= 100% RQD= 57%	8	113								
		8.5	112.5			11					
	S12: TCR= 100% RQD= 71%	9	112								
		9.5	111.5								

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW102D**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.124	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		S13: TCR= 100% RQD= 71% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	10 10.5 11 11.5 12	111 110.5 110 109.5 109			12 13					
		END OF BOREHOLE										

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CLIENT: TAS Design Build	METHOD: Hollow Step Auger		**BH No.: MW102S**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.115	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
▽		Straight auger to 4.5 m to install the monitoring well	0 0.5 1 1.5 2 2.5 3 3.5 4	121 120.5 120 119.5 119 118.5 118 117.5 117								Groundwater was measured at 2.98 mbgs on Aug 6, 2019. Bentonite sand sand + screen
		END OF BOREHOLE										

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW103**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.116	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		Asphaltic Concrete (100 mm)	0	121	16		1A		16	<5/0		Groundwater was measured at 5.95 mbgs on Aug 6, 2019.
		Granular Base (250 mm)					1B					S1B: M&I, PAHs (DUP)
		compact, dark brown, damp silty sand, trace gravel (FILL)	0.5	120.5								
			1	120	20		2		20	<5/0		
		compact, moist, reddish brown SILTY SAND	1.5	119.5	12		3		12	<5/0		
		dense, damp, brown GRAVELLY SAND	2	119								
			2.5	118.5	31		4		31	20/0		
		hard, damp, brown SILTY CLAY trace shale fragments	3	118	50/150		5		50/150	25/0		S5: EC/SAR
			3.5	117.5								
		grey, WEATHERED SHALE	4	117	50/25		6		50/25	5/0		
		S7: TCR= 100% RQD= 21%	4.5	116.5			7					
		S8: TCR= 100% RQD= 30%	5	116								
▽			5.5	115.5			8					
		S9: TCR= 94% RQD= 56% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	6	115								
			6.5	114.5								
			7	114			9					
		S10: TCR= 100% RQD= 70%	7.5	113.5								
			8	113			10					
		S11: TCR= 100% RQD= 64%	8.5	112.5								
			9	112			11					
		S12: TCR= 100% RQD= 71%	9.5	111.5								

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW103**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.116	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		UCS at 10.4= 61.8 MPa	10	111			12					
		S13: TCR= 100% RQD= 64% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	10.5	110.5								
			11	110								
			11.5	109.5			13					
		UCS at 12.1= 60.7 MPa	12	109								
		END OF BOREHOLE	12.5									

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CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring	**BH No.: MW104**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 120.110
LOCATION: Mississauga, ON	NORTHING:	EASTING: PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) / N-Value (Blows/300mm)	Water Content (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (50 mm)	0	120	34	4	1		34	<5/0		Groundwater was measured at 5.04 mbgs on Aug 6, 2019.
	Granular Base (550 mm)	0.5	119.5								
	loose, damp, brown silty sand (FILL)	1	119	4	4	2		4	35/0		S2: M&I, PAHs, OCPs (DUP)
	reddish brown	1.5	118.5	4	6	3A		4	<5/0		
	loose ----- dense; damp SILTY SAND trace gravel; ----- brown	2	118			3B			10/0		
		2.5	117.5	43	5	4		43	<5/0		S4: EC/SAR
	hard, damp, brown SILTY CLAY, trace shale fragments	3	117	79/225	10	5		79/225	<5/0		
	grey WEATHERED SHALE	3.5	116.5								
		4	116	50/75	5	6		50/75	<5/0		
	S7: TCR= 82% RQD= 7%	4.5	115.5								
		5	115			7					
	S8: TCR= 92% RQD= 37%	5.5	114.5								
	Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	6	114								
	S9: TCR= 100% RQD= 46%	6.5	113.5			8					
		7	113								
	S10: TCR= 85% RQD= 0%	7.5	112.5			9					
	S11: TCR= 75% RQD= 41%	8	112								
		8.5	111.5			10					
		9	111								
		9.5	110.5			11					

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 25, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring	**BH No.: MW104**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN / ELEV. (m) 120.110	
LOCATION: Mississauga, ON	NORTHING: / EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		S12: TCR= 92% RQD= 61% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams UCS at 10.8= 56.0 MPa S13: TCR= 100% RQD= 87%	10 10.5 11 11.5 12 12.5	110 109.5 109 108.5 108			12 13					
		END OF BOREHOLE										

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 25, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW105**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.210	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (75 mm) Granular Base (250 mm)	0	121	13	10	1		13	<5/0		Groundwater was measured at 5.15 mbgs on Aug 6, 2019.
	loose, damp, brown silty sand, trace gravel (FILL)	0.5 1	120.5 120	3	6	2		3	<5/0		S2: M&I, PAHs, OCPs
	dense to compact, damp, brown gravelly sand (FILL)	1.5 2	119.5 119	42	3	3		42	<5/0		
		2.5	118.5	42	3	4		42	<5/0		S4: SAR
	hard, damp, grey SILTY CLAY, trace shale fragments	3	118	50/75	8	5		50/75	<5/0		
	grey WEATHERED SHALE	3.5	117.5	50/125	5	6		50/125	<5/0		
	S7: TCR= 83% RQD= 0%	4 4.5	117 116.5			7					
▽	S8: TCR= 100% RQD= 7%	5 5.5	116 115.5			8					
	S9: TCR= 94% RQD= 27% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	6 6.5	115 114.5			9					
	S10: TCR= 100% RQD= 35%	7 7.5	114 113.5			10					
	S11: TCR= 100% RQD= 57%	8 8.5 9 9.5	113 112.5 112 111.5								

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 26, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Split Spoon Sampling and Rock Coring		**BH No.: MW105**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.210	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		S12: TCR= 100% RQD= 55% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams UCS at 11.5= 60.0 MPa	10 10.5 11 11.5 12 12.5	111 110.5 110 109.5 109			11 12					
		END OF BOREHOLE										

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 26, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Augering and Split Spoon Sampling	**BH No.: BH106**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 122.046
LOCATION: Mississauga, ON	NORTHING:	EASTING: PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) / N-Value (Blows/300mm)	Water Content (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (65 mm) Granular Base (75 mm) stiff, damp, grey silty clay, trace gravel (FILL)	0 0.5	122 121.5	13		1		13	<5/0		Borehole open and dry on completion. S2A: M&I, PAHs
	compact, damp, brown gravelly sand (FILL)	1 1.5 2	121 120.5 120	17 19		2A 2B 3		17 19	65/0 <5/0 70/0		
	hard, damp, browm SILTY CLAY trace shale fragments	2.5 3 3.5	119.5 119 118.5	50		4		50	<5/0		
	grey WEATHERED SHALE	4	118	50/25		5		50/25	<5/0		
	END OF BOREHOLE										

TERRAPEX

LOGGED BY: DM	DRILLING DATE: July 23, 2019
REVIEWED BY: VN	Page 1 of 1

CLIENT: TAS Design Build	METHOD: Augering and Split Spoon Sampling	**BH No.: BH107**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN / ELEV. (m) 121.755	
LOCATION: Mississauga, ON	NORTHING: / EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		Asphaltic Concrete (90 mm)	0	121.5								Borehole open and dry on completion.
		dense, damp, brown gravelly sand (FILL)	0.5 / 1 / 1.5	121 / 120.5	44		1		44	<5/0		S1: PAHs
		hard, damp, grey SILTY CLAY trace shale fragments	2 / 2.5	120 / 119.5	89/225		2		89/225	<5/0		S2: EC/SAR
		END OF BOREHOLE										

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 26, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Direct Push Sampling	**BH No.: BH108**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 120.350
LOCATION: Mississauga, ON	NORTHING:	EASTING: PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		Asphaltic Concrete (100 mm)	0	120			1			150/0		S2A: PAHs, EC/SAR
		moist, brown gravelly sand (FILL)	0.5				2A			15/1		
		moist, reddish brown to brown silty sand trace to some gravel (FILL)	1	119.5			2B			20/0		
			1.5	119			3			85/0		
		moist, brown gravelly sand (FILL)	2	118.5			4			5/0		S4:SAR
		damp, brown SILTY CLAY, trace shale fragments	2.5	118			5			<5/0		
		END OF BOREHOLE										

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REVIEWED BY: VN | Page 1 of 1

CLIENT: TAS Design Build	METHOD: Augering and Split Spoon Sampling		**BH No.: BH109**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.072	
LOCATION: Mississauga, ON	NORTHING:	EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) / N-Value (Blows/300mm)	Water Content (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
	Asphaltic Concrete (75 mm) Granular Base (250 mm)	0	121	12		1A		12	<5/0		Borehole open and dry on completion. S1B: M&I, PAHs
	loose, damp, brown silty sand, trace gravel (FILL)	0.5 1	120.5 120	50/25		1B 2		50/25	<5/0 35/0		
	very loose, damp, brown gravelly sand (FILL)	1.5 2 2.5	119.5 119 118.5	2 50/150		3 4		2 50/150	20/0 35/0		
	hard, damp, grey SILTY CLAY, trace shale fragments	3 3.5	118 117.5	89/225		5A 5B		89/225	35/0 35/0		S5A: SAR
	grey, WEATHERED SHALE			50/125		6		50/125	35/0		
	END OF BOREHOLE										

TERRAPEX

LOGGED BY: DM | DRILLING DATE: July 26, 2019

REVIEWED BY: VN |

CLIENT: TAS Design Build	METHOD: Augering and Split Spoon Sampling	**BH No.: BH110**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN / ELEV. (m) 120.341	
LOCATION: Mississauga, ON	NORTHING: / EASTING:	PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		Asphaltic Concrete (65 mm)	0	120	14		1		14	<5/0		Borehole cave-in at 4.42 mbgs and dry on completion.
		compact, damp, brown gravelly sand (FILL)	0.5									
			1	119.5	4		2		4	<5/0		S2:M&I, PAHs, OCPs
		loose, damp, brown silty sand, trace gravel (FILL)	1.5	119								
			2	118.5	5		3		5	<5/0		
			2.5	118	10		4		10	<5/0		
			3	117.5	77/200		5		77/200	<5/0		S5: SAR
		hard, damp, grey SILTY CLAY trace shale fragments	3.5	117								
				116.5								
		grey WEATHERED SHALE	4		38		6		38	<5/0		
		END OF BOREHOLE										

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REVIEWED BY: VN | Page 1 of 1

CLIENT: TAS Design Build	METHOD: Direct Push Sampling	**BH No.: BH111**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.654
LOCATION: Mississauga, ON	NORTHING:	EASTING: PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		Asphaltic Concrete	0									
		moist, brown gravelly sand (FILL)		121.5			1					S1: PHCs (F1-F4), PCBs
		END OF BOREHOLE										Auger Refusal on concrete slab

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CLIENT: TAS Design Build	METHOD: Direct Push Sampling	**BH No.: BH112**
PROJECT: 3154 Hurontario St & 25-33 Hillcrest Ave	PROJECT ENGINEER: VN	ELEV. (m) 121.507
LOCATION: Mississauga, ON	NORTHING:	EASTING: PROJECT NO.: CT2892.00

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	Shear Strength (kPa) 40 80 120 160 / N-Value (Blows/300mm) 20 40 60 80	Water Content (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	SPT(N)	HEX/IBL (ppm)	Well Construction	REMARKS
		moist, brown gravelly sand (FILL)	0	121.5			1			<5/0		S1: PHCs (F1-F4), PCBs (DUP)
			0.5	121								
			1	120.5			2			5/0		
			1.5	120			3			<5/0		
			2	119.5			4			<5/0		
		END OF BOREHOLE										

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REVIEWED BY: VN | Page 1 of 1

CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW301D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826335.434	EASTING (m): 611254.488 ELEV. (m) 122.662
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (75 mm) Granular base (gravelly sand- 250 mm) very stiff, damp, greyish brown clayey silt trace gravel, trace sand (FILL) trace organics	0 0.5 1	122.5 122	13 12	11 14 15	1A 1B 2		50 67				
		loose, damp, dark brown silty sand (FILL)	1.5	121.5 121	9	12	3		100				
		very stiff, damp, greyish brown clayey silt (FILL)	2	120.5	13	15 17	4A 4B		67				
		hard, damp brown to greyish brown CLAYEY SILT	2.5 3 3.5 4	120 119.5 119	35 92/200	15 12	5 6		83 100				
		Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams TCR= 90% RQD= 62% TCR= 100% RQD= 41% TCR= 100% RQD= 53%	4.5 5 5.5 6 6.5 7 7.5 8 8.5 9	118.5 118 117.5 117 116.5 116 115.5 115 114.5 114 113.5	50/125		7 RC1 RC2 RC3		100				

TERRAPEX

LOGGED BY: RG	DRILLING DATE: 30-Nov-2020
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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW301D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826335.434	EASTING (m): 611254.488 ELEV. (m) 122.662
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm) 40 80 120 160 / 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TCR= 100% RQD= 74% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	9.5	113			RC4						
		TCR= 100% RQD= 42%	10	112.5									
			10.5	112									
			11	111.5									
		UCS= 30.9 Mpa	11.5	111			RC5						bentonite
			12	110.5									sand
		TCR= 100% RQD= 63%	12.5	110									sand + screen
			13	109.5			RC6						
			13.5	109									
		TCR= 100% RQD= 68%	14	108.5									
		UCS= 24.8 Mpa	14.5	108			RC7						
			15	107.5									
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: RG	DRILLING DATE: 30-Nov-2020
INPUT BY: SA	MONITORING DATE: 10-Dec-2020
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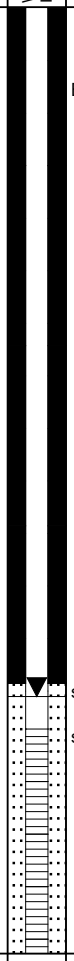
CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW301S**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826337.039	EASTING (m): 611255.297 ELEV. (m) 122.616
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Straight auger to 6.4 m to install the monitoring well	0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6	122.5 122 121.5 121 120.5 120 119.5 119 118.5 118 117.5 117 116.5									Bentonite sand sand + screen
		END OF BOREHOLE											

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LOGGED BY: RG	DRILLING DATE: 30-Nov-2020
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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH302**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826360.951	EASTING (m): 611277.727 ELEV. (m) 121.294
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (75 mm) Granular Base (sand and gravel-600 mm)	0	121	58		1		75	0/0			
		loose, damp, brown sand and gravel some bricks and concrete pieces (FILL)	0.5 1	120.5	9		2		22	0/0			
			1.5	120									
				119.5	5		3		22	0/0			
		END OF BOREHOLE											

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LOGGED BY: JC	DRILLING DATE: 01-Dec-2020
INPUT BY: SA	MONITORING DATE:
REVIEWED BY: VN	PAGE 1 OF 1

CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH303**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826364.503	EASTING (m): 611276.313 ELEV. (m) 121.380
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm)	0										
		Granular Base (gravelly sand-520 mm)	0.5	121			1		75	0/0			
		Crusher Run Limestone (FILL)	1	120.5	16		2		67	0/0			
			1.5	120									
			2	119.5	10		3		62	0/0			
		hard, damp, brown CLAYEY SILT	2.5	119	42		4A		100	0/0			
				118.5	65		4B			0/0			
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: JC	DRILLING DATE: 01-Dec-2020
INPUT BY: SA	MONITORING DATE:
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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH304**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826367.288	EASTING (m): 611280.410 ELEV. (m) 121.222
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm)	0	121	22								
		Granular Base (gravelly sand-500 mm) some brick pieces	0.5	120.5			1		79	0/1			
		compact, damp, dark brown gravelly sand (FILL)	1	120	20		2		58	0/1			
			1.5	119.5	16		3		62	0/0			
		hard, damp, brown CLAYEY SILT	2	119	31		4A		83	0/0			
			2.5	118.5			4B			0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH305**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826365.781	EASTING (m): 611271.551 ELEV. (m) 121.637
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm)	0	121.5									
		Granular Base (gravelly sand-325 mm) some concrete and asphalt pieces	0.5										
		loose, damp, brown sand (FILL)	1	121			1		79	0/1			
			1.5	120.5	7		2		83	0/0			
				120	10		3		79	0/0			
		hard, damp, brown CLAYEY SILT	2	119.5									
			2.5	119	39		4		79	0/0			
		END OF BOREHOLE			95								

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH306**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826378.075	EASTING (m): 611251.979 ELEV. (m) 122.702
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm)	0	122.5	49		1		83	0/1			
		Granular Base (gravelly sand-375 mm) some concrete, wood, and brick pieces	0.5	122									
		stiff, damp, grey clayey silt, trace gravel (FILL)	1	121.5	10		2		79	0/1			
			1.5	121	10		3		67	0/0			
		hard, damp, brown CLAYEY SILT	2	120.5	80		4		71	0/1			
			2.5	120									
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW307**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826372.559	EASTING (m): 611247.208 ELEV. (m) 122.996
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm)	0									bentonite	
		Granular Base (gravelly sand-250 mm) some asphalt and brick pieces	0.5	122.5	29		1		71	0/0			
		compact, damp, brown silty sand (FILL)	1	122	16		2		67	0/1			
		stiff, damp, brown clayey silt (FILL)	1.5	121.5	12		3		58	0/0			
		hard, damp, brown CLAYEY SILT	2	121									
			2.5	120.5	60		4		87	0/0		sand	
		some shale fragments	3	120	66/100		5		80	0/0		sand + screen	
		grey SHALE BEDROCK	3.5	119.5									
			4	119	50/75		6		100				
			4.5	118.5	50/25		7		100				
			5	118									
			5.5	117.5									
			6	117									
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH308**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826388.067	EASTING (m): 611247.809 ELEV. (m) 122.989
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm)	0										
		Granular Base (gravelly sand-275 mm)											
		loose, damp to moist, brown clayey silt (FILL)	0.5	122.5	20		1		62	0/0			
			1	122	19		2		37	0/1			
			1.5	121.5	23		3A		71	0/1			
		hard, damp, brown CLAYEY SILT					3B			0/0			
			2	121									
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH309**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826376.001	EASTING (m): 611237.941 ELEV. (m) 123.508
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (75 mm) Granular Base (gravelly sand-375 mm) loose, damp, brown clayey silt (FILL)	0 0.5 1 1.5	123.5 123 122.5 122	11 48 90/225		1 2 3		67 83 100	0/1 0/1 0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH310**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826365.259	EASTING (m): 611242.170 ELEV. (m) 123.305
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm)	0										
		Granular Base (gravelly sand-450 mm) some concrete and brick pieces	0.5	123	38		1		83	0/0			
		loose, damp, brown silty sand (FILL)	1	122.5	10		2		54	0/0			
		hard, damp, brown CLAYEY SILT	1.5	122									
			2	121.5	37		3		87	0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH311**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826388.067	EASTING (m): 611247.809 ELEV. (m) 122.989
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm)	0										
		Granular Base (gravelly sand-475 mm)	0.5	122.5	23		1		79	0/0			
		compact, damp, brown gravelly sand (FILL)	1	122	18		2		67	0/0			
		firm, damp, brown clayey silt, trace brick (FILL)	1.5	121.5	8		3A		62	0/0			
		very stiff, damp, brown CLAYEY SILT	2	121			3B			0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW312**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826450.052	EASTING (m): 611353.733 ELEV. (m) 120.209
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15 WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2	SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Straight Auger to 12.3 m Refer to MW104 for soil stratigraphy	0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9	120 119.5 119 118.5 118 117.5 117 116.5 116 115.5 115 114.5 114 113.5 113 112.5 112 111.5 111									bentonite sand sand + screen

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW312**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826450.052	EASTING (m): 611353.733 ELEV. (m) 120.209
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Straight Auger to 12.3 m	9.5	110.5									
			10	110									
			10.5	109.5									
			11	109									
			11.5	108.5									
			12	108									
		TCR= 83% RQD= 40% Georgian Bay Formation: grey Weak to Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams TCR= 100% RQD= 41% UCS= 66.0 Mpa	12.5	107.5			RC1						
			13	107									
			13.5	106.5									
			14	106			RC2						
			14.5	105.5									
			15										
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH313**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826421.814	EASTING (m): 611263.846 ELEV. (m) 121.644
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (105 mm)	0	121.5	16		1		79	0/3			
		Granular Base (gravelly sand-150 mm)											
		compact, damp, brown gravelly sand (FILL)	0.5	121									
					12		2A		87	0/0			
		hard, damp, brown CLAYEY SILT	1	120.5			2B		100	0/0			
		some shale fragments	1.5	120	100/225		3			0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH314**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826454.412	EASTING (m): 611273.703 ELEV. (m) 124.375
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm)	0	124	19		1		50	0/1			
		Granular Base (CRL-400 mm)											
		firm, damp, brown clayey silt, some gravel (FILL)	0.5										
			1	123.5	8		2		42	0/0			
		compact to dense, damp, brown gravelly sand (FILL)	1.5	123									
			2	122.5	22		3		54	0/1			
			2.5	122	11		4		58	0/1			
			3	121.5									
			3.5	121	43		5		67	0/0			
		hard, damp, brown CLAYEY SILT	4	120.5	15		6A		42	0/1			
							6B			0/0			
			4.5	120	50/125		7		100	0/0			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH315**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826461.193	EASTING (m): 611272.994 ELEV. (m) 124.186
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm) Granular Base (CRL-375 mm)	0	124	16		1		62	0/0			
		stiff, damp, greyish brown clayey silt (FILL)	0.5	123.5									
		dense, damp, brown gravelly sand (FILL)	1	123	9		2		50	0/1			
			1.5	122.5	36		3		58	0/0			
		END OF BOREHOLE	2										

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH316**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826465.158	EASTING (m): 611267.976 ELEV. (m) 124.186
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm) Granular Base (CRL-225 mm) dense, damp, brown gravelly sand occasional clay layers (FILL)	0 0.5 1 1.5 2	124 123.5 123 122.5	32 32 40		1 2 3		62 75 79	0/0 0/1 0/1			
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: BH317**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826469.074	EASTING (m): 611279.205 ELEV. (m) 123.913
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger and Split Spoon Sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (100 mm) Granular Base (CRL-550 mm)	0	123.5	17		1		62	0/1			
		stiff, damp, brown clayey silt mixed with gravelly sand (FILL)	0.5 1	123	11		2		50	0/1			
		compact, damp, brown gravelly sand mixed with clay layers some wood pieces (FILL)	1.5	122.5	24		3		75	0/6			
		END OF BOREHOLE	2	122									

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW318D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826505.820	EASTING (m): 611276.828 ELEV. (m) 123.248
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm) Granular base (CRL- 300 mm) loose to very loose damp, brown silty sand (FILL) rock fragments rock fragments	0 0.5 1 1.5 2 2.5 3 3.5	123 122.5 122 121.5 121 120.5 120	34 10 5 2 8	2 4 4 3 1	1 2 3 4 5		71 58 17 46 100	0/0 0/0 0/0 0/0 0/0			
		Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams TCR= 100% RQD= 0% TCR= 100% RQD= 0% TCR= 100% RQD= 52%	4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9	119.5 119 118.5 118 117.5 117 116.5 116 115.5 115 114.5 114	50/50 50/100	3 4	6 7 RC1 RC2 RC3		100 100	0/0 0/0			

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW318D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826505.820	EASTING (m): 611276.828 ELEV. (m) 123.248
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TCR= 95% RQD= 52% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams UCS= 14.1 Mpa	9.5 10 10.5 11 11.5	113.5 113 112.5 112 111.5			RC4						bentonite sand
		TCR= 100% RQD= 43% UCS= 20.7 Mpa TCR= 100% RQD= 64%	12 12.5 13	111 110.5 110			RC5 RC6						sand + screen
		TCR= 100% RQD= 60% UCS= 17.4 Mpa	13.5 14 14.5 15 15.5	109.5 109 108.5 108			RC7						
		END OF BOREHOLE											

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LOGGED BY: RG	DRILLING DATE: 03-Dec-2020
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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF:**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	**MW318S**
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826504.367	EASTING (m): 611277.976 ELEV. (m) 123.248
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) ● 40 80 120 160 / N-VALUE (Blows/300mm) ▲ 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Straight auger to 6.4 m to install the monitoring well	0	123									
			0.5	122.5									Bentonite
			1	122									
			1.5	121.5									
			2	121									
			2.5	120.5									
			3	120									
			3.5	119.5									
			4	119									
			4.5	118.5									sand
			5	118									sand + screen
			5.5	117.5									
			6	117									
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW319D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826408.031	EASTING (m): 611198.188 ELEV. (m) 126.302
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Asphaltic Concrete (80 mm) Granular base (CRL- 225 mm) hard, damp, grey clayey silt (FILL)	0 – 1.5	126 – 125	16; 50/125		1		50				
		hard, damp, grey CLAYEY SILT some shale fragments	1.5 – 2	125 – 124.5	50/75		2		91				
		Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	2 – 3	124 – 123	50/75		3		100				
		TCR= 100% RQD= 27%	3 – 4	123 – 122			4		100				
		TCR= 100% RQD= 19%	4 – 5	122 – 121			RC1						
		TCR= 100% RQD= 57%	5 – 6	121 – 120			RC2						
		TCR= 100% RQD= 48%	6 – 8	120 – 118			RC3						
			8 – 9	118 – 117			RC4						

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW319D**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826408.031	EASTING (m): 611198.188 ELEV. (m) 126.302
CONTRACTOR: Pontil Drilling Inc.	METHOD: Split Spoon Sampling and Rock Coring	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TCR= 100% RQD= 64% Georgian Bay Formation: grey Medium strong SHALE moderately weathered intensely to moderately fractured occasional thin limestone beddings occasional thin clay seams	9.5	116.5			RC5						
			10										
			10.5	116									
		TCR= 100% RQD= 55%	11	115.5									bentonite
		UCS= 32.2 Mpa	11.5	115			RC6						sand
		TCR= 100% RQD= 80%	12	114.5									sand + screen
			12.5	114									
			13	113.5			RC7						
			13.5	113									
		TCR= 100% RQD= 43%	14	112.5									
		UCS= 24.2 Mpa	14.5	112			RC8						
			15	111.5									
		END OF BOREHOLE											

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CLIENT: 3168 HS LP	PROJECT NO.: CT2892.03	**RECORD OF: MW319S**
ADDRESS: 3154 Hurontario St & 25-33 Hillcrest Ave	STATION:	
CITY/PROVINCE: Mississauga, ON	NORTHING (m): 4826408.906	EASTING (m): 611196.909 ELEV. (m) 126.354
CONTRACTOR: Pontil Drilling Inc.	METHOD: Solid Stem Auger	
BOREHOLE DIAMETER (cm): 15	WELL DIAMETER (cm): 5	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: Holeplug

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		Straight auger to 6.1 m to install the monitoring well	0	126									Bentonite
			0.5	125.5									
			1	125									
			1.5	124.5									
			2	124									
			2.5	123.5									sand
			3	123									sand + screen
			3.5	122.5									
			4	122									
			4.5	121.5									
			5	121									
			5.5	120.5									
			6										
		END OF BOREHOLE											

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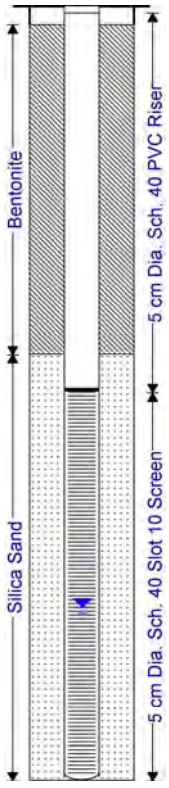
BOREHOLE/MONITORING WELL #: BH/MW-101

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 105.57 m ald
TOC Elevation: 105.46 m ald
Water Level: 4.73 m bgs
Water Level Elevation: 100.84 m als
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	105.57								
0.0		***Gravel Fill***	0.00	BH-101-1	SS			4-7-12-10	<25	X	
0.5		***Sandy Silt Fill*** moist, grey, stiff, some gravel	104.81								
1.0		***Silty Clay*** dry to moist, brown/grey, stiff, some sand, trace gravel	0.76	BH-101-2	SS			5-7-13-14	<25	X	
1.5		grey, hard	104.05 1.52	BH-101-3	SS			14-23-23-41	<25	X	
2.0											
2.5			103.07	BH-101-4	SS			24-25-50 for 6 in	<25	X	
2.5		***Shale*** dry to moist, grey, fractured, hard	2.50								
3.0											
3.5				BH-101-5	SS			50 for 6 in	<25	X	
4.0		***Limestone***	101.76 3.81	BH-101-6	SS			38-50 for 3 in	<25		
4.5											
5.0				BH-101-7	SS			50 for 3 in	<25		
5.5				Not Sampled							
6.0			99.48								
6.0		End of Borehole	6.10								
6.5											
7.0											
7.5											
8.0											
8.5			97.04 8.53								



Notes:
TOC = Top of Casing
m ald = Metres above local datum
m bgs = Metres below ground surface
ppmv = Parts per million by volume
%LEL = Percent of the lower explosive limit of hexane
NA = Not available

Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 24, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party. Franz Environmental accepts no liability for third party decisions/actions made based on this log.

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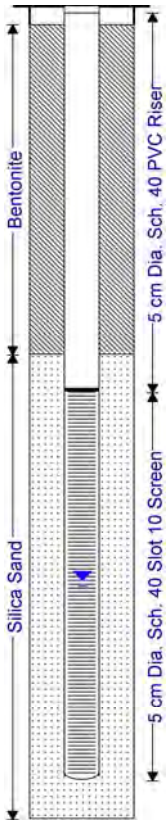
BOREHOLE/MONITORING WELL #: BH/MW-102

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 102.06 m ald
TOC Elevation: 101.94 m ald
Water Level: 4.52 m bgs
Water Level Elevation: 97.54 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	102.06								
0.0		***Topsoil***	0.00								
0.5		***Silty Sand Fill*** moist, brown, loose, some gravel		BH-102-1	SS			2-4-4-5	<25	X	
1.0				BH-102-2	SS			4-4-4-4	<25	X	
1.5			100.54								
1.5		compact	1.52	BH-102-3	SS			5-9-11-12	<25	X	
2.0			99.77								
2.5		***Silty Clay*** moist, grey, stiff, some sand, trace gravel	2.29	BH-102-4	SS			8-9-10-12	<25	X	
3.0			99.01								
3.0		***Shale*** dry to moist, grey, fractured, hard	3.05	BH-102-5	SS			9-35-50 for 5 in	<25		
4.0				BH-102-6	SS			40-50 for 4 in	<25	X	
4.5											
5.0				BH-102-7	SS			40-50 for 3 in	<25		
5.5				BH-102-8	ss			50 for 6 in	<25		
6.0				Not Sampled							
6.5			95.66								
6.5		End of Borehole	6.40								
7.0		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane NA = Not available									
8.5			93.53								
8.5			8.53								



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 26, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party. Franz Environmental accepts no liability for third party decisions/actions made based on this log.

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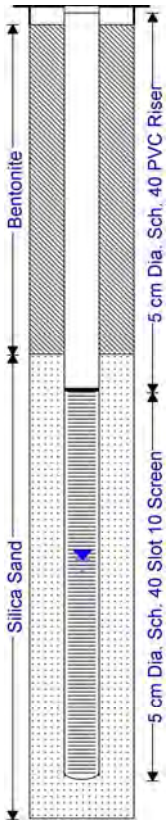
BOREHOLE/MONITORING WELL #: BH/MW-103

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 98.66 m ald
TOC Elevation: 98.54 m ald
Water Level: 4.36 m bgs
Water Level Elevation: 94.30 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	98.66								
		Asphalt	0.00								
0.5		***Silty Sand Fill*** moist, brown, loose, some gravel	97.90	BH-103-1	SS			4-6-8-10	<25	X	
1.0		compact	0.76	BH-103-2	SS			9-14-17-22	<25	X	
1.5		very dense	97.14 1.52								
2.0		fractured shale pieces	96.68 1.98	BH-103-3	SS			23-38-50 for 6 in	<25	X	
2.5		compact		BH-103-4	SS			8-11-13-14	<25	X	
3.0		***Shale*** dry to moist, grey, fractured, hard	95.61 3.05	BH-103-5	SS			50 for 6 in	<25		
4.0				BH-103-6	SS			50 for 5 in	<25	X	
4.5											
5.0				BH-103-7	SS			50 for 6 in	<25		
5.5				BH-103-8	SS			50 for 5 in	<25		
6.0				Not Sampled							
6.5		End of Borehole	92.26 6.40								
7.0		Notes: TOC = Top of Casing; m ald = Metres above local datum; m bgs = Metres below ground surface; ppmv = Parts per million by volume; %LEL = Percent of the lower explosive limit of hexane; NA = Not available									
7.5											
8.0											
8.5			90.13 8.53								



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 26, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party. Franz Environmental accepts no liability for third party decisions/actions made based on this log.

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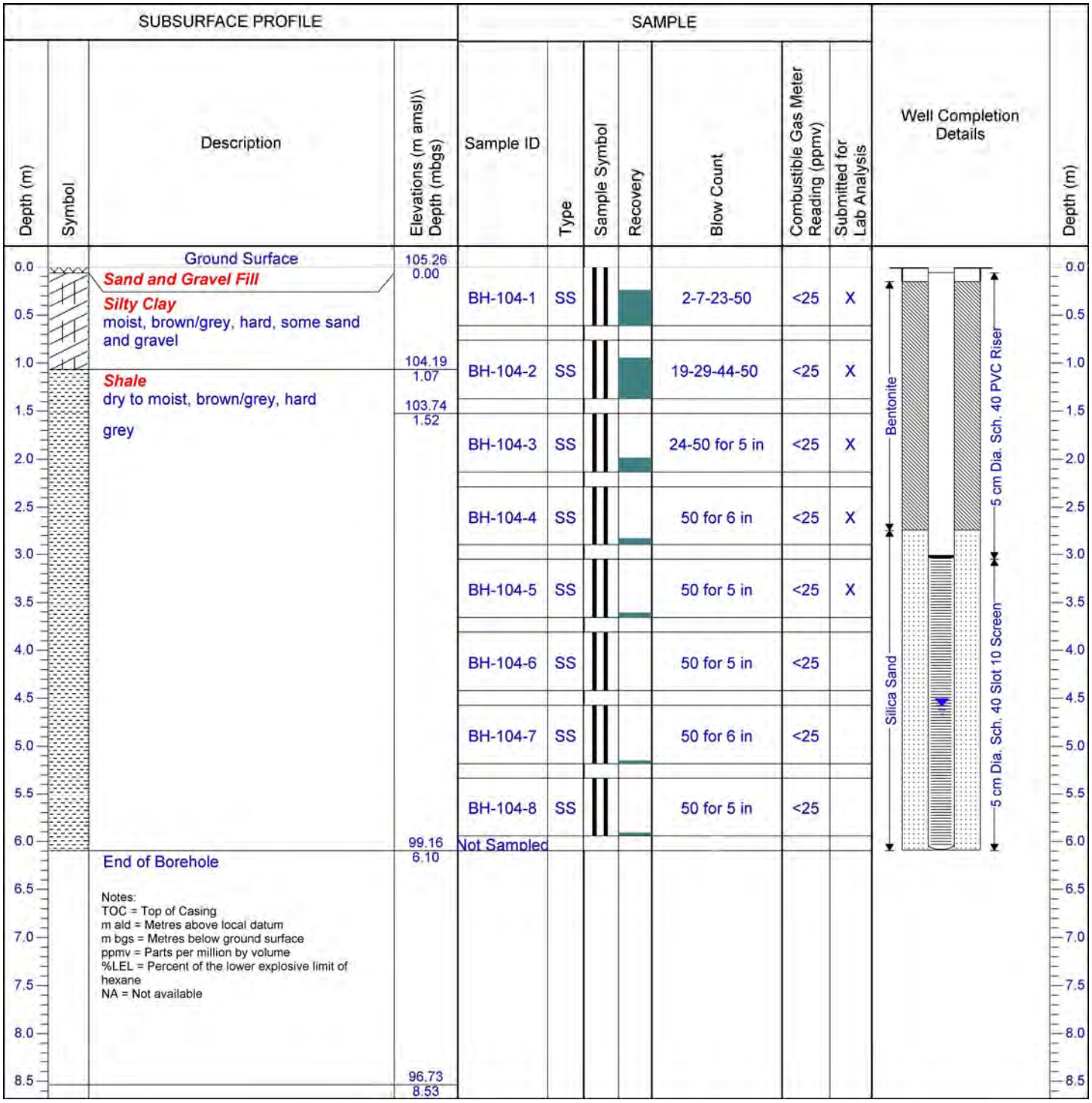
BOREHOLE/MONITORING WELL #: BH/MW-104

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 105.26 m ald
TOC Elevation: 105.14 m ald
Water Level: 4.58 m bgs
Water Level Elevation: 100.68 m ald
Bottom of Well Depth: 6.1 m bgs



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 24, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

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BOREHOLE/MONITORING WELL #: BH/MW-105

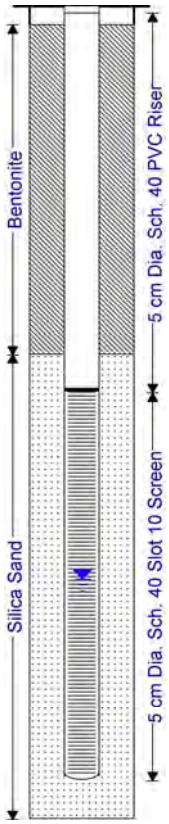
BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 99.99 m ald
TOC Elevation: 99.90 m ald
Water Level: 4.51 m bgs
Water Level Elevation: 95.48 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Depth (m)
0.0		Ground Surface	99.99								0.0
		Asphalt	0.00								
0.5		***Sand and Gravel Fill*** moist, brown, compact		BH-105-1	SS			20-12-14-12	<25	X	0.5
1.0				BH-105-2	SS			8-8-7-6	<25	X	1.0
1.5		loose	98.47 1.52	BH-105-3	SS			3-4-4-5	<25		1.5
2.0			97.70								2.0
2.5		***Silty Clay*** moist, brown, hard, some sand	2.29 97.25	BH-105-4	SS			9-23-50 for 5 in	<25		2.5
3.0		***Shale*** dry to moist, grey, fractured, hard	2.74	~~BH-105-5~~	~~SS~~			~~9-23-50 for 5 in~~	~~<25~~	~~X~~	3.0
3.5				BH-105-6	SS			9-43-50 for 3 in	<25	X	3.5
4.0				BH-105-7	SS			50 for 5 in	<25	X	4.0
4.5											4.5
5.0				BH-105-8	SS			50 for 4 in	<25	X	5.0
5.5				BH-109-9	SS			50 for 5 in	<25		5.5
6.0				Not Sampled							6.0
6.5		End of Borehole	93.59 6.40								6.5
7.0		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane NA = Not available									7.0
7.5											7.5
8.0											8.0
8.5			91.46 8.53								8.5

Well Completion Details



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 27, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party. Franz Environmental accepts no liability for third party decisions/actions made based on this log.

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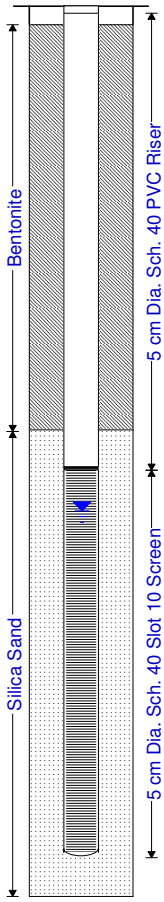
BOREHOLE/MONITORING WELL #: BH/MW-106

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 99.01 m ald
TOC Elevation: 98.87 m ald
Water Level: 3.98 m bgs
Water Level Elevation: 95.03 m ald
Bottom of Well Depth: 6.7 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	99.01								
0.0		***Asphalt***	0.00								
0.5		***Silty Sand Fill*** moist, brown, loose, some gravel		BH-106-1	SS			3-4-6-8	<25	X	
1.0			97.94								
1.0		***Sand and Gravel Fill*** moist, brown, compact	1.07	BH-106-2	SS			10-9-11-16	<25	X	
1.5			97.49								
1.5		dense	1.52	BH-106-3	SS			9-17-19-19	<25	X	
2.0											
2.5			96.42	BH-106-4	SS			14-12-18-15	<25	X	
2.5		***Silty Sand Fill*** moist to wet, brown, compact, some	2.59								
3.0		gravel, some fractured shale pieces	95.96								
3.0		***Shale*** dry to moist, grey, fractured, hard	3.05	BH-106-5	SS			50 for 5 in	<25		
3.5											
4.0				BH-106-7	SS			50 for 5 in	<25	X	
4.5											
5.0				BH-106-8	SS			50 for 5 in	<25		
5.5				BH-106-9	SS			50 for 5 in	<25		
6.0											
6.5				Not Sampled							
7.0			92.00								
7.0		End of Borehole	7.01								
7.5		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane									
8.0											
8.5			90.48								
			8.53								



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 27, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party.
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BOREHOLE/MONITORING WELL #: BH/MW-107

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 98.87 m ald
TOC Elevation: 98.76 m ald
Water Level: 4.91 m bgs
Water Level Elevation: 93.96 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	98.87								
		Asphalt	0.00								
0.5		***Silty Sandl Fill*** moist, brown, loose, some gravel		BH-107-1	SS			5-3-3-2	<25	X	
			98.11								
1.0		trace clay	0.76	BH-107-2	SS			2-3-6-22	<25		
1.5			97.35								
		very dense	1.52								
2.0		fractured shale pieces		BH-107-3	SS			10-35-40-40	<25	X	
			96.58								
2.5		***Sand Fill*** moist, brown, dense, some silt and gravel, fractured shale pieces	2.29	BH-107-4	SS			12-15-16-27	<25	X	
3.0			95.82								
		Shale dry to moist, grey, fractured, hard	3.05	BH-107-5	SS			28-50 for 4 in	<25	X	
3.5											
4.0				BH-107-6	SS			11-27-50 for 5 in	<25	X	
4.5											
5.0				BH-107-7	SS			50 for 6 in	<25		
5.5											
6.0				BH-107-8	SS			50 for 5 in	<25		
				Not Sampled							
6.5			92.47								
		End of Borehole	6.40								
7.0		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane NA = Not available									
7.5											
8.0											
8.5			90.34								
			8.53								

Bentonite
Silica Sand
5 cm Dia. Sch. 40 PVC Riser
5 cm Dia. Sch. 40 Slot 10 Screen

Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 25, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

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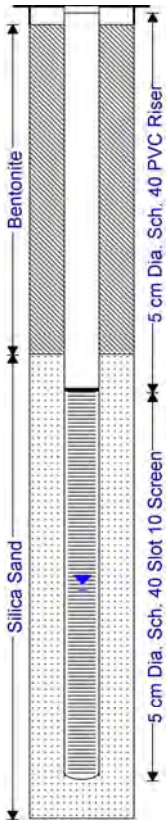
BOREHOLE/MONITORING WELL #: BH/MW-108

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 98.75 m ald
TOC Elevation: 98.65 m ald
Water Level: 4.55 m bgs
Water Level Elevation: 94.20 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	98.75								
		Asphalt	0.00								
0.5		***Sand and Gravel Fill*** moist, brown, loose		BH-108-1	SS			11-8-6-7	<25	X	
		Sandy Silt Fill	97.84								
1.0		moist, brown, stiff, some gravel	0.91	BH-108-2	SS			10-20-19-28	<25	X	
		Sand and Gravel Fill dry to moist, brown, dense	97.23								
1.5			1.52								
		very dense		BH-108-3	SS			10-20-32-32	<25	X	
2.0											
			96.31	BH-108-4				7-10-29-50			
2.5		***Shale***	2.44	BH-108-5	SS			7-10-29-50	<25	X	
		dry to moist, grey, fractured, hard									
3.0				BH-108-6	SS			32-50 for 5 in	<25		
3.5											
4.0				BH-108-7	SS			50 for 3 in	<25		
4.5											
				BH-108-8	SS			50 for 5 in	<25	X	
5.0			93.42								
		Limestone	5.33								
5.5				BH-108-9	SS			50 for 4 in			
6.0				Not Sampled							
			92.35								
6.5		End of Borehole	6.40								
7.0		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane NA = Not available									
7.5											
8.0											
8.5			90.22 8.53								



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 26, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

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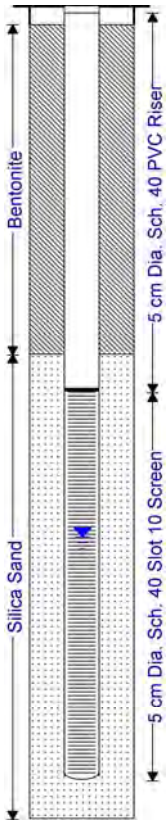
BOREHOLE/MONITORING WELL #: BH/MW-109

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Well Location: See Figure 3

GS Elevation: 98.93 m ald
TOC Elevation: 98.84 m ald
Water Level: 4.18 m bgs
Water Level Elevation: 94.75 m ald
Bottom of Well Depth: 6.1 m bgs

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Well Completion Details
0.0		Ground Surface	98.93								
0.0		***Asphalt***	0.00								
0.5		***Sand Fill*** moist, brown, loose,some gravel		BH-109-1	SS			4-5-7-11	<25	X	
1.0			97.71	BH-109-2	SS			7-9-14-16	<25	X	
1.5		compact, some fractured shale pieces, some clay	1.22								
2.0		loose		BH-109-3	SS			7-5-7-3	<25	X	
2.5		very dense	96.64 2.29	BH-109-4	SS			2-4-25-50 for 4 in	<25		
3.0		***Shale*** dry to moist, grey, fractured, hard		BH-109-5	SS			2-4-25-50 for 4 in	<25		
3.5				BH-109-6	SS			50 for 6 in	<25		
4.0				BH-109-7	SS			50 for 5 in	<25	X	
4.5				BH-109-8	SS			50 for 5 in	<25		
5.0											
5.5				BH-109-9	SS			50 for 4 in			
6.0				Not Sampled							
6.5		End of Borehole	92.53 6.40								
7.0		Notes: TOC = Top of Casing m ald = Metres above local datum m bgs = Metres below ground surface ppmv = Parts per million by volume %LEL = Percent of the lower explosive limit of hexane NA = Not available									
7.5											
8.0											
8.5			90.40 8.53								



Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 26, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party.
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BOREHOLE/MONITORING WELL #: BH-110

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Borehole Location: See Figure 3

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Depth (m)
0.0		Ground Surface	0.00								0.0
		Silty Sand Fill wet, brown, loose	0.00	BH-110-1	SS			7-17-22-14			
0.5		***Sandy Silt Fill*** moist, brown, hard, some gravel									0.5
1.0		bricks	-0.91 0.91	BH-110-2	SS			17-8-9-10			1.0
1.5		***Silty Clay*** moist, brown/grey, stiff, some sand									1.5
2.0				BH-110-3	SS			14-9-7-6			2.0
2.5				BH-110-4	SS			6-9-7-9			2.5
3.0		hard	-3.05 3.05	BH-110-5	SS			12-19-22-32			3.0
3.5											3.5
4.0		***Shale*** dry to moist, grey, fractured, hard	-3.81 3.81	BH-110-6	SS			13-23-33-50			4.0
4.5											4.5
5.0				BH-110-7	SS			15-50 for 4 in			5.0
5.5				BH-110-8	SS			50 for 6 in			5.5
6.0											6.0
6.5				BH-110-9	SS			50 for 5 in			6.5
7.0		End of Borehole	-6.71 6.71								7.0
7.5											7.5
8.0											8.0
8.5											8.5

Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 24, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

Note: Any decisions/actions made by a third party based on this log are the sole responsibilty of the third party.
Franz Environmental accepts no liability for third party decisions/actions made based on this log.

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BOREHOLE/MONITORING WELL #: BH-111

BOREHOLE LOG

Project No: 3048-1401
Project: Phase Two Environmental Site Assessment
Client: Metrolinx
Site Location: 3168 Hurontario Street, Mississauga, ON
Borehole Location: See Figure 3

SUBSURFACE PROFILE				SAMPLE							
Depth (m)	Symbol	Description	Elevations (m amsl)\ Depth (mbgs)	Sample ID	Type	Sample Symbol	Recovery	Blow Count	Combustible Gas Meter Reading (ppmv)	Submitted for Lab Analysis	Depth (m)
0.0		Ground Surface	0.00								0.0
		Asphalt	0.00	BH-111-1	SS			3-8-8-9			
0.5		***Sand Fill*** moist, brown, loose, some gravel		BH-110-2	SS			3-8-8-9			0.5
1.0		***Sandy Silt Fill*** moist, grey, stiff, some gravel	-0.98 0.98	BH-111-3	SS			7-12-14-18			1.0
1.5		***Silty Sand Fill*** dry to moist, brown, compact, some gravel	-1.52 1.52								1.5
2.0		loose		BH-111-4	SS			9-9-5-3			2.0
2.5		***Sandy Silt Fill*** moist, brown, firm, some gravel, fractured shale pieces	-2.29 2.29	BH-111-5	SS			4-4-3-10			2.5
3.0		***Shale*** dry to moist, grey, fractured, hard	-3.05 3.05	BH-111-6	SS			25-50 for 4 in			3.0
3.5											3.5
4.0				BH-111-7	SS			50 for 5 in			4.0
4.5											4.5
5.0				BH-111-8	SS			50 for 3 in			5.0
5.5				BH-111-9	SS			50 for 5 in			5.5
6.0		End of Borehole	-5.94 5.94								6.0
6.5											6.5
7.0											7.0
7.5											7.5
8.0											8.0
8.5											8.5

Drilled By: Geo-Environmental Drilling Inc.
Drill Method: CME 75 Truck Mount
Drill Date: November 26, 2014

Logged By: J. Noble
Log Prepared By: J. Noble
Checked By: L. Zhang

FRANZ ENVIRONMENTAL INC.
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Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-18 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH/MW-201

Monitoring Well: Installed

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description (Ground Surface Elevation:122.47m)	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
	122.39 0.08	**ASPHALT**, 80 mm thick				SS-1		38 14 17 12	63		N		Metals and Inorganics Analyses
		GRAVELLY SILTY SAND [FILL], moist, brown, dense											
1						SS-2		9 19 24 23	63		N		PAHs, Chlorophenols, Pesticides, Herbicides Analyses
		- becoming moist to wet, dense to very dense @ 1.52 m				SS-3		11 26 28 21	75		N		Metals and Inorganics Analyses
2						SS-4		25 40 50/125	25		N		
3						SS-5		19 22 30 50/50	50		N		VOCs, F1-F4 PHcs,PAHs, Chlorophenols Analyses DUP AE
	118.66 3.81	**SHALE [BEDROCK]**, dry , grey, hard, fractured				SS-6		40 50/75	25		N		
4						SS-7		40 50/75	33		N		
5						SS-8		50/125	25		N		
6	116.37 6.10	**End of Borehole @ 6.1 m** Water level @ 4.04 m (el 118.43) on January 23, 2020 Water level @ 3.70 m (el 118.77) on January 27, 2020											Groundwater Analyses: PHC BTEX - F1 & F2 - F4 VOCs, PAHs, Metals, Inorganics, Pesticides, Herbicides, Chlorophenols DUP - MW 211
7													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-18 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH-202

Monitoring Well: n/a

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description (Ground Surface Elevation:124.40m)	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
	124.32	**ASPHALT**, 80 mm thick				SS-1		35	50		N	⊕	
	0.08	**GRAVELLY SILTY SAND [FILL]**, moist, brown, dense to loose						25 15 20					Metals & Inorganics Analyses
1						SS-2		3 3 5 7	33		N	⊕	PAHs, Chlorophenols, Pesticides, Herbicides Analyses
	122.88												
	1.52	**CLAYEY SILT [NATIVE]**, moist, brown, trace gravel, compact				SS-3		4 7 10 15	33		N	⊕	
2						SS-4		10 15 20 22	33		N	⊕	
		- becoming Orange-brown, dense @ 2.43 m											
3	121.35												
	3.05	**SAND**, moist to wet, orange-brown, trace gravel, compact				SS-5		4 6 9 12	63		N	⊕	Metals & Inorganics Analyses
	120.59												
	3.81	**GRAVELLY SILTY SAND**, moist , brown, dense				SS-6		12 22 18 20	33		N	⊕	BTEX, F1-F4 PHCs, PAHs Analyses
4	119.83												
	4.57	**SILT**, moist, brown, trace gravel, compact to dense				SS-7		3 8 39 50/75	75		N	⊕	BTEX, F1-F4 PHCs Analyses
		- becoming Orange-brown @ 4.87 m											
5	119.07	- trace shale fragments @ 5.2 m											
	5.33	**SHALE [BEDROCK]** , dry, grey, hard, fractured				SS-8		50/50	8		N	⊕	
	118.46												
6	5.94	**End of Borehole @ 5.94 m**											
7													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-15 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH/MW-203

Monitoring Well: Installed

Sheet 1 of 1

Scale (m)	Stratigraphy: Elev. (m) Depth (m)	Description (Ground Surface Elevation:126.01m)	Symbol	Samples: Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
0	125.93	**ASPHALT**, 80 mm thick				SS-1		12 13 35 45	75		N		
	0.08												
	125.70	**GRAVELLY SILTY SAND [FILL]**, moist, brown, dense											
	0.31	**SHALE [BEDROCK]**, dry, grey, hard, fractured											
						SS-2		30 50/100	33		N		
1						SS-3		50/125	17		N		
2						SS-4		50/25	0		N		
3					▽	SS-5		35 50/100	25		N		
4						SS-6		50/125	17		N		
						SS-7		50/75	13		N		
5						SS-8		50/125	13		N		
6	119.91												
	6.10	**End of Borehole @ 6.1 m**											Groundwater Analyses: PHC BTEX - F1 & F2 - F4 VOCs, PAHs, Metals, Inorganics, Pesticides, Herbicides
7		Water level @ 3.53 m (el 122.48) on January 23, 2020											
		Water level @ 3.25 m (el 122.76) on January 27, 2020											

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-14 - 2020-1-15 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH-204

Monitoring Well: n/a

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation:123.00m											
	122.92 0.08	**ASPHALT**, 80 mm thick				SS-1		3 30 12 10	83		N		Metals & Inorganics, Herbicides Analyses
		GRAVELLY SILTY SAND [FILL], moist, dark brown, dense to compact											
						SS-2		6 15 17 12	75		N		PAHs Analyses
1													
	121.48 1.52	- some grey shale fragments @ 1.4 m **SILTY SAND [FILL]**, , moist to wet, dark brown to grey, trace gravel, loose to compact				SS-3		5 5 5 23	75		N		Grain Size Analyses
2													
	120.71 2.29	**SILT [NATIVE]**, moist, brown, trace gravel, grey mottling, compact				SS-4		7 11 18 24	83		N		VOCs, F1-F4 PHCs, PAHs Analyses
3						SS-5		10 25 50/125	75		N		Metal & Inorganics Analyses
		- becoming moist to wet, brown, trace weathered shale fragments, compact to dense @ 3.81 m				SS-6		15 50/100	67		N		VOCs, F1-F4 PHCs, Grain Size Analyses
4	118.43 4.57	**SHALE [BEDROCK]** , dry, grey, hard, fractured				SS-7		50/125	25		N		
5	117.82 5.18	**End of Borehole @ 5.94 m**											
6													
7													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-13 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH-205

Monitoring Well: n/a

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description (Ground Surface Elevation:123.36m)	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
	123.28 0.08	**ASPHALT**, 80 mm thick											
		GRAVELLY SAND [FILL], dark brown, moist, dense				SS-1		19 19 50/25	50		N	⊕	Metals & Inorganics Analyses
	122.60 0.76	- crushed stone @ 0.7 m											
1		**SILTY SAND [FILL]**, , moist, dark brown to grey, trace gravel, compact				SS-2		4 5 50/125	50		N	⊕	VOCs, F1-F4 PHCs, PAHs Analyses
	121.84 1.52	**SHALE [BEDROCK]**, dry to moist, light brown, fractured, hard				SS-3		16 20 34 50/50	83		N	⊕	Herbicides and Pesticides Analyses [DUP EC]
2		- becoming grey @ 2.29 m				SS-4		15 50/125	50		N	⊕	
3						SS-5		50/125	25		N	⊕	
4						SS-6		5 50/125	33		N	⊕	
						SS-7		2 2 50/125	58		N	⊕	
5						SS-8		25 30 45 50	75		N	⊕	
6	117.42 5.94	**End of Borehole @ 5.94 m**											
7													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

Project: METROLINX - PHASE TWO ESA Contract No: 30041197

Boring date: 2020-1-14 - 2020-1-13 Supervised by: Hammad Saeed

Borehole Location: Cooksville GO Parking Lots B and C, Mississauga, ON

Driller: ALTECH Drilling and Investigative Services Ltd.

Drilling Method: DIEDRICH D.120 w/ HSA

Borehole: BH/MW-206

Monitoring Well: Installed

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description (Ground Surface Elevation:121.50m)	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 150mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 25 50 75 100 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
	121.42 0.08	**ASPHALT**, 80 mm thick				SS-1		27 35 46 50/100	75		N		PAHs, PCBs, Pesticides Analyses
		GRAVELLY SILTY SAND [FILL], moist, dark brown, very dense											
1		- becoming light brown, dense @ 0.76 m				SS-2		13 17 19 50/100	67		N		Metals & Inorganics Analyses DUP FB
		- becoming dry to moist, dense @ 1.52 m				SS-3		14 15 19 21	75		N		
2		- becoming dark brown, compact @ 2.28 m				SS-4		4 8 10 12	75		N		Metals & Inorganics Analyses
3	118.46 3.04	**SILT [NATIVE]**, moist, brown, trace gravel, compact to dense			▽	SS-5		10 38 50/125	50		N		VOCs, F1 - F4 PHCs, PAHs Analyses DUP FE
4	117.69 3.81	**CLAYEY SILT**, wet, brown, very stiff				SS-6		50/125	17		N		
5	116.93 4.57	**SHALE [BEDROCK]**, dry to moist, grey, hard, fractured				SS-7		50/125	21		N		
		-becoming dry @ 5.33 m				SS-8		30 50/100	33		N		
6	115.40 6.10	**End of Borehole @ 6.1 m** Water level @ 2.89 m (el 118.61) on January 23, 2020 Water level @ 2.92 m (el 118.58) on January 27, 2020											Groundwater Analyses: PHC BTEX - F1 & F2 - F4 VOCs, PAHs, Metals, Inorganics, Pesticides, Herbicides
7													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: H. Saeed

Checked by: J. Jenah

Date: 20-1-29

ARCADIS

APPENDIX IV

LABORATORY RECORD OF GROUNDWATER QUALITY

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED
90 SCARSDALE RD
TORONTO, ON M3B2R7
(905) 474-5265

ATTENTION TO: Brian Theimer

PROJECT: CT2892.03

AGAT WORK ORDER: 21T701251

MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

ULTRA TRACE REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician

DATE REPORTED: Jan 29, 2021

PAGES (INCLUDING COVER): 21

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

E. Coli (Using MI Agar)

DATE RECEIVED: 2021-01-19

DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954	
Escherichia coli	CFU/100mL	200	1	ND	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to City of Mississauga - Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1973954 ND - Not Detected.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Mississauga Storm - Organics

DATE RECEIVED: 2021-01-19

DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954	
Benzene	mg/L		0.0002	<0.0002	
Toluene	mg/L	0.002	0.0002	<0.0002	
Ethylbenzene	mg/L	0.002	0.0001	<0.0001	
Xylenes (Total)	mg/L	0.0044	0.0001	<0.0001	
Total PAHs	mg/L	0.002	0.0003	<0.0003	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to City of Mississauga - Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1973954 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T701251
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED
SAMPLING SITE:3154 Hurontario St. Mississauga ON

ATTENTION TO: Brian Theimer
SAMPLED BY:AMD/SJ

Peel Region Sanitary - Organics

DATE RECEIVED: 2021-01-19 DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL		1973954
Oil and Grease (animal/vegetable) in water	mg/L	150	0.5		<0.5
Oil and Grease (mineral) in water	mg/L	15	0.5		<0.5
Methylene Chloride	mg/L	2	0.0003		<0.0003
Methyl Ethyl Ketone	mg/L	8.0	0.0009		<0.0009
cis- 1,2-Dichloroethylene	mg/L	4	0.0002		<0.0002
Chloroform	mg/L	0.04	0.0002		<0.0002
Benzene	mg/L	0.01	0.0002		<0.0002
Trichloroethylene	mg/L	0.4	0.0002		<0.0002
Toluene	mg/L	0.27	0.0002		<0.0002
Tetrachloroethylene	mg/L	1	0.0001		<0.0001
trans-1,3-Dichloropropylene	mg/L	0.14	0.0003		<0.0003
Ethylbenzene	mg/L	0.16	0.0001		<0.0001
1,1,2,2-Tetrachloroethane	mg/L	1.4	0.0001		<0.0001
Styrene	mg/L	0.2	0.0001		<0.0001
1,2-Dichlorobenzene	mg/L	0.05	0.0001		<0.0001
1,4-Dichlorobenzene	mg/L	0.08	0.0001		<0.0001
Xylenes (Total)	mg/L	1.4	0.0001		<0.0001
PCBs	mg/L	0.001	0.0002		<0.0002
Di-n-butyl phthalate	mg/L	0.08	0.0005		<0.0005
Bis(2-Ethylhexyl)phthalate	mg/L	0.012	0.0005		<0.0005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Peel Sanitary By-Law 53-2010
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1973954 Oil and Grease animal/vegetable is a calculated parameter. The calculated value is the difference between Total O&G and Mineral O&G.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
Total Nonylphenol Ethoxylates is reported as the sum of Nonylphenol Ethoxylate and Nonylphenol Diethoxylate. NP/NPE analysis done at AGAT 5623 McAdam Road Mississauga location.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopnikolof

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Nonylphenol and Nonylphenol Ethoxylates (Ontario, mg/L)

DATE RECEIVED: 2021-01-19

DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954	
Total Nonylphenol	mg/L	0.02	0.001	<0.001	
NP1EO	mg/L		0.001	<0.001	
NP2EO	mg/L		0.0003	<0.0003	
Total Nonylphenol Ethoxylates	mg/L	0.2	0.001	<0.001	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Peel Sanitary By-Law 53-2010
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Montreal (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

BOD5

DATE RECEIVED: 2021-01-19

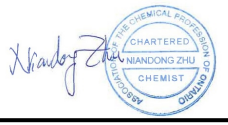
DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954	
Biochemical Oxygen Demand, Total	mg/L	15	2	5	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to City of Mississauga - Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

CBOD5

DATE RECEIVED: 2021-01-19

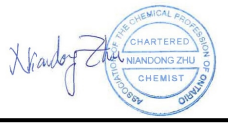
DATE REPORTED: 2021-01-29

				SAMPLE DESCRIPTION:	MW312
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954	
Biochemical Oxygen Demand, Carbonaceous	mg/L	300	2	<2	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Peel Sanitary By-Law 53-2010
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T701251
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED
SAMPLING SITE:3154 Hurontario St. Mississauga ON

ATTENTION TO: Brian Theimer
SAMPLED BY:AMD/SJ

Mississauga Storm Sewer Use Bylaw- Inorganics

DATE RECEIVED: 2021-01-19

DATE REPORTED: 2021-01-29

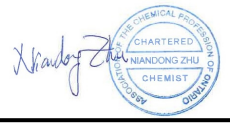
		SAMPLE DESCRIPTION:		MW312
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954
pH	pH Units	6.0-9.0	NA	7.46
Total Suspended Solids	mg/L	15	10	30
Total Residual Chlorine	mg/L	1.0	0.1	<0.1
Total Cyanide	mg/L	0.02	0.002	<0.002
Phenols	mg/L	0.008	0.001	0.004
Total Phosphorus	mg/L	0.4	0.02	0.04
Total Kjeldahl Nitrogen	mg/L	1	0.10	6.30
Chromium VI	mg/L	0.04	0.005	<0.005
Total Aluminum	mg/L	1.0	0.010	0.791
Total Arsenic	mg/L	0.02	0.015	<0.015
Total Cadmium	mg/L	0.008	0.005	<0.005
Total Chromium	mg/L	0.08	0.015	<0.015
Total Copper	mg/L	0.04	0.010	<0.010
Total Lead	mg/L	0.12	0.020	<0.020
Total Manganese	mg/L	0.05	0.020	0.267
Total Mercury	mg/L	0.0004	0.0002	<0.0002
Total Nickel	mg/L	0.08	0.015	<0.015
Total Selenium	mg/L	0.02	0.020	<0.020
Total Silver	mg/L	0.12	0.010	<0.010
Total Zinc	mg/L	0.04	0.020	<0.020

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to City of Mississauga - Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1973954 Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Peel Sanitary Sewer Use By-Law - Inorganics

DATE RECEIVED: 2021-01-19

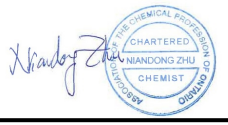
DATE REPORTED: 2021-01-29

		SAMPLE DESCRIPTION:		MW312
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-01-19 14:00
Parameter	Unit	G / S	RDL	1973954
pH	pH Units	5.5-10	NA	7.46
Total Suspended Solids	mg/L	350	10	30
Fluoride	mg/L	10	0.33	<0.33
Sulphate	mg/L	1500	5.0	385
Total Cyanide	mg/L	2	0.002	<0.002
Phenols	mg/L	1.0	0.002	0.004
Total Phosphorus	mg/L	10	0.02	0.04
Total Kjeldahl Nitrogen	mg/L	100	0.10	6.30
Total Aluminum	mg/L	50	0.010	0.791
Total Antimony	mg/L	5	0.020	<0.020
Total Arsenic	mg/L	1	0.015	<0.015
Total Cadmium	mg/L	0.7	0.010	<0.010
Total Chromium	mg/L	5	0.015	<0.015
Total Cobalt	mg/L	5	0.020	<0.020
Total Copper	mg/L	3	0.010	<0.010
Total Lead	mg/L	3	0.020	<0.020
Total Manganese	mg/L	5	0.020	0.267
Total Mercury	mg/L	0.01	0.0002	<0.0002
Total Molybdenum	mg/L	5	0.020	<0.020
Total Nickel	mg/L	3	0.015	<0.015
Total Selenium	mg/L	1	0.020	<0.020
Total Silver	mg/L	5	0.010	<0.010
Total Tin	mg/L	5	0.025	<0.025
Total Titanium	mg/L	5	0.020	0.021
Total Zinc	mg/L	3	0.020	<0.020

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Peel Sanitary By-Law 53-2010
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Exceedance Summary

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
1973954	MW312	ON Mississauga SM	Mississauga Storm Sewer Use Bylaw- Inorganics	Total Kjeldahl Nitrogen	mg/L	1	6.30
1973954	MW312	ON Mississauga SM	Mississauga Storm Sewer Use Bylaw- Inorganics	Total Manganese	mg/L	0.05	0.267
1973954	MW312	ON Mississauga SM	Mississauga Storm Sewer Use Bylaw- Inorganics	Total Suspended Solids	mg/L	15	30

AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Microbiology Analysis

RPT Date: Jan 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
E. Coli (Using MI Agar)															
Escherichia coli	1972139		ND	ND	NA	< 1									

Comments: ND - Not Detected, NA - % RPD Not Applicable.

Certified By:

AGAT Laboratories

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MISSISSAUGA, ONTARIO
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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Trace Organics Analysis

RPT Date: Jan 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Peel Region Sanitary - Organics															
Oil and Grease (animal/vegetable) in water	1977184		< 0.5	< 0.5	NA	< 0.5	90%	70%	130%	102%	70%	130%	106%	70%	130%
Oil and Grease (mineral) in water	1977184		< 0.5	< 0.5	NA	< 0.5	84%	70%	130%	86%	70%	130%	77%	70%	130%
Methylene Chloride	1961168		< 0.0003	< 0.0003	0.0%	< 0.0003	78%	50%	140%	81%	60%	130%	78%	50%	140%
Methyl Ethyl Ketone	1961168		< 0.0009	< 0.0009	0.0%	< 0.0009	104%	50%	140%	82%	50%	140%	88%	50%	140%
cis- 1,2-Dichloroethylene	1961168		< 0.0002	< 0.0002	0.0%	< 0.0002	86%	60%	130%	78%	60%	130%	98%	60%	130%
Chloroform	1961168		< 0.0002	< 0.0002	0.0%	< 0.0002	79%	60%	130%	81%	60%	130%	79%	60%	130%
Benzene	1961168		< 0.0002	< 0.0002	0.0%	< 0.0002	77%	50%	140%	73%	60%	130%	78%	50%	140%
Trichloroethylene	1961168		< 0.0002	< 0.0002	0.0%	< 0.0002	102%	50%	140%	77%	60%	130%	103%	50%	140%
Toluene	1961168		< 0.0002	< 0.0002	0.0%	< 0.0002	78%	50%	140%	87%	60%	130%	97%	50%	140%
Tetrachloroethylene	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	72%	60%	130%	96%	60%	130%	95%	60%	130%
trans-1,3-Dichloropropylene	1961168		< 0.0003	< 0.0003	0.0%	< 0.0003	81%	60%	130%	106%	60%	130%	97%	60%	130%
Ethylbenzene	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	73%	50%	140%	81%	60%	130%	83%	50%	140%
1,1,2,2-Tetrachloroethane	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	83%	50%	140%	89%	60%	130%	89%	50%	140%
Styrene	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	61%	50%	140%	74%	60%	130%	76%	50%	140%
1,2-Dichlorobenzene	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	82%	50%	140%	98%	60%	130%	97%	50%	140%
1,4-Dichlorobenzene	1961168		< 0.0001	< 0.0001	0.0%	< 0.0001	83%	50%	140%	102%	60%	130%	103%	50%	140%
PCBs	1987562		< 0.0002	< 0.0002	NA	< 0.0002	102%	60%	130%	96%	60%	130%	98%	60%	130%
Di-n-butyl phthalate	1979247		< 0.0005	< 0.0005	NA	< 0.0005	101%	60%	130%	88%	60%	130%	96%	60%	130%
Bis(2-Ethylhexyl)phthalate	1979247		< 0.0005	< 0.0005	NA	< 0.0005	114%	50%	140%	110%	50%	140%	85%	50%	140%
Mississauga Storm - Organics															
Benzene	1961168		<0.0002	<0.0002	NA	< 0.0002	77%	50%	140%	73%	60%	130%	78%	50%	140%
Total PAHs	1978079		< 0.0003	< 0.0003	NA	< 0.0003	101%	60%	140%	88%	60%	140%	96%	60%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Ultra Trace Analysis

RPT Date: Jan 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Nonylphenol and Nonylphenol Ethoxylates (Ontario, mg/L)															
Total Nonylphenol	1	1975223	< 0.001	< 0.001	NA	< 0.001	77%	60%	140%	NA	60%	140%	NA	60%	140%
NP1EO	1	1975223	< 0.001	< 0.001	NA	< 0.001	76%	60%	140%	NA	60%	140%	NA	60%	140%
NP2EO	1	1975223	< 0.0003	< 0.0003	NA	< 0.0003	91%	60%	140%	NA	60%	140%	NA	60%	140%

Certified By:

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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Water Analysis

RPT Date: Jan 29, 2021

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Peel Sanitary Sewer Use By-Law - Inorganics															
pH	1970389		7.87	7.92	0.6%	NA	100%	90%	110%						
Total Suspended Solids	1997725		<10	<10	NA	< 10	98%	80%	120%						
Fluoride	1970310		<0.07	<0.07	NA	< 0.05	108%	90%	110%	107%	90%	110%	105%	85%	115%
Sulphate	1970310		105	107	1.9%	< 0.10	102%	70%	130%	107%	80%	120%	106%	70%	130%
Total Cyanide	1971170		0.004	0.004	NA	< 0.002	99%	70%	130%	94%	80%	120%	111%	70%	130%
Phenols	1976929		<0.002	<0.002	NA	< 0.002	93%	90%	110%	101%	90%	110%	111%	80%	120%
Total Phosphorus	1973954	1973954	0.04	0.04	NA	< 0.02	101%	70%	130%	103%	80%	120%	93%	70%	130%
Total Kjeldahl Nitrogen	1971170		0.18	0.26	NA	< 0.10	98%	70%	130%	102%	80%	120%	98%	70%	130%
Total Aluminum	1980524		0.399	0.362	9.7%	< 0.010	99%	70%	130%	104%	80%	120%	109%	70%	130%
Total Antimony	1980524		<0.020	<0.020	NA	< 0.020	94%	70%	130%	98%	80%	120%	96%	70%	130%
Total Arsenic	1980524		<0.015	<0.015	NA	< 0.015	98%	70%	130%	100%	80%	120%	104%	70%	130%
Total Cadmium	1980524		<0.010	<0.010	NA	< 0.010	97%	70%	130%	101%	80%	120%	99%	70%	130%
Total Chromium	1980524		<0.015	<0.015	NA	< 0.015	100%	70%	130%	100%	80%	120%	100%	70%	130%
Total Cobalt	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	103%	80%	120%	101%	70%	130%
Total Copper	1980524		<0.010	<0.010	NA	< 0.010	98%	70%	130%	100%	80%	120%	98%	70%	130%
Total Lead	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	94%	80%	120%	94%	70%	130%
Total Manganese	1980524		0.759	0.722	5.0%	< 0.020	97%	70%	130%	102%	80%	120%	99%	70%	130%
Total Mercury	1973954	1973954	<0.0002	<0.0002	NA	< 0.0002	105%	70%	130%	97%	80%	120%	95%	70%	130%
Total Molybdenum	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	105%	80%	120%	104%	70%	130%
Total Nickel	1980524		<0.015	<0.015	NA	< 0.015	99%	70%	130%	101%	80%	120%	98%	70%	130%
Total Selenium	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	97%	80%	120%	101%	70%	130%
Total Silver	1980524		<0.010	<0.010	NA	< 0.010	98%	70%	130%	102%	80%	120%	95%	70%	130%
Total Tin	1980524		<0.025	<0.025	NA	< 0.025	95%	70%	130%	94%	80%	120%	95%	70%	130%
Total Titanium	1980524		<0.020	<0.020	NA	< 0.020	99%	70%	130%	104%	80%	120%	107%	70%	130%
Total Zinc	1980524		0.059	0.054	NA	< 0.020	100%	70%	130%	99%	80%	120%	103%	70%	130%
Mississauga Storm Sewer Use Bylaw- Inorganics															
pH	1970389		7.87	7.92	0.6%	NA	100%	90%	110%						
Total Suspended Solids	1997725		<10	<10	NA	< 10	98%	80%	120%						
Total Residual Chlorine	1964098		<0.1	<0.1	NA	< 0.1	99%	80%	120%	100%	85%	115%	105%	85%	115%
Total Cyanide	1971170		0.004	0.004	NA	< 0.002	99%	70%	130%	94%	80%	120%	111%	70%	130%
Phenols	1976929		<0.001	<0.001	NA	< 0.001	93%	90%	110%	101%	90%	110%	111%	80%	120%
Total Phosphorus	1973954	1973954	0.04	0.04	NA	< 0.02	101%	70%	130%	103%	80%	120%	93%	70%	130%
Total Kjeldahl Nitrogen	1971170		0.18	0.26	NA	< 0.10	98%	70%	130%	102%	80%	120%	98%	70%	130%
Chromium VI	1966312		<0.005	<0.005	NA	< 0.005	101%	70%	130%	101%	80%	120%	99%	70%	130%
Total Aluminum	1980524		0.399	0.362	9.7%	< 0.010	99%	70%	130%	104%	80%	120%	109%	70%	130%
Total Arsenic	1980524		<0.015	<0.015	NA	< 0.015	98%	70%	130%	100%	80%	120%	104%	70%	130%
Total Cadmium	1980524		<0.005	<0.005	NA	< 0.005	97%	70%	130%	101%	80%	120%	99%	70%	130%
Total Chromium	1980524		<0.015	<0.015	NA	< 0.015	100%	70%	130%	100%	80%	120%	100%	70%	130%
Total Copper	1980524		<0.010	<0.010	NA	< 0.010	98%	70%	130%	100%	80%	120%	98%	70%	130%

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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Water Analysis (Continued)

RPT Date: Jan 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Lead	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	94%	80%	120%	94%	70%	130%
Total Manganese	1980524		0.759	0.722	5.0%	< 0.020	97%	70%	130%	102%	80%	120%	99%	70%	130%
Total Mercury	1973954	1973954	<0.0002	<0.0002	NA	< 0.0002	105%	70%	130%	97%	80%	120%	95%	70%	130%
Total Nickel	1980524		<0.015	<0.015	NA	< 0.015	99%	70%	130%	101%	80%	120%	98%	70%	130%
Total Selenium	1980524		<0.020	<0.020	NA	< 0.020	98%	70%	130%	97%	80%	120%	101%	70%	130%
Total Silver	1980524		<0.010	<0.010	NA	< 0.010	98%	70%	130%	102%	80%	120%	95%	70%	130%
Total Zinc	1980524		0.059	0.054	NA	< 0.020	100%	70%	130%	99%	80%	120%	103%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

BOD5

Biochemical Oxygen Demand, Total	1978146	1250	980	24.2%	< 2	87%	70%	130%

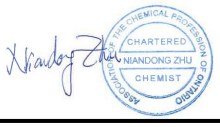
Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.
BOD: Duplicate not within acceptance limits. Unable to repeat as samples are past hold time.

CBOD5

Biochemical Oxygen Demand, Carbonaceous	1975176	80	65	20.7%	< 2	77%	70%	130%

Comments: Duplicate not within acceptance limits due to non-homogenous sample.
BOD: Duplicate not within acceptance limits. Unable to repeat as samples are past hold time.

Certified By:



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Time Markers

AGAT WORK ORDER: 21T701251
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

Sample ID	Sample Description	Sample Type	Date Sampled	Date Received
1973954	MW312	Water	19-JAN-2021	19-JAN-2021

BOD5

Parameter	Date Prepared	Date Analyzed	Initials
Biochemical Oxygen Demand, Total	21-JAN-2021	26-JAN-2021	KF

CBOD5

Parameter	Date Prepared	Date Analyzed	Initials
Biochemical Oxygen Demand, Carbonaceous	21-JAN-2021	26-JAN-2021	KF

E. Coli (Using MI Agar)

Parameter	Date Prepared	Date Analyzed	Initials
Escherichia coli	19-JAN-2021	20-JAN-2021	SJM

Mississauga Storm - Organics

Parameter	Date Prepared	Date Analyzed	Initials
Benzene	23-JAN-2021	25-JAN-2021	KS
Toluene	23-JAN-2021	25-JAN-2021	KS
Ethylbenzene	23-JAN-2021	25-JAN-2021	KS
Xylenes (Total)	23-JAN-2021	25-JAN-2021	KS
Total PAHs	26-JAN-2021	27-JAN-2021	US

Mississauga Storm Sewer Use Bylaw- Inorganics

Parameter	Date Prepared	Date Analyzed	Initials
pH	20-JAN-2021	20-JAN-2021	ND
Total Suspended Solids	26-JAN-2021	26-JAN-2021	SR
Total Residual Chlorine	19-JAN-2021	19-JAN-2021	NK
Total Cyanide	22-JAN-2021	22-JAN-2021	BG
Phenols	21-JAN-2021	21-JAN-2021	NK
Total Phosphorus	22-JAN-2021	22-JAN-2021	SK
Total Kjeldahl Nitrogen	20-JAN-2021	20-JAN-2021	GN
Chromium VI	25-JAN-2021	25-JAN-2021	NK
Total Aluminum	21-JAN-2021	21-JAN-2021	DW
Total Arsenic	21-JAN-2021	21-JAN-2021	DW
Total Cadmium	21-JAN-2021	21-JAN-2021	DW
Total Chromium	21-JAN-2021	21-JAN-2021	DW
Total Copper	21-JAN-2021	21-JAN-2021	DW
Total Lead	21-JAN-2021	21-JAN-2021	DW
Total Manganese	21-JAN-2021	21-JAN-2021	DW
Total Mercury	20-JAN-2021	20-JAN-2021	DL
Total Nickel	21-JAN-2021	21-JAN-2021	DW
Total Selenium	21-JAN-2021	21-JAN-2021	DW
Total Silver	21-JAN-2021	21-JAN-2021	DW

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Time Markers

AGAT WORK ORDER: 21T701251
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

Sample ID	Sample Description	Sample Type	Date Sampled	Date Received
1973954	MW312	Water	19-JAN-2021	19-JAN-2021

Mississauga Storm Sewer Use Bylaw- Inorganics

Parameter	Date Prepared	Date Analyzed	Initials
Total Zinc	21-JAN-2021	21-JAN-2021	DW

Nonylphenol and Nonylphenol Ethoxylates (Ontario, mg/L)

Parameter	Date Prepared	Date Analyzed	Initials
Total Nonylphenol	22-JAN-2021	27-JAN-2021	TC
NP1EO	22-JAN-2021	27-JAN-2021	TC
NP2EO	22-JAN-2021	27-JAN-2021	TC
Total Nonylphenol Ethoxylates	22-JAN-2021	27-JAN-2021	TC

Peel Region Sanitary - Organics

Parameter	Date Prepared	Date Analyzed	Initials
Oil and Grease (animal/vegetable) in water	26-JAN-2021	26-JAN-2021	RMK
Oil and Grease (mineral) in water	26-JAN-2021	26-JAN-2021	RMK
Methylene Chloride	23-JAN-2021	23-JAN-2021	KS
Methyl Ethyl Ketone	23-JAN-2021	23-JAN-2021	KS
cis- 1,2-Dichloroethylene	23-JAN-2021	23-JAN-2021	KS
Chloroform	23-JAN-2021	23-JAN-2021	KS
Benzene	23-JAN-2021	23-JAN-2021	KS
Trichloroethylene	23-JAN-2021	23-JAN-2021	KS
Toluene	23-JAN-2021	23-JAN-2021	KS
Tetrachloroethylene	23-JAN-2021	23-JAN-2021	KS
trans-1,3-Dichloropropylene	23-JAN-2021	23-JAN-2021	KS
Ethylbenzene	23-JAN-2021	23-JAN-2021	KS
1,1,2,2-Tetrachloroethane	23-JAN-2021	23-JAN-2021	KS
Styrene	23-JAN-2021	23-JAN-2021	KS
1,2-Dichlorobenzene	23-JAN-2021	23-JAN-2021	KS
1,4-Dichlorobenzene	23-JAN-2021	23-JAN-2021	KS
Xylenes (Total)	23-JAN-2021	23-JAN-2021	KS
PCBs	25-JAN-2021	27-JAN-2021	VDP
Di-n-butyl phthalate	27-JAN-2021	27-JAN-2021	US
Bis(2-Ethylhexyl)phthalate	27-JAN-2021	27-JAN-2021	US

Peel Sanitary Sewer Use By-Law - Inorganics

Parameter	Date Prepared	Date Analyzed	Initials
pH	20-JAN-2021	20-JAN-2021	ND
Total Suspended Solids	26-JAN-2021	26-JAN-2021	SR
Fluoride	20-JAN-2021	20-JAN-2021	LC
Sulphate	20-JAN-2021	20-JAN-2021	LC
Total Cyanide	22-JAN-2021	22-JAN-2021	BG

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Time Markers

AGAT WORK ORDER: 21T701251
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Theimer

Sample ID	Sample Description	Sample Type	Date Sampled	Date Received
1973954	MW312	Water	19-JAN-2021	19-JAN-2021

Peel Sanitary Sewer Use By-Law - Inorganics

Parameter	Date Prepared	Date Analyzed	Initials
Phenols	21-JAN-2021	21-JAN-2021	NK
Total Phosphorus	22-JAN-2021	22-JAN-2021	SK
Total Kjeldahl Nitrogen	20-JAN-2021	20-JAN-2021	GN
Total Aluminum	21-JAN-2021	21-JAN-2021	DW
Total Antimony	21-JAN-2021	21-JAN-2021	DW
Total Arsenic	21-JAN-2021	21-JAN-2021	DW
Total Cadmium	21-JAN-2021	21-JAN-2021	DW
Total Chromium	21-JAN-2021	21-JAN-2021	DW
Total Cobalt	21-JAN-2021	21-JAN-2021	DW
Total Copper	21-JAN-2021	21-JAN-2021	DW
Total Lead	21-JAN-2021	21-JAN-2021	DW
Total Manganese	21-JAN-2021	21-JAN-2021	DW
Total Mercury	20-JAN-2021	20-JAN-2021	DL
Total Molybdenum	21-JAN-2021	21-JAN-2021	DW
Total Nickel	21-JAN-2021	21-JAN-2021	DW
Total Selenium	21-JAN-2021	21-JAN-2021	DW
Total Silver	21-JAN-2021	21-JAN-2021	DW
Total Tin	21-JAN-2021	21-JAN-2021	DW
Total Titanium	21-JAN-2021	21-JAN-2021	DW
Total Zinc	21-JAN-2021	21-JAN-2021	DW

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Method Summary

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Escherichia coli	MIC-93-7010	EPA 1604	Membrane Filtration
Trace Organics Analysis			
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	P & T GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	P & T GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	P & T GC/MS
Total PAHs	ORG-91-5105	EPA SW-846 3510 & 8270E	GC/MS
Oil and Grease (animal/vegetable) in water	VOL-91-5011	EPA SW-846 3510C & SM5520	BALANCE
Oil and Grease (mineral) in water	VOL-91-5011	EPA SW-846 3510C & SM 5520	BALANCE
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	EPA SW-846 5030B & 8260B	(P&T)GC/MS
Chloroform	VOL-91-5001	EPA SW-846 5030B & 8260B	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	EPA SW-846 5030B & 8260B	(P&T)GC/MS
trans-1,3-Dichloropropylene	VOL-91-5001	EPA SW-846 5030B & 8260B	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
PCBs	ORG-91-5112	EPA SW-846 3510C & 8082A	GC/ECD
Di-n-butyl phthalate	ORG-91-5114	EPA SW-846 3510C & 8270E	GC/MS
Bis(2-Ethylhexyl)phthalate	ORG-91-5114	EPA SW-846 3510C & 8270E	GC/MS
Ultra Trace Analysis			
Total Nonylphenol	NA	ASTM D7065-6	LC/MS/MS
NP1EO	NA	ASTM D7065-6	LC/MS/MS
NP2EO	NA	ASTM D7065-6	LC/MS/MS
Total Nonylphenol Ethoxylates	NA	ASTM D7065-6	LC/MS/MS

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Method Summary

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701251

PROJECT: CT2892.03

ATTENTION TO: Brian Theimer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Biochemical Oxygen Demand, Total	INOR-121-6023	SM 5210 B	INCUBATOR
Biochemical Oxygen Demand, Carbonaceous	INOR-121-6023	SM 5210 B	INCUBATOR
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE
Total Suspended Solids	INOR-93-6028	modified from EPA 1684,ON MOECC E3139,SM 2540C,D	BALANCE
Total Residual Chlorine	INOR-93-6060	SM 4500 Cl- F	SPECTROPHOTOMETER
Total Cyanide	INOR-93-6051	modified from MOECC E3015; SM 4500-CN- A, B, & C	TECHNICON AUTO ANALYZER
Phenols	INOR-93-6072	modified from SM 5530 D	LACHAT FIA
Total Phosphorus	INOR-93-6022	modified from SM 4500-P B and SM 4500-P E	SPECTROPHOTOMETER
Total Kjeldahl Nitrogen	INOR-93-6048	modified from EPA 351.2 and SM 4500-NORG D	LACHAT FIA
Chromium VI	INOR-93-6034	modified from SM 3500-CR B	SPECTROPHOTOMETER
Total Aluminum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Arsenic	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cadmium	MET -93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Chromium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Copper	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Lead	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Manganese	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS
Total Nickel	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Selenium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Silver	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Zinc	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Fluoride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Total Antimony	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cobalt	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Molybdenum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Tin	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Titanium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Laboratory Use Only

Work Order #: 21T701251

Cooler Quantity: Med Blue + 1B/k

Arrival Temperatures: (Free ice) 4.3 | 4.4 | 4.2

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: 4.6 4.7 4.5

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: Terrapex Environmental Ltd
Contact: Brian Theimer
Address: 90 Scarsdale Rd, Toronto ON M3B 2R7
Phone: 416 245 0011 Fax:
Reports to be sent to:
1. Email: b.theimer@terrapex.com
2. Email: s.jivani@terrapex.com

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 153/04
Table ___ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table ___ *Indicate One*
☐ Regulation 558
☐ CCME

☑ Sewer Use
☑ Sanitary ☑ Storm
Peel / Mississauga
Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☒ No

Report Guideline on *Certificate of Analysis* ☒ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: CT2892.03
Site Location: 3154 Hurontario St, Mississauga ON
Sampled By: AMD/SJ
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company: Terrapex Environmental Ltd
Contact: Brian Theimer
Address: 90 Scarsdale Rd, Toronto, ON
Email: b.theimer@terrapex.com ; accounts.payable@terrapex.com

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs	Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Peel Sanitary	Mississauga Storm					Potentially Hazardous or High Concentration (Y/N)
MW312	Jan 19/21	2:00 AM/PM	42	GW	Please analyze for Peel Sanitary and Mississauga Storm sewer use bylaws	N												✓	✓					N
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Sabrina Jivani [signature]	Jan 19/21	4:00 pm	Neil Namwara [signature]		21 JAN 19 4:02PM
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

Nº: T 114058

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CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED
90 SCARSDALE RD
TORONTO, ON M3B2R7
(905) 474-5265
ATTENTION TO: Brian Thermer
PROJECT: CT2892.03
AGAT WORK ORDER: 21T701416
WATER ANALYSIS REVIEWED BY: Yris Verastegui, Report Reviewer
DATE REPORTED: Jan 27, 2021
PAGES (INCLUDING COVER): 7
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Certificate of Analysis

AGAT WORK ORDER: 21T701416

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Thermer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Peel Sanitary/Mississauga Storm Sewer Use By-Law - Total Metals

DATE RECEIVED: 2021-01-19

DATE REPORTED: 2021-01-27

					SAMPLE DESCRIPTION:	MW312-FF
					SAMPLE TYPE:	Water
					DATE SAMPLED:	2021-01-19 15:00
Parameter	Unit	G / S: A	G / S: B	RDL		1977573
Total Aluminum	mg/L	50	1.0	0.010		0.016[<B]
Total Antimony	mg/L	5		0.020		<0.020
Total Arsenic	mg/L	1	0.02	0.015		<0.015
Total Cadmium	mg/L	0.7	0.008	0.010		<0.010
Total Chromium	mg/L	5	0.08	0.015		<0.015
Total Cobalt	mg/L	5		0.020		<0.020
Total Copper	mg/L	3	0.04	0.010		<0.010
Total Lead	mg/L	3	0.12	0.020		<0.020
Total Manganese	mg/L	5	0.05	0.020		0.194[B-A]
Total Molybdenum	mg/L	5		0.020		<0.020
Total Nickel	mg/L	3	0.08	0.015		<0.015
Total Selenium	mg/L	1	0.02	0.020		<0.020
Total Silver	mg/L	5	0.12	0.010		<0.010
Total Tin	mg/L	5		0.025		<0.025
Total Titanium	mg/L	5		0.020		<0.020
Total Zinc	mg/L	3	0.04	0.020		<0.020

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Peel Sanitary By-Law 53-2010, B Refers to City of Mississauga - Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 21T701416

PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Thermer

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
1977573	MW312-FF	ON Mississauga SM	Peel Sanitary/Mississauga Storm Sewer Use By-Law - Total Metals	Total Manganese	mg/L	0.05	0.194

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Quality Assurance

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701416

PROJECT: CT2892.03

ATTENTION TO: Brian Thermer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

Water Analysis

RPT Date: Jan 27, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Peel Sanitary/Mississauga Storm Sewer Use By-Law - Total Metals															
Total Aluminum	1980524		0.45	0.39	14.3%	< 0.010	99%	70%	130%	104%	80%	120%	105%	70%	130%
Total Antimony	1980524		<0.20	<0.20	NA	< 0.020	94%	70%	130%	98%	80%	120%	95%	70%	130%
Total Arsenic	1980524		<0.15	<0.15	NA	< 0.015	98%	70%	130%	100%	80%	120%	101%	70%	130%
Total Cadmium	1980524		<0.10	<0.10	NA	< 0.010	99%	70%	130%	99%	80%	120%	99%	70%	130%
Total Chromium	1980524		<0.15	<0.15	NA	< 0.015	100%	70%	130%	100%	80%	120%	100%	70%	130%
Total Cobalt	1980524		<0.20	<0.20	NA	< 0.020	98%	70%	130%	103%	80%	120%	101%	70%	130%
Total Copper	1980524		<0.10	<0.10	NA	< 0.010	98%	70%	130%	100%	80%	120%	95%	70%	130%
Total Lead	1980524		<0.20	<0.20	NA	< 0.020	98%	70%	130%	94%	80%	120%	94%	70%	130%
Total Manganese	1980524		0.77	0.78	1.3%	< 0.020	97%	70%	130%	102%	80%	120%	99%	70%	130%
Total Molybdenum	1980524		<0.20	<0.20	NA	< 0.020	98%	70%	130%	105%	80%	120%	104%	70%	130%
Total Nickel	1980524		<0.15	<0.15	NA	< 0.015	99%	70%	130%	101%	80%	120%	97%	70%	130%
Total Selenium	1980524		<0.20	<0.20	NA	< 0.020	98%	70%	130%	98%	80%	120%	95%	70%	130%
Total Silver	1980524		<0.10	<0.10	NA	< 0.010	98%	70%	130%	102%	80%	120%	94%	70%	130%
Total Tin	1980524		<0.25	<0.25	NA	< 0.025	95%	70%	130%	94%	80%	120%	95%	70%	130%
Total Titanium	1980524		<0.20	<0.20	NA	< 0.020	97%	70%	130%	105%	80%	120%	109%	70%	130%
Total Zinc	1980524		<0.20	<0.20	NA	< 0.020	100%	70%	130%	99%	80%	120%	101%	70%	130%

Comments: NA signifies Not Applicable.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By: Iris Verástegui

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Time Markers

AGAT WORK ORDER: 21T701416
PROJECT: CT2892.03

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

ATTENTION TO: Brian Thermer

Sample ID	Sample Description	Sample Type	Date Sampled	Date Received
1977573	MW312-FF	Water	19-JAN-2021	19-JAN-2021

Peel Sanitary/Mississauga Storm Sewer Use By-Law - Total Metals

Parameter	Date Prepared	Date Analyzed	Initials
Total Aluminum	21-JAN-2021	21-JAN-2021	DW
Total Antimony	21-JAN-2021	21-JAN-2021	DW
Total Arsenic	21-JAN-2021	21-JAN-2021	DW
Total Cadmium	21-JAN-2021	21-JAN-2021	DW
Total Chromium	21-JAN-2021	21-JAN-2021	DW
Total Cobalt	21-JAN-2021	21-JAN-2021	DW
Total Copper	21-JAN-2021	21-JAN-2021	DW
Total Lead	21-JAN-2021	21-JAN-2021	DW
Total Manganese	21-JAN-2021	21-JAN-2021	DW
Total Molybdenum	21-JAN-2021	21-JAN-2021	DW
Total Nickel	21-JAN-2021	21-JAN-2021	DW
Total Selenium	21-JAN-2021	21-JAN-2021	DW
Total Silver	21-JAN-2021	21-JAN-2021	DW
Total Tin	21-JAN-2021	21-JAN-2021	DW
Total Titanium	21-JAN-2021	21-JAN-2021	DW
Total Zinc	21-JAN-2021	21-JAN-2021	DW

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Method Summary

CLIENT NAME: TERRAPEX ENVIRONMENTAL LIMITED

AGAT WORK ORDER: 21T701416

PROJECT: CT2892.03

ATTENTION TO: Brian Thermer

SAMPLING SITE:3154 Hurontario St. Mississauga ON

SAMPLED BY:AMD/SJ

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Total Aluminum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Antimony	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Arsenic	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cadmium	MET -93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Chromium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cobalt	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Copper	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Lead	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Manganese	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
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Total Nickel	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Selenium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Silver	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Tin	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Titanium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Zinc	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: Terrapex Environmental Ltd.
Contact: Brian Theimer
Address: 90 Scarsdale Rd
Toronto ON M3B 2R7
Phone: 416 245 0011 Fax:
Reports to be sent to:
1. Email: b.theimer@terrapex.com
2. Email: s.jivani@terrapex.com

Project Information:

Project: CT2892.03
Site Location: 3154 Huron Park St. Mississauga ON
Sampled By: AMD/SJ
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐
Company: Terrapex Environmental Ltd
Contact: Brian Theimer
Address: 90 Scarsdale Rd; Toronto ON
Email: b.theimer@terrapex.com; accounts.payable@terrapex.com

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 153/04
Table ___ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table ___ *Indicate One*
☐ Regulation 558
☐ CCME

☑ Sewer Use
☑ Sanitary ☑ Storm
Peel / Mississauga
Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☒ No

Report Guideline on *Certificate of Analysis* ☒ Yes ☐ No

Laboratory Use Only

Work Order #: 21T701416
Cooler Quantity: 1 Bag (Filed (ice))
Arrival Temperatures: 4.7
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ vOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ vOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, CPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Total Metals (Field Filtered)						Potentially Hazardous or High Concentration (Y/N)
MW312-FF	Jan. 19/21	3:00 PM	1	GW	Please analyze for Total Metals and compare to Peel sanitary/ Mississauga Storm sewer bylaw requirements	Y											X						N

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Sabrina Jivani	Jan 19/21	4:00pm	Neil Ramnarain		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'21 JAN 19 4:05PM

Page 1 of 1

N°: 114056

APPENDIX V

GRAIN SIZE ANALYSIS

Particle Size Distribution Report

	% +3"	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0	12	8	4	52	24

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3793	0.0154	0.0092	0.0032				

Material Description	USCS	AASHTO
○ CLAYEY SILT some gravel some sand		

Project No. CT2892.03 **Client:** 3168 HS LP

Project: 3154 & 3168 Hurontario and 25 Hillcrest Avenue, Mississauga, ON

○ **Sample Number:** BH 307, Sample 4

Remarks:

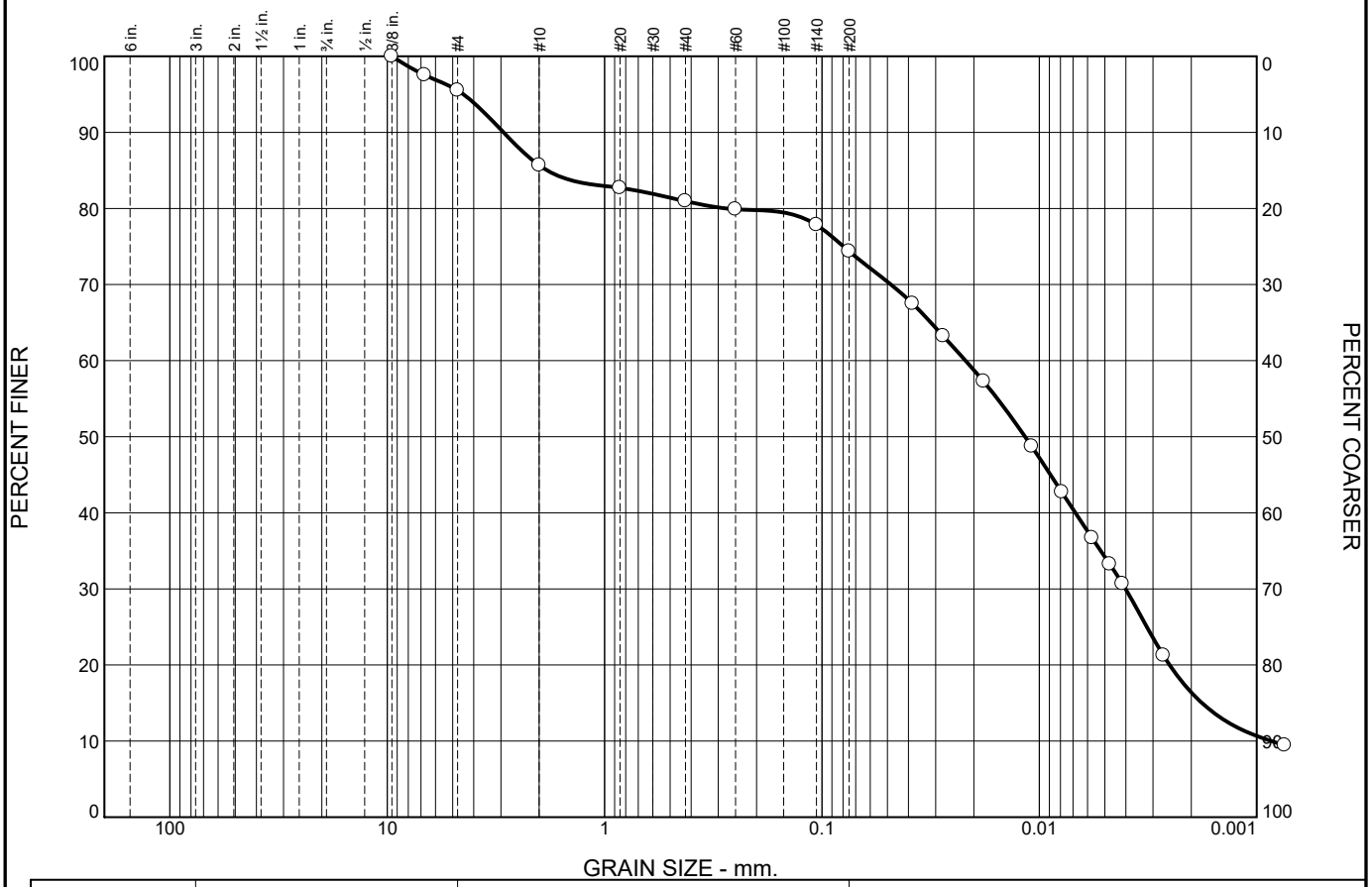
○Tested on 9/12/2020

Terrapex

Figure 1

Tested By: AM

Grain Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	4	10	5	7	58	16

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.8377	0.0219	0.0116	0.0040	0.0018	0.0009	0.86	25.50

Material Description	USCS	AASHTO
○ SANDY SILT, some clay, trace gravel		

Project No. CT2892.00 **Client:** TAS Design Build

Project: 3154 Hurontario Street, Mississauga ON

○ **Sample Number:** MW 101, Sample 4

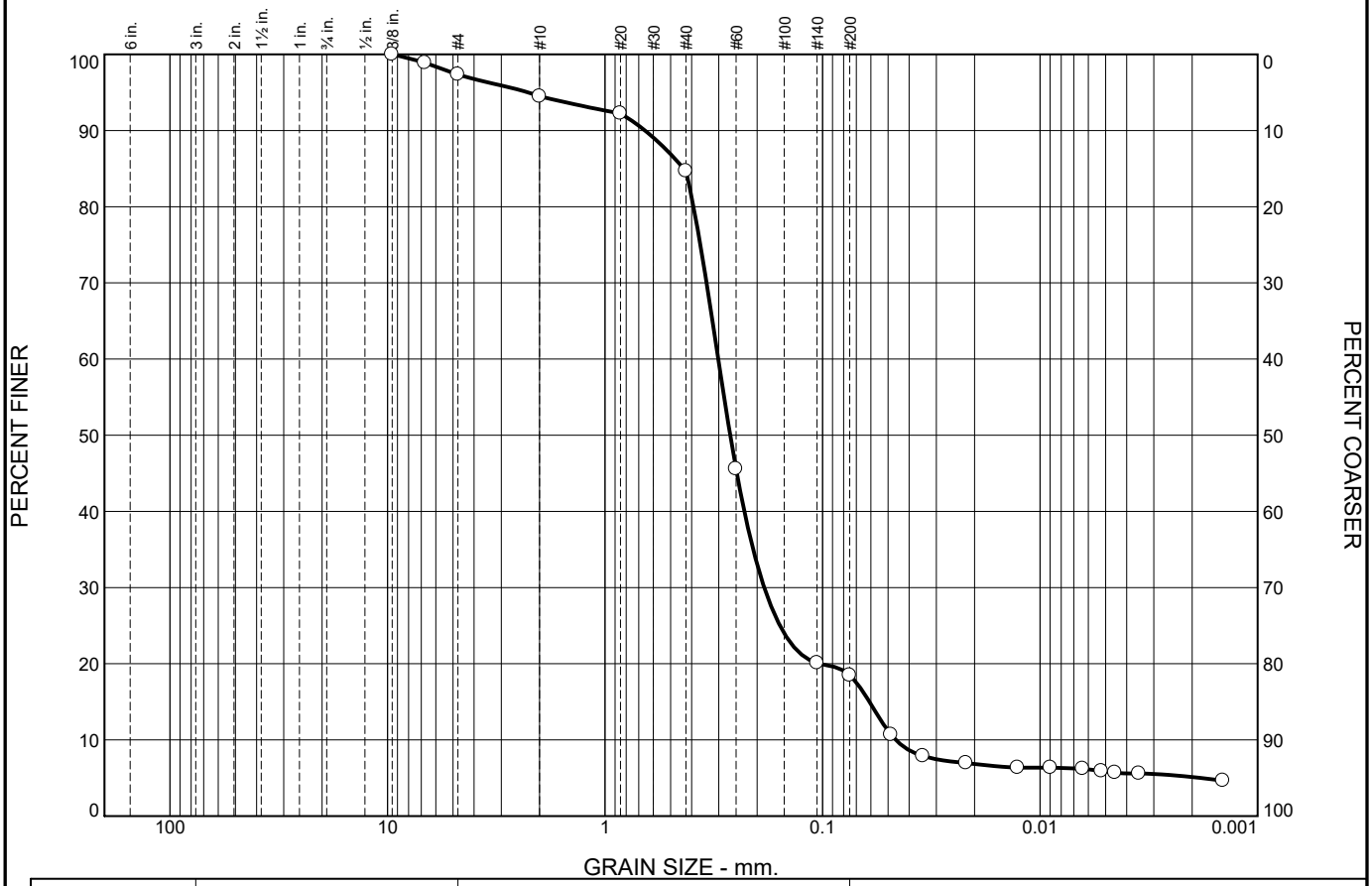
Remarks:

Terrapex

Figure 1

Tested By: PG **Checked By:** DM

Grain Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	3	3	9	67	13	5

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.4345	0.3016	0.2658	0.1854	0.0609	0.0461	2.47	6.54

Material Description	USCS	AASHTO
○ SAND, some silt, trace clay, trace gravel		

Project No. CT2892.00 **Client:** TAS Design Build

Project: 3154 Hurontario Street, Mississauga ON

○ **Sample Number:** MW 103, Sample 3

Remarks:

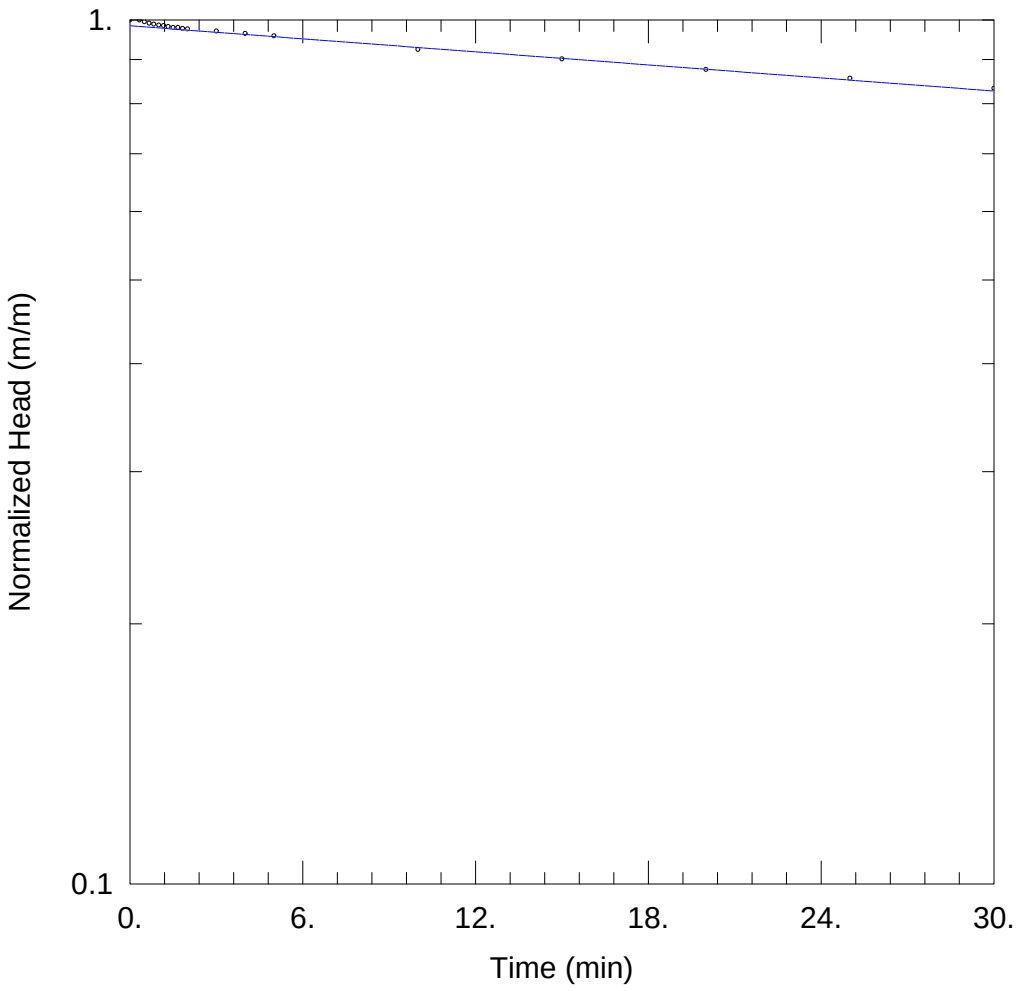
Terrapex

Figure 2

Tested By: PG **Checked By:** DM

APPENDIX VI

HYDRAULIC CONDUCTIVITY



HYDROGEOLOGICAL REVIEW

Data Set: I:\...\MW101.aqt
Date: 08/28/19 Time: 16:16:02

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: TAS Design Build
Project: CT2892.00
Location: Hurontario St. & Hillcrest Ave
Test Well: MW101
Test Date: August 9, 2019

AQUIFER DATA

Saturated Thickness: 7.4 m Anisotropy Ratio (Kz/Kr): 0.1

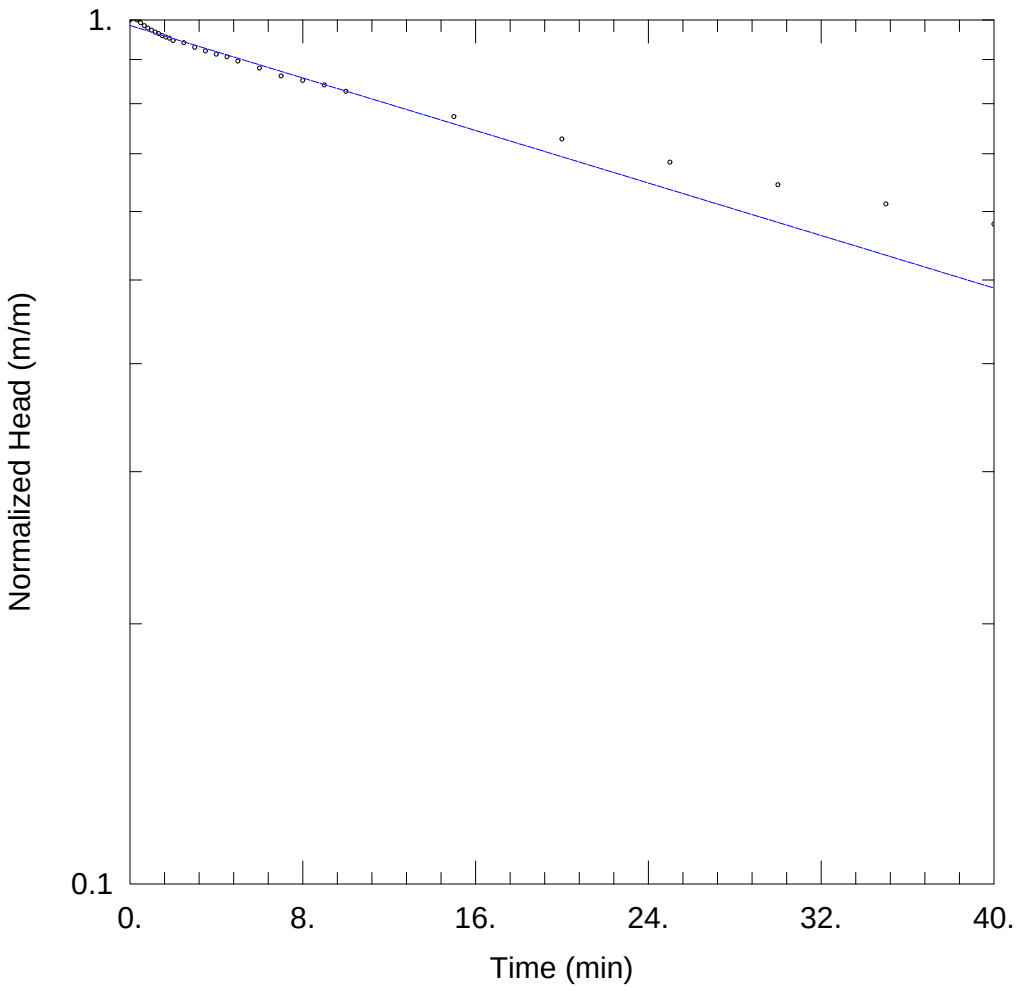
WELL DATA (MW101)

Initial Displacement: 0.792 m Static Water Column Height: 4.4 m
Total Well Penetration Depth: 4.4 m Screen Length: 1.52 m
Casing Radius: 0.0254 m Well Radius: 0.1 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 6.181E-8 m/sec y0 = 0.7797 m



HYDROGEOLOGICAL REVIEW

Data Set: I:\...\MW102(D).aqt
Date: 08/28/19 Time: 16:19:55

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: TAS Design Build
Project: CT2892.00
Location: Hurontario St. & Hillcrest Ave
Test Well: MW102(D)
Test Date: August 9, 2019

AQUIFER DATA

Saturated Thickness: 9.4 m Anisotropy Ratio (Kz/Kr): 0.1

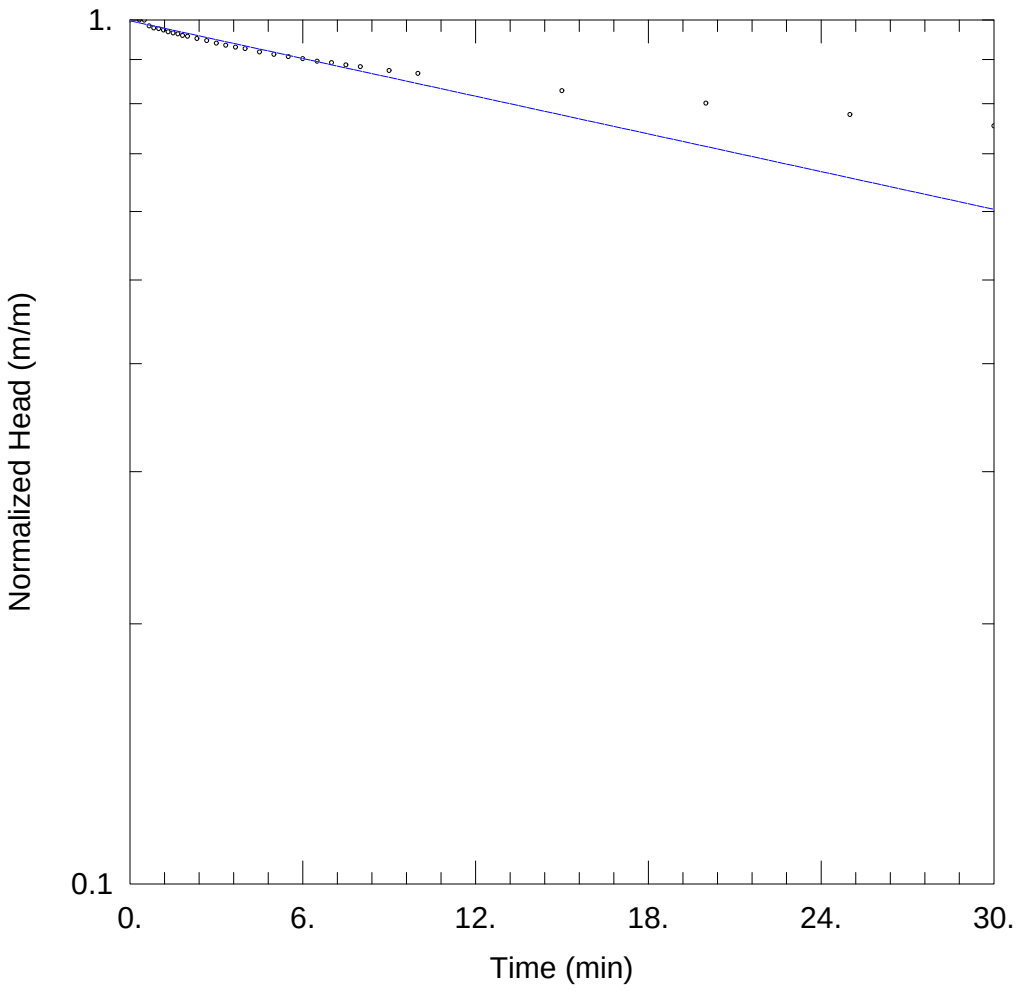
WELL DATA (MW102(D))

Initial Displacement: 0.779 m
Total Well Penetration Depth: 6.38 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.4 m
Screen Length: 1.52 m
Well Radius: 0.1 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.958E-7 m/sec
y0 = 0.7676 m



HYDROGEOLOGICAL REVIEW

Data Set: I:\...\MW103.aqt
Date: 08/28/19 Time: 16:25:57

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: TAS Design Build
Project: CT2892.00
Location: Hurontario St. & Hillcrest Ave
Test Well: MW103
Test Date: August 9, 2019

AQUIFER DATA

Saturated Thickness: 9.4 m Anisotropy Ratio (Kz/Kr): 0.1

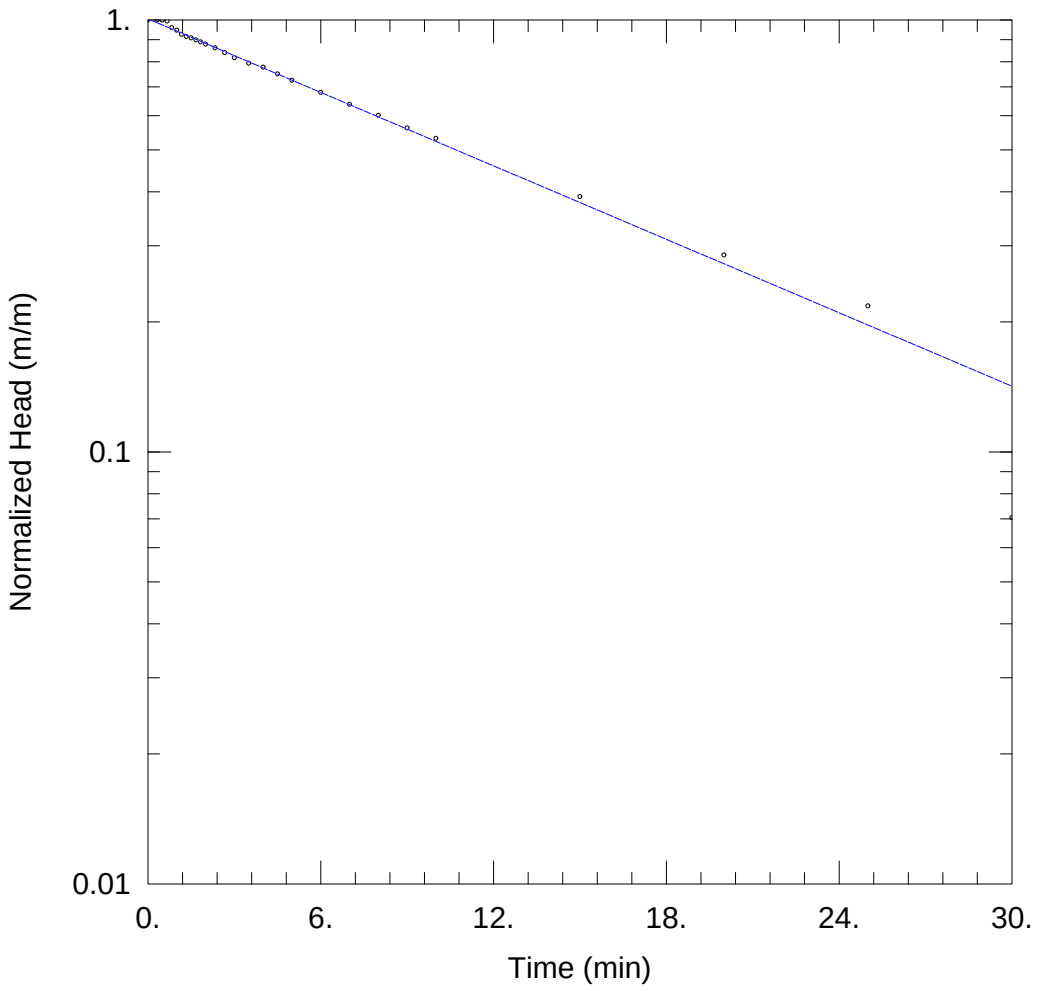
WELL DATA (MW103)

Initial Displacement: 1.467 m
Total Well Penetration Depth: 6.42 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.4 m
Screen Length: 1.52 m
Well Radius: 0.1 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.877E-7 m/sec
y0 = 1.464 m



HYDROGEOLOGICAL REVIEW

Data Set: I:\...\MW104.aqt
Date: 08/28/19 Time: 16:34:10

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: TAS Design Build
Project: CT2892.00
Location: Hurontario St. & Hillcrest Ave
Test Well: MW104
Test Date: August 9, 2019

AQUIFER DATA

Saturated Thickness: 10.4 m Anisotropy Ratio (Kz/Kr): 0.1

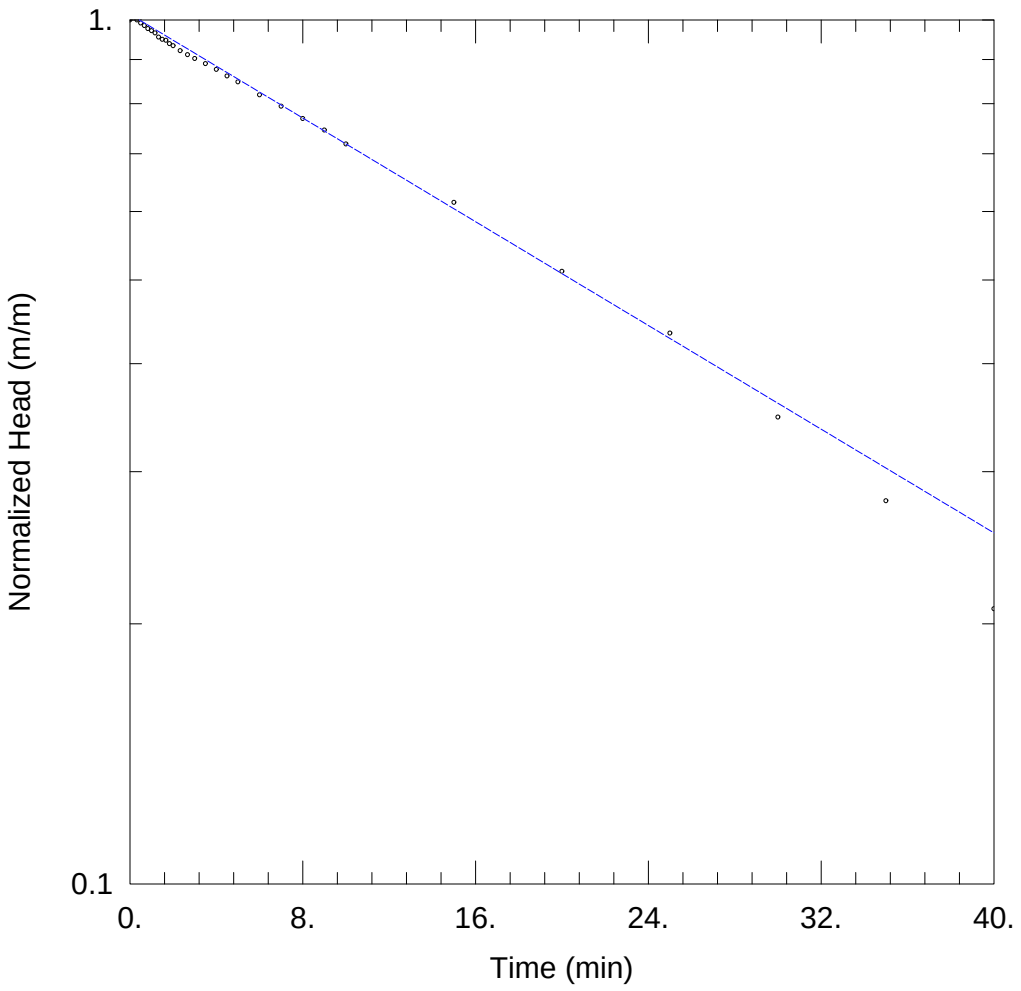
WELL DATA (MW104)

Initial Displacement: 0.767 m Static Water Column Height: 7.4 m
Total Well Penetration Depth: 7.38 m Screen Length: 1.52 m
Casing Radius: 0.0254 m Well Radius: 0.1 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 7.433E-7 m/sec y0 = 0.771 m



HYDROGEOLOGICAL REVIEW

Data Set: I:\...\MW105.aqt
Date: 08/28/19 Time: 16:37:41

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: TAS Design Build
Project: CT2892.00
Location: Hurontario St. & Hillcrest Ave
Test Well: MW105
Test Date: August 9, 2019

AQUIFER DATA

Saturated Thickness: 9.6 m Anisotropy Ratio (Kz/Kr): 0.1

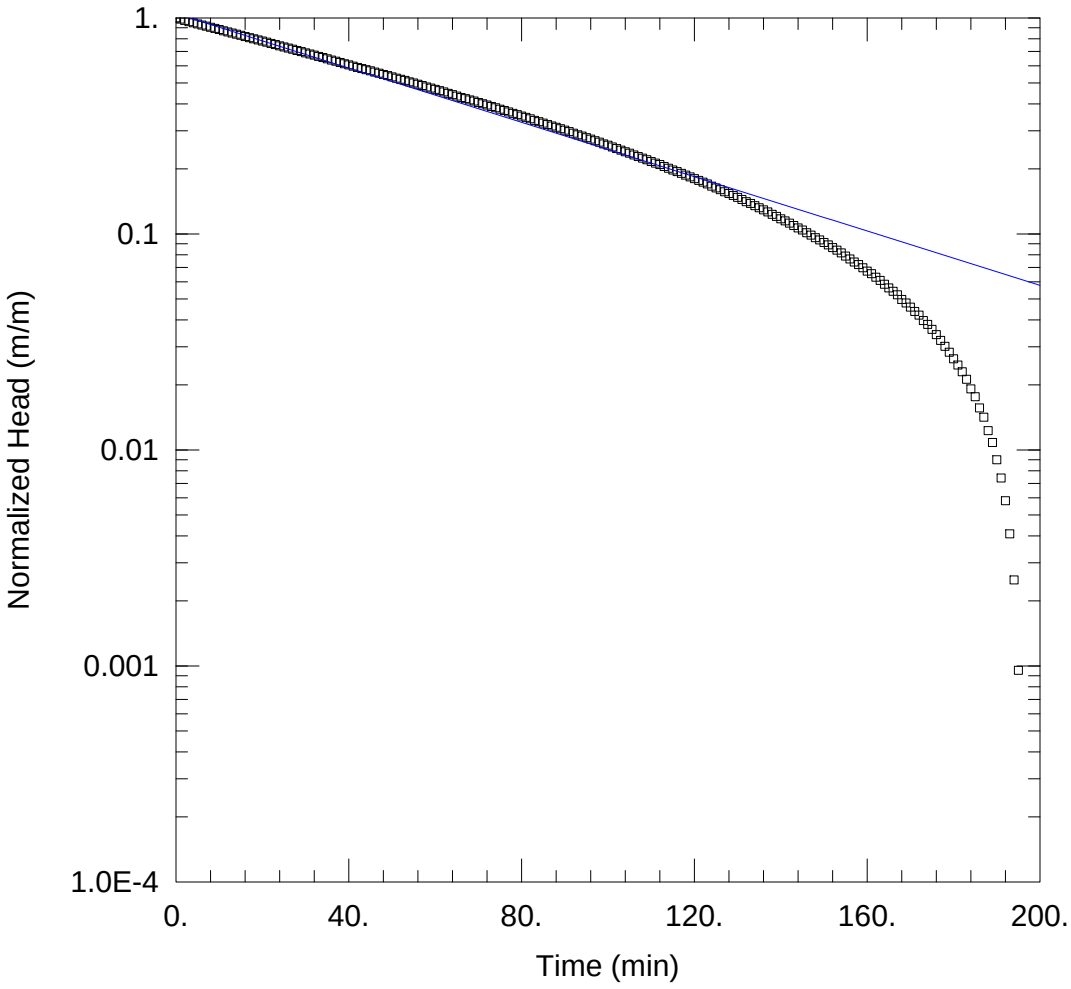
WELL DATA (MW105)

Initial Displacement: 0.735 m
Total Well Penetration Depth: 6.64 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.6 m
Screen Length: 1.52 m
Well Radius: 0.1 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 3.888E-7 m/sec
y0 = 0.7461 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW301A.aqt
Date: 01/20/21 Time: 19:35:21

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: 3168 HS LP
Project: CT2892.03
Location: 3154 Hurontario St Mississauga
Test Well: MW301A
Test Date: 07 Jan 21

AQUIFER DATA

Saturated Thickness: 12.1 m Anisotropy Ratio (Kz/Kr): 0.1

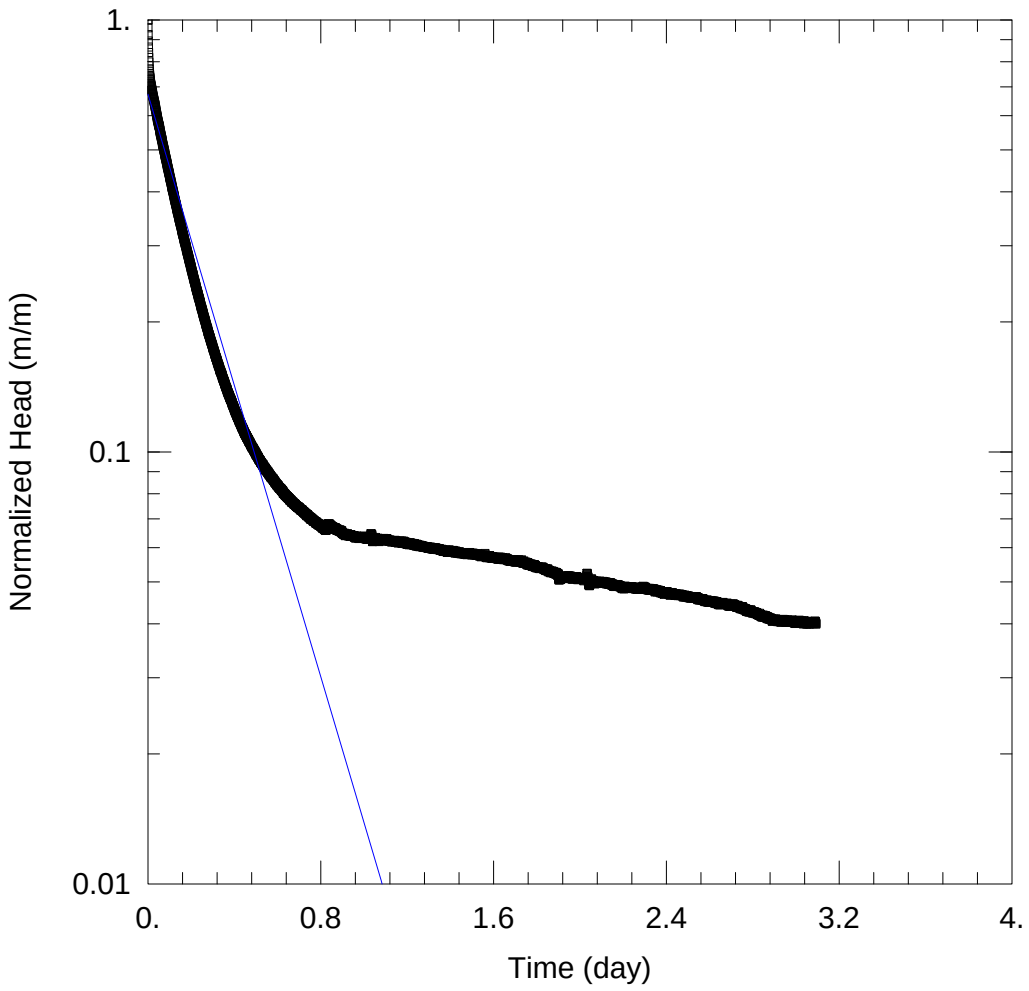
WELL DATA (MW301A)

Initial Displacement: 2.2 m
Total Well Penetration Depth: 10.14 m
Casing Radius: 0.022 m
Static Water Column Height: 10.1 m
Screen Length: 3.05 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 9.579E-8 m/sec y0 = 2.302 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW301B.aqt
Date: 01/20/21 Time: 19:40:31

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: 3168 HS LP
Project: CT2892.03
Location: 3154 Hurontario St Mississauga
Test Well: MW301B
Test Date: 07 Jan 21

AQUIFER DATA

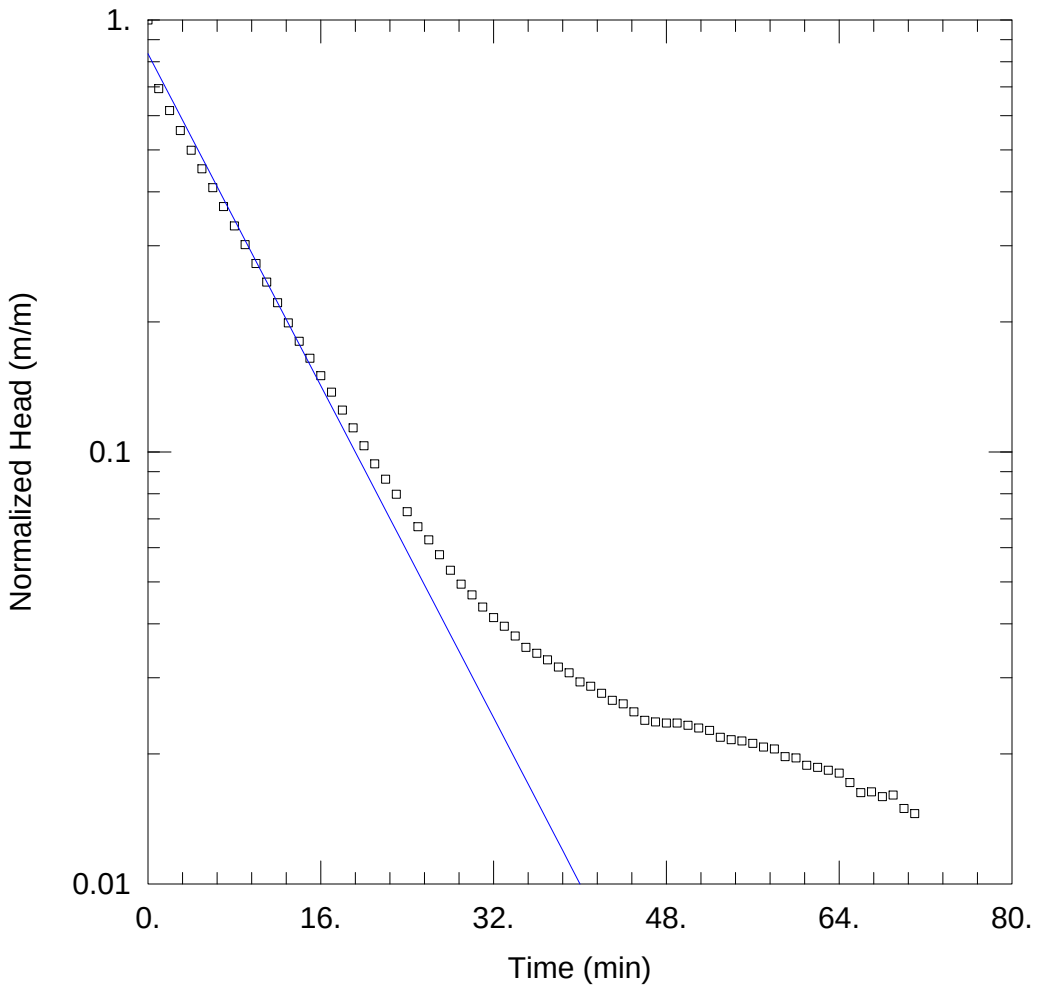
Saturated Thickness: 4. m
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW301B)

Initial Displacement: 1.934 m
Total Well Penetration Depth: 2.04 m
Casing Radius: 0.022 m
Static Water Column Height: 2. m
Screen Length: 1.52 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.725E-8 m/sec
y0 = 1.301 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW312.aqt
Date: 01/20/21 Time: 19:44:19

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: 3168 HS LP
Project: CT2892.03
Location: 3154 Hurontario St Mississauga
Test Well: MW312
Test Date: 07 Jan 21

AQUIFER DATA

Saturated Thickness: 4.9 m Anisotropy Ratio (Kz/Kr): 0.1

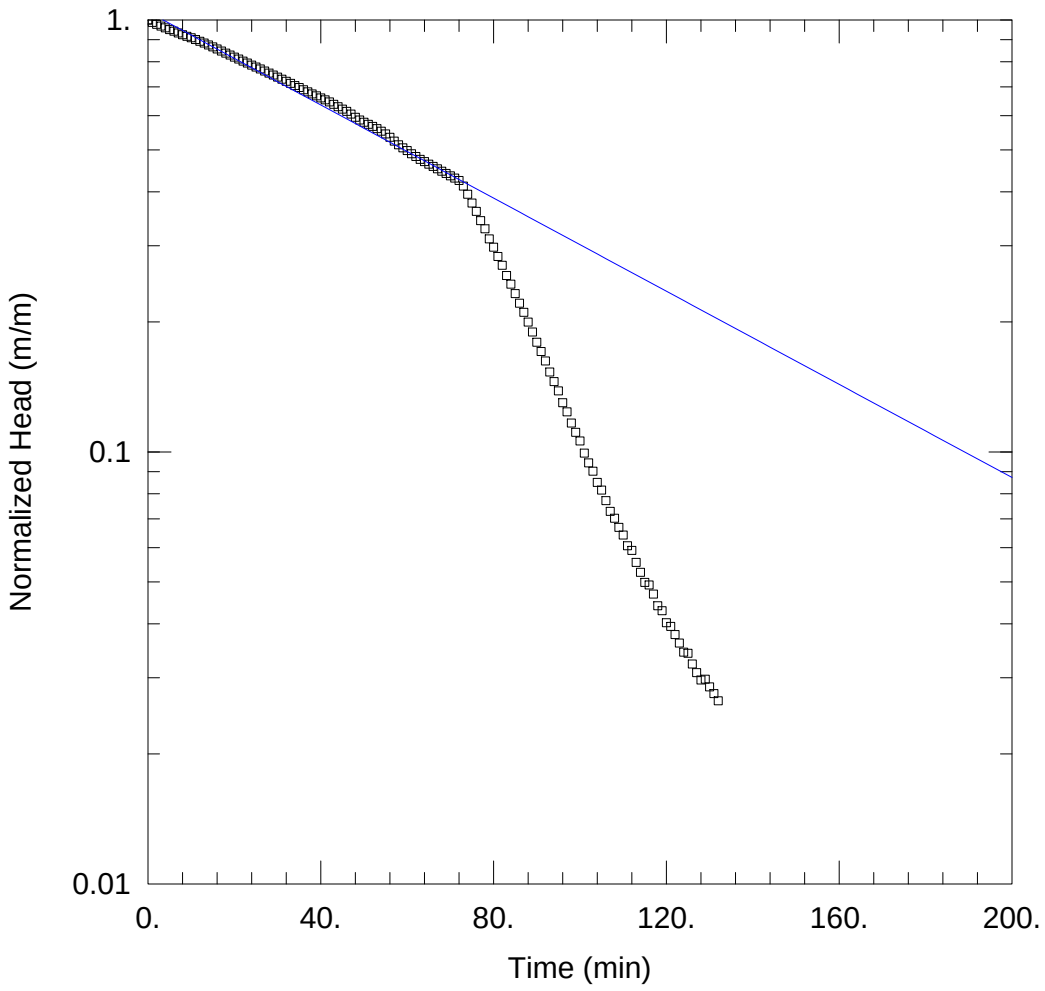
WELL DATA (MW312)

Initial Displacement: 1.451 m Static Water Column Height: 2.9 m
Total Well Penetration Depth: 3.05 m Screen Length: 3.05 m
Casing Radius: 0.022 m Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 6.335E-7 m/sec y0 = 1.211 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW318B.aqt
Date: 01/20/21 Time: 19:53:14

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: 3168 HS LP
Project: CT2892.03
Location: 3154 Hurontario St Mississauga
Test Well: MW318B
Test Date: 07 Jan 21

AQUIFER DATA

Saturated Thickness: 4.1 m Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW318B)

Initial Displacement: 1.861 m
Total Well Penetration Depth: 2.08 m
Casing Radius: 0.022 m
Static Water Column Height: 2.1 m
Screen Length: 1.52 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.257E-7 m/sec
y0 = 1.943 m