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**Detailed Factual Geotechnical and
Hydrogeological Subsurface Investigation Report
Mayfield Golf Course Redevelopment
Golf Course Lands and South Lands
Caledon, Ontario**

GEMTEC Project: 101987.001



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Submitted to:

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Hydrogeological Subsurface Investigation Report
Mayfield Golf Course Redevelopment
Golf Course Lands and South Lands
Caledon, Ontario**

September 26, 2024
GEMTEC Project: 101987.001

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September 26, 2024

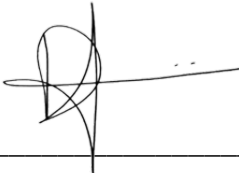
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Mayfield Golf Course Inc.
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Attention: Vimal Patel, P.Eng.

**Re: Detailed Factual Geotechnical and Hydrogeological Subsurface Investigation Report – Mayfield Golf Course Redevelopment
12552 and 12580 Torbram Road, Caledon, Ontario**

Enclosed is our Factual Geotechnical and Hydrogeological Subsurface Investigation Report for the detailed design of the proposed subdivision redevelopment project at the Mayfield Golf Course Lands at 12552 and 12580 Torbram Road and the South Lands in Caledon, Ontario. The report presented herein is based on the scope of work summarized in our updated proposal dated April 6, 2023. This report was prepared by Derek M. Franceschini, P.Eng., and Andy Weatherson, M.Env.Sc., P.Geo., and reviewed by Graeme Skinner, PhD., P.Eng. and Chris Kozuskanich, P.Geo.



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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) has been requested by Mayfield Golf Course Inc. (Geranium / the Client) to carry out a detailed subsurface investigation for the proposed subdivision redevelopment at the Mayfield Golf Course Lands at 12552 and 12580 Torbram Road and the South Lands in Caledon, Ontario, herein referred to as the Site.

The purpose of the investigation was assess the subsurface conditions at the Site by means of a limited number of boreholes and, based on the factual data obtained, to provide geotechnical engineering and hydrogeological comments and recommendations on the design aspects of developing the Site, including construction considerations that could influence design or construction methodology.

The geotechnical and hydrogeological reporting contained herein is intended to provide a summary of the factual subsurface information collected as part of the field investigation. Recommendations and comments on the design aspects of the development Site will be provided under separate cover.

This report is subject to the Conditions and Limitations of This Report, which follow the text of the report, and are considered an integral part of the report (see Appendix A).

2.0 PROJECT DESCRIPTION AND SITE GEOLOGY

2.1 Background

The subject property is comprised of two parcels (the Mayfield Golf Course at 12552 and 12580 Torbram Road, the “Mayfield Golf Course Lands”, and existing agricultural lands south of the Mayfield Golf Course Lands, the “South Lands”) as shown on Figure 1 in Appendix B. The Site is located on the southwest side of Torbram Road approximately 1.2 km to 4.3 km north of Mayfield Road. The Site presently consists of an operating golf course in the Mayfield Golf Course Lands and an open agricultural field in the South lands; pockets of forested land are present within the Mayfield Golf Course Lands. The parcels are bounded on the northeast by Torbram Road and on all other sides by a mixture of residential (near Torbram Road), agricultural, and forested lands. The total Site area is approximately 71 hectares (ha) for the Mayfield Golf Course Lands and 20 ha for the South Lands.

The Mayfield Golf Course Lands vary topographically in elevation (El.) with undulating terrain ranging from the highest points (approximately El. 253 m to 258 m) located on the east and west of the central creek (an un-named tributary to Salt Creek) valley to lower elevations (between approximately El. 239 m and El. 250 m) observed throughout the central creek valley. The central creek valley is typically about 5 m to 10 m below the uplands to the east and west. The Mayfield Golf Course Lands topography results in variable slope inclinations from the central valley to the uplands areas with most slopes exceeding 18.4° (approximately 3H:1V – Horizontal:Vertical) and

the steepest slopes approaching 40° (approximately 1.2H:1V). The South Lands is generally flat with gently undulating terrain and ground surface elevations ranging from approximately El. 245 m to El. 248 m. The creek valley meanders through the South Lands from northwest to southeast.

It is understood that the Client is planning to develop the Site for residential use with approximately 442 residential units, three stormwater management (SWM) ponds in the Mayfield Golf Course Lands and one SWM pond in the South Lands, and park blocks located along the margin of the central creek valley in both parcels. Stormwater management ponds are anticipated to have permanent pool depths of about 3 m and invert elevations of about El. 247 m, El. 245.5 m, El. 243.5 m, and El. 240 m from the northern to the southern ponds, respectively. The development will have water main and storm/sanitary sewer servicing as well as roadway infrastructure to support the residential lots. The sewer services are proposed to have invert depths up to about 6 m below final grade throughout the Site except along Street A from Torbram Road to Street G where invert depths will range from about 6 m in the central valley to about 16 m at the limits of the Site. The central portion of the Site (within about 75 m to 100 m of the central valley), which currently consists of forested and open lands, is understood to be proposed to remain as such. The current draft plan for the Site is presented on Figure 2 in Appendix B and the approximate Site topography is presented on Figure 3 in Appendix B.

2.2 Surficial Geology and Physiography

Surficial geology mapping (Ontario Geological Survey, 2010) indicates that the majority of Site is underlain by predominantly clay- to silt-textured tills, with modern alluvial deposits of clay, silt, sand, and gravel associated with the un-named tributary to Salt Creek (Figure 4, Appendix B). The till is identified as primarily the Wildfield Till, with the older Halton Till present towards the west side of the Site. Paleozoic bedrock geology mapping (Armstrong and Dodge, 2007) indicates that the Site is underlain by shale, siltstone, and minor limestone and sandstone of the Georgian Bay and Queenston Formations.

The Site is located within the physiographic region defined as the South Slope, consisting of clayey silt till and silty clay till, and at lower elevations, consisting of alternating deposits of dense lacustrine sands and silts and over consolidated lacustrine clays and clay tills, all overlying bedrock (Chapman and Putnam, 1984). At this location, drumlinized till plains are the dominant physiographic landform, consistent with surficial geology mapping.

2.3 MECP Water Well Records

A review of the Ministry of the Environment, Conservation, and Parks (MECP) water well records (WWR) (MECP, 2021) indicated that there are approximately 23 WWR located within 500 m of the Site (Figure 5, Appendix B), including five domestic supply wells (one of which is also identified as a livestock supply well), one public supply well, three monitoring wells, eight wells no longer in use, and six wells with unidentified uses. Four of the WWR are mapped on-site (locations not confirmed by GEMTEC), including one public supply and one domestic water well, one well of

unknown use and one well that is not used. According to the WWR, overburden thickness ranges from about 7 m to 15 m thick and consists of clay, till, silt, gravel, and some sand (generally consistent with the Record of Boreholes in Appendix C). Bedrock was encountered in eight of the WWR and identified as shale. Static groundwater levels within the overburden ranged from 1.8 m to 7.6 m below ground surface (bgs) in the nearby WWR.

2.4 Previous Investigations

GEMTEC was previously retained to carry out a geotechnical investigation at the Site in 2022, at which time six boreholes were advanced across the Site to depths ranging from about 7.8 m to 8.1 m bgs. GEMTEC's previous geotechnical Site investigation is presented in the following report:

- Report No. 101987.001 (2) titled *“Due Diligence, Geotechnical and Hydrogeological Assessment Report, Mayfield Golf Course Development, Caledon, Ontario”*, prepared by GEMTEC and dated July 25, 2023.

The results of the previous geotechnical and hydrogeological site investigation have been reviewed and the factual information from GEMTEC's earlier site investigation has been considered in the current geotechnical and hydrogeological assessment presented herein. GEMTEC understands that minimal to no re-working (i.e., addition / importation, removal / exportation or regrading of the on-site materials as part of ongoing course maintenance) has occurred at the Site since the time of the previous geotechnical investigation. The previous Record of Borehole sheets created for the subject Site have been provided in Appendix C.

3.0 METHODOLOGY

3.1 Geotechnical Investigation

The field work for the current geotechnical and hydrogeological investigation was carried out between February 6 and March 22, 2023, at which time thirty-one boreholes, identified as Boreholes BH23-E1 to BH23-E3 and BH23-1 to BH23-28, were advanced at the Site to depths ranging between about 7.3 m and 18.3 m bgs. No boreholes were advanced within the western half of the South Lands (i.e., to the west of the central watercourse) due to access constraints. As such, comments provided for the western half of the South Lands below are preliminary and will need to be confirmed through additional Site drilling within that area.

The boreholes were advanced using a track mounted drill rig operated by Walker Drilling Inc. of Utopia, Ontario, who is an MECP-licensed Water Well Contractor. The field work was observed throughout by a member of our geotechnical engineering staff who directed the drilling operations and logged the samples and boreholes.

Standard Penetration Testing (SPT) and sampling were carried out at regular intervals of depth in the boreholes using conventional 38-millimeter (mm) internal diameter split spoon sampling

equipment driven by an automatic hammer in accordance with the SPT procedures outlined in ASTM International Standard D1586: “Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils”. The split-spoon samplers used in the investigations limit the maximum particle size that can be sampled and tested to about 38 mm. Therefore, particles or objects that may exist within the soils that are larger than this dimension were not sampled or represented in the grain size distributions. The results of the in situ field tests (i.e., SPT “N”-values), as presented on the Record of Borehole sheets and in subsequent sections of this report, are the values measured directly in the field and are unfactored / uncorrected. Bedrock coring was carried out in Boreholes BH23-11, BH23-12 and BH23-17 using HQ-sized rotary diamond drilling equipment to investigate the depth, type, and quality of the bedrock at the borehole locations.

Following the fieldwork, the soil samples and rock cores were returned to GEMTEC’s laboratory for examination by a geotechnical engineer. Selected samples of the soil and rock were tested for water content, grain size distribution, Atterberg limits, chemical analysis (i.e., corrosivity) testing, and unconfined compressive strength (UCS), as applicable.

All of the boreholes advanced as part of drilling program were completed with nominal 50 mm diameter monitoring wells except for Boreholes BH23-3, BH23-13, BH23-14, BH23-16, BH23-20, BH23-25 and BH23-27. Six selected boreholes (i.e., BH23-6S/D, BH23-10S/D, BH23-17S/D, BH23-21S/D, BH23-23S/D and BH23-28S/D) were also completed with bi-level monitoring well installations (i.e., monitoring wells in separate and adjacent boreholes screened at different depths) to assess vertical hydraulic gradient. Monitoring well installation details are presented on the Record of Borehole sheets included in Appendix C. Otherwise, the boreholes were backfilled upon completion in accordance with the requirements of the Revised Regulations of Ontario (R.R.O.) 1990, Ontario Regulation 903 (as amended) of the Ontario Water Resources Act. It is understood that the monitoring wells installed as part of the drilling program will be utilized up to the time of construction and abandoned as part of subsequent development activities at the Site.

The borehole locations were selected by GEMTEC in consultation with the project team and staked out on Site by R-PE Surveying Ltd. (R-PE). The ground surface elevations for each borehole location were taken from the Site layout figure created by R-PE for Project Number 22-206, dated March 30, 2023. The as-built monitoring well installations, drive-point piezometers and staff gauges were also surveyed by R-PE relative to a geodetic datum and the coordinates and elevations were provided to GEMTEC.

Descriptions of the subsurface conditions observed in the boreholes are provided on the Record of Borehole sheets in Appendix C. The results of the laboratory tests on soil samples are also provided on the Record of Borehole sheets (Appendix C), and detailed laboratory testing results are presented in Appendix D. Photographs of the collected rock core samples, identifying the tested segments of core, are presented in Appendix E.

3.2 Hydrogeological Investigation

3.2.1 Site Instrumentation

Monitoring wells were installed at 24 locations in the overburden, overburden and bedrock, and bedrock as follows:

- **Overburden** – Boreholes BH23-E1, BH23-E2, BH23-E3, BH23-1, BH23-2, BH23-4, BH23-5, BH23-6S/D, BH23-7, BH23-8, BH23-9, BH23-10S/D, BH23-11, BH23-15, BH23-17S, BH23-19, BH23-21S/D, BH23-22, BH23-3S, BH23-24, BH23-26, and BH23-28S/D.
- **Overburden and Bedrock (2 locations)** – Boreholes BH23-18 and BH23-23D.
- **Bedrock** – Boreholes BH23-12 and BH23-17D.

Bi-level monitoring well installations (i.e., shallow (S) and deep (D) monitoring well pairs) were installed at Boreholes BH23-6, BH23-10, BH23-17, BH23-21, BH23-23 and BH23-28 for a total of thirty monitoring well standpipes. The monitoring wells were constructed using nominal 50 mm diameter, Schedule 40 polyvinyl chloride (PVC) pipe with a No. 10 machine slotted screen (0.01-inch slot). The annular space between the monitoring well screen and surrounding soils was backfilled with a silica sand pack to a maximum of 0.9 m above the top of the screen, and the remainder of the annular space was filled with bentonite. The monitoring wells were mostly completed with above-ground protective steel casings, except for BH23-E1 and BH23-E2 which had flush-mounted protective steel casings installed at ground surface. Detailed of the well construction methodology and hydrogeological observations are summarized on Tables F-1 to F-3 in Appendix F.

Following installation, the monitoring wells selected for hydraulic response testing along with those that were sampled for environmental purposes were developed to remove drilling fluids (if used), solids or other particles that may have been introduced during drilling/installation. The monitoring wells were purged using dedicated 16 mm inside diameter low density polyethylene (LDPE) tubing and a D-25 Waterra™ foot valve. The monitoring wells were developed by removing three well volumes or pumping until dry.

In addition, and in communication with Beacon Environmental (Beacon), GEMTEC manually installed four pairs of drive-point piezometers (DP23-1 to DP23-4) and staff gauges (SG23-1 to SG23-4) on April 14, 2023, to monitor shallow groundwater and surface water levels, respectively. The locations were determined by Beacon and included tributaries and vegetated swales in the northwestern portion of the Site (as shown on Figure 1 in Appendix B). The drive-point piezometers were constructed using 0.0254 m diameter black steel piping with barbless 0.02 m diameter by 0.3 m long stainless steel Solinst Model 615 drive-point tips. The staff gauges consisted of T-bar fenceposts. The drive-point piezometers were installed adjacent to the

tributaries and the staff gauges were installed within the tributaries, both of which were installed using a fencepost driver. The drive-point piezometers were installed to depths ranging from about 1.3 m to 1.7 m bgs, each of which extended below the adjacent tributary bed.

To provide continuous record of water level monitoring from spring to fall 2023, a Van Essen TD-Diver datalogger was installed at each drive-point piezometer and staff gauge location. Hydrographs for the water level data obtained to date are provided as Figures G-1 to G-4 in Appendix G.

3.2.2 Hydraulic Response Testing

In-situ hydraulic response testing was carried out in twelve of the monitoring wells (i.e., Boreholes BH23-2, BH23-5, BH23-6D, BH23-9, BH23-10D, BH23-11, BH23-12, BH23-21S, BH23-21D, BH23-23S, BH23-23D and BH23-26) to estimate the bulk horizontal hydraulic conductivity (K_b) of the overburden and/or bedrock materials adjacent to the screened intervals. The testing consisted of creating an instantaneous change through rapid purging in the well by removing a known volume of water, followed by recording the time taken for the water level to return to static conditions (i.e., rising head test). The data was analyzed using the Hvorslev (1951) solution. Sheets summarizing the test data, analysis interval, input parameters and estimated bulk hydraulic conductivity for each test location are provided as Figures H-1 to H-12 in Appendix H.

4.0 SUBSURFACE CONDITIONS

As previously indicated, the soil and groundwater conditions identified in the boreholes are presented on the Record of Borehole sheets in Appendix C. The Record of Borehole sheets indicate the subsurface conditions at the specific borehole locations only. Boundaries between zones on the Record of Borehole sheets are often not distinct, but rather are transitional and have been interpreted from discontinuous drilling observations. The precision with which subsurface conditions are indicated depends on the method of drilling, the frequency and recovery of samples, the method of sampling, and the uniformity of the subsurface conditions. Subsurface conditions at locations other than the boreholes may vary from the conditions encountered in the boreholes, both laterally and with depth. In addition to soil variability, fill of variable physical and chemical composition is present in portions of the Site associated with previous construction activities (i.e., parking areas, buildings, etc.).

The groundwater conditions described in this report refer only to those measured at the place and time of observation, as noted in the report. These conditions may vary seasonally and annually, or as a result of groundwater takings in the area.

The soil descriptions in this report are based on commonly accepted methods of classification and identification employed in geotechnical practice. Classification and identification of soil and rock involves judgement and GEMTEC does not guarantee descriptions as exact but infers accuracy to the extent that is common in current geotechnical practice.

The subsurface soil conditions at the Site generally comprise of surficial topsoil and fill materials overlying interlayered deposits of glacial till (cohesive and non-cohesive) and silty clay to clayey silt, as well as silt, sand and gravel, all underlain by bedrock consisting of interbedded limestone and shale. The cohesive glacial till and clay deposits were typically found in the upland areas at higher elevations while the non-cohesive silt, sand and gravel and glacial till deposits were typically found in the valley lands, underlying the cohesive deposits. The following presents an overview of the subsurface conditions encountered in the boreholes advanced during the current geotechnical Site investigation, in consideration of the conditions reported in the previous geotechnical investigations (GEMTEC 2022).

4.1 Topsoil and Organic Materials

A surficial layer of topsoil ranging in thickness from about 80 mm to 690 mm was encountered across the majority of the Site outside of the roadways, cart paths and parking areas. Additionally, organic soil materials were encountered in Boreholes BH23-E1, BH23-4, BH23-5 and BH23-16 at depths ranging from about 0.3 m to 2.1 m and ranged in thickness from about 0.3 m to 2.1 m. The organic materials were fully penetrated in all boreholes where they were encountered to depths ranging from about 0.6 m to 4.0 m.

Please note that the topsoil and organic materials encountered during the investigation were not tested for soil fertility and may not be able to support the long-term growth of new or existing plant life as part of the proposed development work.

4.2 Fill Materials

Various fill materials were found at surface in Boreholes BH23-1 to BH23-6, BH23-13 and BH23-E2 extending to depths of up to about 2.9 m. The fill materials are assumed to be associated with the construction of maintenance areas and grade raise fill within the northern portion of the Mayfield Golf Course Lands from the previous development(s). The fill materials were typically comprised of sandy gravel or silty sand (non-cohesive) and silty clay (cohesive). Most of the fill materials at the Site were observed to contain organic inclusions.

Standard penetration tests carried out in the non-cohesive sandy gravel or silty sand fill materials gave SPT N-values ranging from about 17 blows to 24 blows per 0.3 m of penetration, which generally indicates a compact state of compactness.

Standard penetration tests carried out in the cohesive silty clay fill materials gave SPT N-values ranging from about 4 blows to 33 blows per 0.3 m of penetration, which generally suggests a soft to hard consistency.

The single water content value measured on a sample of the non-cohesive fill material was about 19 per cent. The water content values measured on samples of the cohesive fill materials ranged

from about 18 per cent to 33 per cent. No additional laboratory testing was carried out on the fill materials.

4.3 Non-Cohesive Sand, Silt and Gravel Deposits

Native deposits of gravel, silty gravel, sand, silty sand, silt, silt of slight plasticity and deposits containing mixtures of sand and gravel or silt and sand were encountered in all boreholes except Boreholes BH23-E1, BH23-E3, BH23-1, BH23-4, BH23-5, BH23-8, BH23-11 to BH23-14, BH23-17, BH23-20, BH23-22 to BH23-24 and BH23-25. The non-cohesive deposits were frequently associated with rock fragments and slow auger advancement resulting from grinding against presumed cobbles and boulders. The deposits were typically encountered below and interlayered with the finer grained glacial till and cohesive soils (as described below).

Standard penetration tests carried out in the non-cohesive deposits gave SPT N-values ranging from about 16 blows per 0.3 m of penetration to 50 blows per 0.08 m of penetration, which generally indicates a compact to very dense compactness condition.

The water content values measured on samples of the non-cohesive deposits ranged from about 4 per cent to 21 per cent with higher water content values encountered below the water table.

Fourteen grain size distribution tests were undertaken on the non-cohesive deposits and the detailed results are presented in Appendix D.

4.4 Silty Clay to Clayey Silt or Silty Sand to Sandy Silt Glacial Till

Cohesive and non-cohesive glacial till deposits were encountered in all boreholes except Borehole BH23-3 and were generally interlayered with each other as well as with the silty clay deposits. The cohesive glacial till deposits were typically comprised of silty clay or silty clay to clayey silt, were frequently observed to contain rock fragments and be sandy and/or gravelly with isolated sand pockets and sand seams present within the deposits. The non-cohesive glacial till typically comprised of silty sand to sandy silt with frequent rock fragments and occasional silt seams. The cohesive glacial till deposits were typically found at higher elevations overlying the non-cohesive sand, silt and gravel deposits, and the non-cohesive glacial till was typically encountered near the overburden/bedrock contact. All of the glacial till deposits were frequently associated with slow auger advancement resulting from grinding against presumed cobbles and boulders.

Standard penetration tests carried out in the cohesive till deposits gave SPT N-values ranging from about 12 blows to 98 blows per 0.3 m of penetration, which suggests a stiff to hard consistency. However, most SPT N-values were approximately 20 blows or more per 0.3 m of penetration, suggesting a very stiff to hard consistency.

Standard penetration tests carried out in the non-cohesive till deposits gave SPT N-values ranging from about 30 blows per 0.3 m of penetration to 50 blows per 0.08 m of penetration, which indicates a dense to very dense compactness condition with greater values encountered at depth.

The water content values measured on samples of the cohesive glacial till ranged from about 8 per cent to 18 per cent, but were generally between about 10 per cent to 15 per cent. The water content values measured on samples of the non-cohesive glacial till ranged from about 7 per cent to 10 per cent.

Seven grain size distribution tests were undertaken on the glacial till deposits and the detailed results are presented in Appendix D.

Atterberg limits testing was carried out on selected samples of the cohesive glacial till deposits and returned plastic limits ranging from about 14 per cent to 16 per cent, liquid limits ranging from about 20 per cent to 27 per cent, and plasticity indices ranging from about 6 per cent to 11 per cent; indicating that the deposits have low plasticity.

4.5 Silty Clay

Cohesive deposits of silty clay were encountered in all boreholes except Boreholes BH23-11, BH23-12, BH23-16 and BH23-21 and were generally interlayered with the glacial till deposits (described above). Oxidation staining was noted in isolated portions of the deposits and organic inclusions were noted within about the upper 1.5 m of the deposits in Boreholes BH23-E1, BH23-E2 and BH23-23. The deposits contained isolated sand seams and sand pocket as well as rock fragments which were typically encountered at greater depth near the interface with the non-cohesive deposits or underlying bedrock. The deposits were interlayered with the glacial till deposits and were typically found at higher elevations overlying the non-cohesive sand, silt and gravel deposits.

Standard penetration tests carried out in the silty clay deposits gave SPT N-values ranging from about 5 blows per 0.3 m of penetration to 50 blows per 0.13 m of penetration, suggesting a firm to hard consistency. However, the SPT N-Values typically ranged from about 15 blows to 45 blows per 0.3 m of penetration, suggesting a very stiff to hard consistency. Field shear vane testing was not carried out due to the high relative in situ stiffness of the materials.

The water content values measured on samples of the silty clay deposits ranged from about 9 per cent to 27 per cent.

Three grain size distribution tests were undertaken on the silty clay deposits and the detailed results are presented in Appendix D.

Atterberg limits testing was carried out on selected samples of the silty clay deposits and returned plastic limits ranging from about 17 per cent to 22 per cent, liquid limits ranging from about

28 per cent to 38 per cent, and plasticity indices ranging from about 12 per cent to 18 per cent; indicating that the deposits have low plasticity.

4.6 Slightly Weathered to Fresh Bedrock

Bedrock coring was undertaken at Boreholes BH23-11, BH23-12 and BH23-17 at depths ranging from about 7.3 m to 18.3 m bgs. The encountered bedrock generally consisted of grey, weathered to fresh LIMESTONE bedrock of the Georgian Bay Formation with interbedded SHALE layers. Cobbles and boulders of both the native bedrock and transported rock material (i.e., not native to the Site) were encountered overlying the bedrock in Borehole BH23-11 between approximately 3 m and 7.8 m bgs. Auger/SPT refusal on presumed bedrock contact was also encountered in Boreholes BH23-5, BH23-8, BH23-18, BH23-23 and BH23-28. Details of the depths at which bedrock was encountered in each borehole are provided below in Table 0.

Table 0 – Estimated Bedrock Depths and Elevations.

Borehole No.	Overburden Depth (m bgs)	Surface of Bedrock (El. m)
BH23-5 ¹	10.7	247.5
BH23-8 ¹	7.3	245.7
BH23-11	7.8	238.2
BH23-12	7.9	247.0
BH23-17	13.3	239.7
BH23-18 ¹	16.2	238.3
BH23-23 ¹	14.4	235.5
BH23-28 ¹	18.3	237.6

Note: 1. Denotes inferred bedrock contact based on SPT and auger refusal without bedrock coring.

Rock Quality Designation (RQD) values between about 38 per cent and 97 per cent were measured. However, below the upper 0.5 m to 1.0 m of bedrock, RQD values of 89 per cent to 97 percent were typically encountered. The measured RQD values generally indicate that the quality of the bedrock is poor to fair in the upper 0.5 m to 1.0 m and excellent below the upper 1.0 m according to the classification system provided in Section 3.2.4.5 of the Canadian Foundation Engineering Manual (CFEM).

Unconfined compressive strength (UCS) testing of two bedrock core samples within the lower, higher quality bedrock was undertaken and resulted in UCS values of about 62 MPa and 74 MPa, indicating the bedrock strength can be classified as strong according to the classification system provided in Section 3.2.4.1 of CFEM. Details of the UCS testing results are presented in Appendix D. It should be noted that UCS testing tends to provide results more typical of the

stronger portions of the bedrock core due to the test requirements for specimen dimensions (i.e., intact specimens with roughly a 1:1 to 2:1 height to width ratio). Bedrock core photographs are provided in Appendix E indicating the sections of the core which were submitted for laboratory testing.

4.7 Groundwater and Surface Water Conditions

Details of the monitoring well installations are summarized in Table F-1 in Appendix F. Groundwater and surface water levels were measured in the monitoring wells between April 11 and 14, 2023 and on May 18, 2023. The water level data are provided in Table F-2, Appendix F. The groundwater levels were measured relative to the top of the PVC standpipe (top of steel pipe for drive-point piezometers) at each monitoring well location and drive-point piezometer, and the surface water levels were measured relative to the top of the T-bar fencepost. Groundwater conditions may not have stabilized at all monitoring well and drive-point piezometer locations on the dates measured. The groundwater conditions described in this report refer only to those measured at the place and time of observation. Seasonal and annual fluctuations should be anticipated.

On May 18, 2023, the depth to groundwater ranged from about -0.55 m bgs (i.e., 0.55 m above grade (Borehole BH23-1) to 6.91 m bgs (Borehole BH23-26), and from approximate elevations of El. 258.5 m above sea level (asl) (Borehole BH23-1) to El. 241.8 m asl (Borehole BH23-26). The groundwater elevation data measured on May 18, 2023 are presented on Figure 6 in Appendix B. An exception occurred at BH23-28S/D where flowing artesian conditions were encountered on the measurement dates. Static groundwater levels and elevations have not been assessed at this location at the time of reporting.

On May 18, 2023, the vertical hydraulic gradients at the drive-point piezometer and staff gauge pairs were downward (i.e., recharging conditions) at DP23-1/SG23-1, DP23-3/SG23-3 and DP23-4/SG23-4, and upward (i.e., discharging conditions) at DP23-2/SG23-2. The hydrographs presented in Appendix G typically show similar vertical hydraulic gradient directions over the current monitoring period (i.e., April 17 to May 18, 2023), although some vertical gradient direction changes are recorded at DP23-3/SG23-3 and DP23-4/SG23-4.

At the bi-level monitoring well locations (i.e., Boreholes BH23-6S/D, BH23-10S/D, BH23-17S/D, BH23-21S/D, BH23-23S/D, and BH23-28S/D), vertical hydraulic gradients were assessed from the groundwater elevations measured on May 18, 2023. The approximate vertical hydraulic gradients for the bi-level monitoring wells were as follows:

- BH23-6S/D: -0.40 m/m
- BH23-10S/D: -0.21 m/m
- BH23-17S/D: -0.08 m/m
- BH23-21S/D: 0.04 m/m

- BH23-23S/D: -0.33 m/m
- BH23-28S/D: Undetermined due to flowing artesian conditions in both wells.

The majority of the vertical hydraulic gradients are negative, indicating downward gradients (i.e., recharging conditions). The vertical hydraulic gradient at BH23-21S/D is positive, indicating an upward gradient (i.e., discharging conditions) at this location. Flowing artesian conditions were observed at both BH23-28S and BH23-28D. As such, the vertical hydraulic gradient could not be estimated at this location. Artesian conditions were also observed at Borehole BH23-1.

4.8 Hydraulic Response Test Results

The results of the hydraulic response testing carried out in the monitoring wells are presented as Figures H-1 to H-12, Appendix H. The hydraulic conductivity values estimated from the rising head tests are presented in Table G-3, Appendix G. The following provides a summary of the test results:

Table 4.7 – Summary Hydraulic Conductivity Estimates

Predominant Unit	No. of Tests	Minimum K_b [m/s]	Maximum K_b [m/s]	Geomean K_b [m/s]
Silt and/or Sand, Silt and/or Sand Till	7	9×10^{-8}	3×10^{-6}	3×10^{-7}
Silty Clay & Silty Clay Till	3	1×10^{-8}	4×10^{-8}	2×10^{-8}
Sand & Silt Till & Bedrock	1	1×10^{-7}	1×10^{-7}	1×10^{-7}
Bedrock	1	2×10^{-8}	2×10^{-8}	2×10^{-8}

Notes: K_b = bulk hydraulic conductivity; m/s = metres per second

The hydraulic conductivity of the silt and/or sand and silt and/or sand tills ranged from approximately 9×10^{-8} m/s to 3×10^{-6} m/s with a geometric mean of 3×10^{-7} m/s (n=7). These hydraulic conductivity values fall within the literature range for silty sand to glacial till of 10^{-8} m/s to 10^{-5} m/s (Fetter, 1994).

The hydraulic conductivity of the silty clay and silty clay till materials ranged from approximately 1×10^{-8} m/s to 4×10^{-8} m/s with a geometric mean of 2×10^{-8} m/s. These hydraulic conductivity values fall within the literature range for clay of 10^{-11} m/s to 10^{-8} m/s and glacial till of 10^{-8} to 10^{-6} m/s (Fetter, 1994).

The hydraulic conductivity of the sand and silt till and bedrock was 1×10^{-7} m/s. This hydraulic conductivity value falls within the literature range for glacial till of 10^{-8} m/s to 10^{-6} m/s (Fetter, 1994) and limestone of 5×10^{-9} to 5×10^{-6} m/s (Freeze & Cherry, 1979).

The hydraulic conductivity of the limestone bedrock was 2×10^{-8} m/s. This hydraulic conductivity value falls within the literature range for limestone of 5×10^{-9} to 5×10^{-6} m/s (Freeze & Cherry, 1979).

4.9 South Lands Western Half

No boreholes were advanced within the west half of the South Lands as part of previous or current site investigations. As such, the material within this portion of the Site has been inferred based on the nearby boreholes on the east half of the parcel and publicly available geological data for the area.


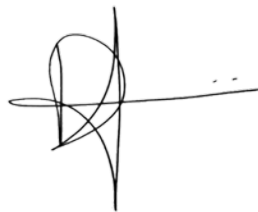
Based on the geotechnical boreholes, provincial overburden mapping by the Ontario Geological Survey (OGS) and well records available from the Ministry of Environment, Conservation and Parks (MECP), the soils within the western half of the South Lands are anticipated to be consistent with the soils encountered within the remainder of the parcel (i.e., interlayered cohesive glacial till and silty clay generally overlying non-cohesive deposits of silt, sand, gravel and glacial till, all underlain by an inferred bedrock contact).

5.0 CLOSURE

We trust that this report provides sufficient geotechnical and hydrogeological information to advance the detailed design of the proposed development. If you have any questions regarding the contents of this report or require additional information, please do not hesitate to contact this office.


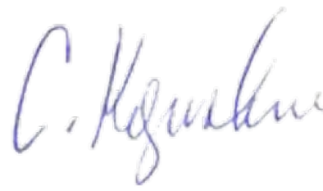
Regards,

GEMTEC Consulting Engineers and Scientists Limited



LICENSED PROFESSIONAL ENGINEER
D. M. FRANCESCHINI
100513452
Sept. 26, 2024
PROVINCE OF ONTARIO

Derek M. Franceschini, P. Eng.
Geotechnical Engineer



PROFESSIONAL GEOSCIENTIST
CHRIS KOZUSKANICH
PRACTISING MEMBER
0315
Sept. 26, 2024
ONTARIO

Chris Kozuskanich, P.Geo.
Senior Hydrogeologist



Graeme Skinner, PhD., P. Eng.
Senior Geotechnical Engineer



APPENDIX A

Conditions and Limitations of This Report

1. **Standard of Care:** GEMTEC has prepared this report in a manner consistent with generally accepted engineering or environmental consulting practice in the jurisdiction in which the services are provided at the time of the report. No other warranty, expressed or implied is made.
2. **Copyright:** The contents of this report are subject to copyright owned by GEMTEC, save to the extent that copyright has been legally assigned by us to another party or is used by GEMTEC under license. To the extent that GEMTEC owns the copyright in this report, it may not be copied without our prior written agreement for any purpose other than the purpose indicated in this report. The methodology (if any) contained in this report is provided to the Client in confidence and must not be disclosed or copied to third parties without the prior written agreement of GEMTEC. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests.
3. **Complete Report:** This report is of a summary nature and is not intended to stand alone without reference to the instructions given to GEMTEC by the Client, communications between GEMTEC and the Client and to any other reports prepared by GEMTEC for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. GEMTEC can not be responsible for use of portions of the report without reference to the entire report.
4. **Basis of Report:** This Report has been prepared for the specific site, development, design objectives and purposes that were described to GEMTEC by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document, subject to the limitations provided herein, are only valid to the extent that this report expressly addresses the proposed development, design objectives and purposes. Any change of site conditions, purpose or development plans may alter the validity of the report and GEMTEC cannot be responsible for use of this report, or portions thereof, unless GEMTEC is requested to review any changes and, if necessary, revise the report.
5. **Time Dependence:** If the proposed project is not undertaken by the Client within 18 months following the issuance of this report, or within the timeframe understood by GEMTEC to be contemplated by the Client, the guidance and recommendations within the report should not be considered valid unless reviewed and amended or validated by GEMTEC in writing.
6. **Use of This Report:** The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without GEMTEC's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, GEMTEC may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process.

Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.
7. **No Legal Representations:** GEMTEC makes no representations whatsoever concerning the legal significance of its findings, or as to other legal matters touched on in this report, including but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

8. **Decrease in property value:** GEMTEC shall not be responsible for any decrease, real or perceived, of the property or site's value or failure to complete a transaction, as a consequence of the information contained in this report.
9. **Reliance on Provided Information:** The evaluation and conclusions contained in this report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by us. We are entitled to rely on such representations, information and instructions and are not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.
10. **Investigation Limitations:** Site investigation programs are a professional estimate of the scope of investigation required to provide a general profile of subsurface conditions but even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions.

The data derived from the site investigation program and subsequent laboratory testing are interpreted by trained personnel and extrapolated across the site to form an inferred geological representation and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour with regard to the proposed development. Conditions between and beyond the borehole/test hole locations may differ from those encountered at the borehole/test hole locations and the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies. Accordingly, GEMTEC does not warrant or guarantee the exactness of the subsurface descriptions.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

In addition, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

11. **Sample Disposal:** GEMTEC will dispose of all uncontaminated soil and/or rock samples 60 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.
12. **Follow-Up and Construction Services:** All details of the design were not known at the time of submission of GEMTEC's report. GEMTEC should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of GEMTEC's report.
During construction, GEMTEC should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not

materially differ from those interpreted conditions considered in the preparation of GEMTEC's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in GEMTEC's report. Adequate field review, observation and testing during construction are necessary for GEMTEC to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, GEMTEC's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

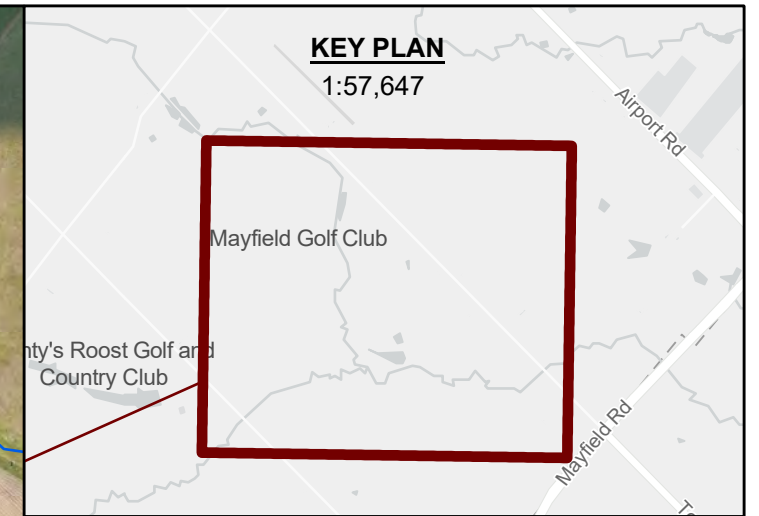
13. **Changed Conditions:** Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that GEMTEC be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that GEMTEC be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.
14. **Drainage:** Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. GEMTEC takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.



APPENDIX B

Site Figures

- Figure 1: Investigation Location Plan
- Figure 2: Proposed Concept Plan
- Figure 3: Topography and Natural Heritage
- Figure 4: Surficial Geology
- Figure 5: Groundwater Elevations
- Figure 6: Well Records

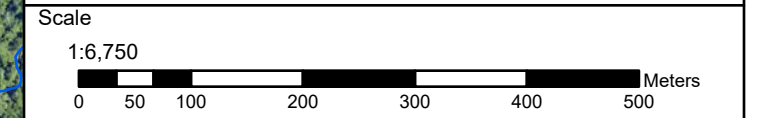


Legend

BH # — BOREHOLE ID (DEEP - D; SHALLOW - S)

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- APPROXIMATE MAYFIELD GOLF COURSE LANDS BOUNDARY
- APPROXIMATE SOUTH LANDS BOUNDARY

- NOTES:
1. Coordinate system: NAD83/ UTM zone 17N.
 2. Geographic dataset source: Ontario GeoHub.
 3. Contains information licensed under the Open Government Licence – Ontario.
 4. Parcel information obtained through the Ministry of Natural Resources and Forestry



Drawing BOREHOLE, MONITORING WELL, STAFF GAUGE, AND DRIVE POINT PIEZOMETER LOCATION PLAN

Client: MAYFIELD GOLF COURSE INC.

Project MAYFIELD GOLF COURSE REDEVELOPMENT
12552 AND 12580 TORBRAM ROAD
CALEDON, ONTARIO

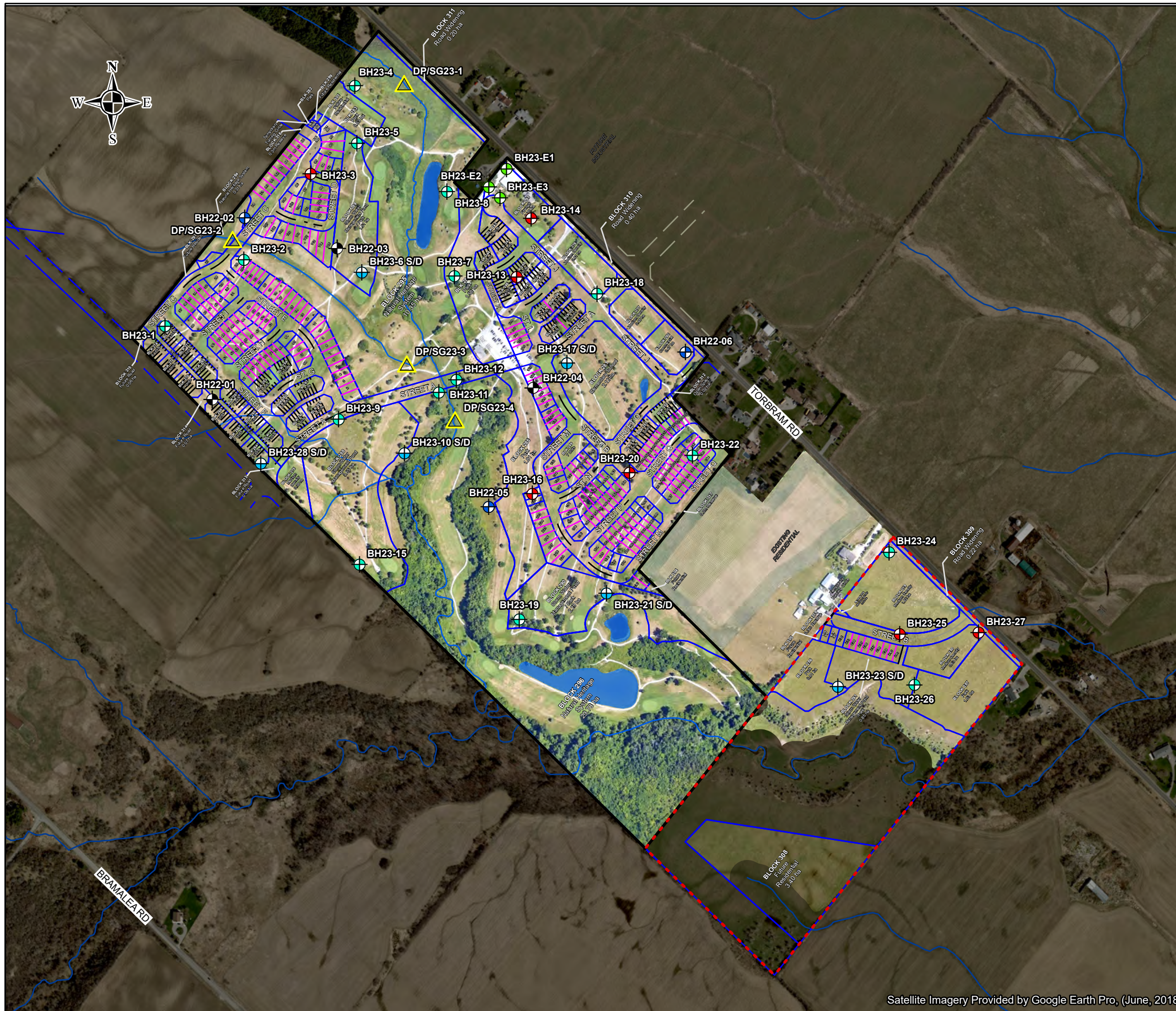
Drwn By: S.J. Chkd By: A.W.

Project No. 101987.001 Revision No. 0

Date JUNE 2023 **FIGURE: 1**

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ottawa@gemtec.ca



Legend

- BH # ← BOREHOLE ID (DEEP - D; SHALLOW - S)
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- WATERCOURSE
- WATERBODY
- APPROXIMATE NORTH PARCEL BOUNDARY
- APPROXIMATE SOUTH PARCEL BOUNDARY

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Parcel information obtained through the Ministry of Natural Resources and Forestry
5. "Concept Plan" provided by MGP, October 02, 2024.
6. Service Layer Credits: World Imagery: Peel Region, Maxar

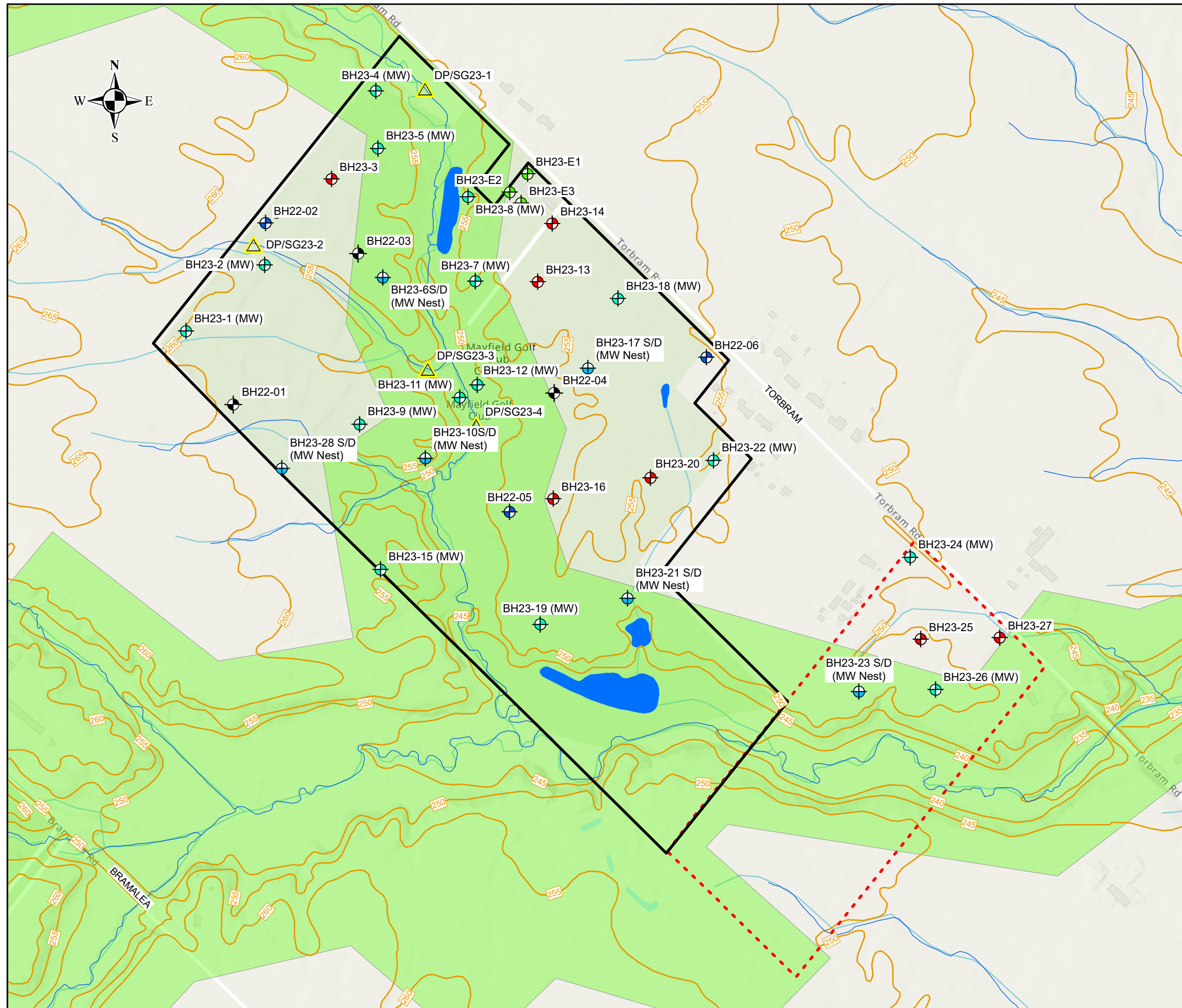
Scale



Drawing	
PROPOSED CONCEPT PLAN	
Client:	
MAYFIELD GOLF COURSE INC.	
Project	
MAYFIELD GOLF COURSE REDEVELOPMENT 12552 AND 12580 TORBRAM ROAD CALEDON, ONTARIO	
Drwn By:	Chkd By:
S.J.	D.M.F
Project No.	Revision No.
101987.001	0
Date	FIGURE: B-2
OCTOBER 2024	

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Legend

- BH # ← BOREHOLE ID (DEEP - D; SHALLOW - S)
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- APPROXIMATE MAYFIELD GOLF COURSE LANDS BOUNDARY
- APPROXIMATE SOUTH LANDS BOUNDARY
- WATERCOURSE
- ELEVATION CONTOUR, IN METERS
- WATERBODY
- NHS AREA (GREENBELT ACT)

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Parcel information obtained through the Ministry of Natural Resources and Forestry.
5. Service Layer Credits: World Topographic Map: Esri Community Maps Contributors, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, World Hillshade, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NIMA, Geodatastyreisen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Scale



Drawing **TOPOGRAPHY AND NATURAL HERITAGE**

Client: **MAYFIELD GOLF COURSE INC.**

Project **MAYFIELD GOLF COURSE REDEVELOPMENT
12552 AND 12580 TORBRAM ROAD
CALEDON, ONTARIO**

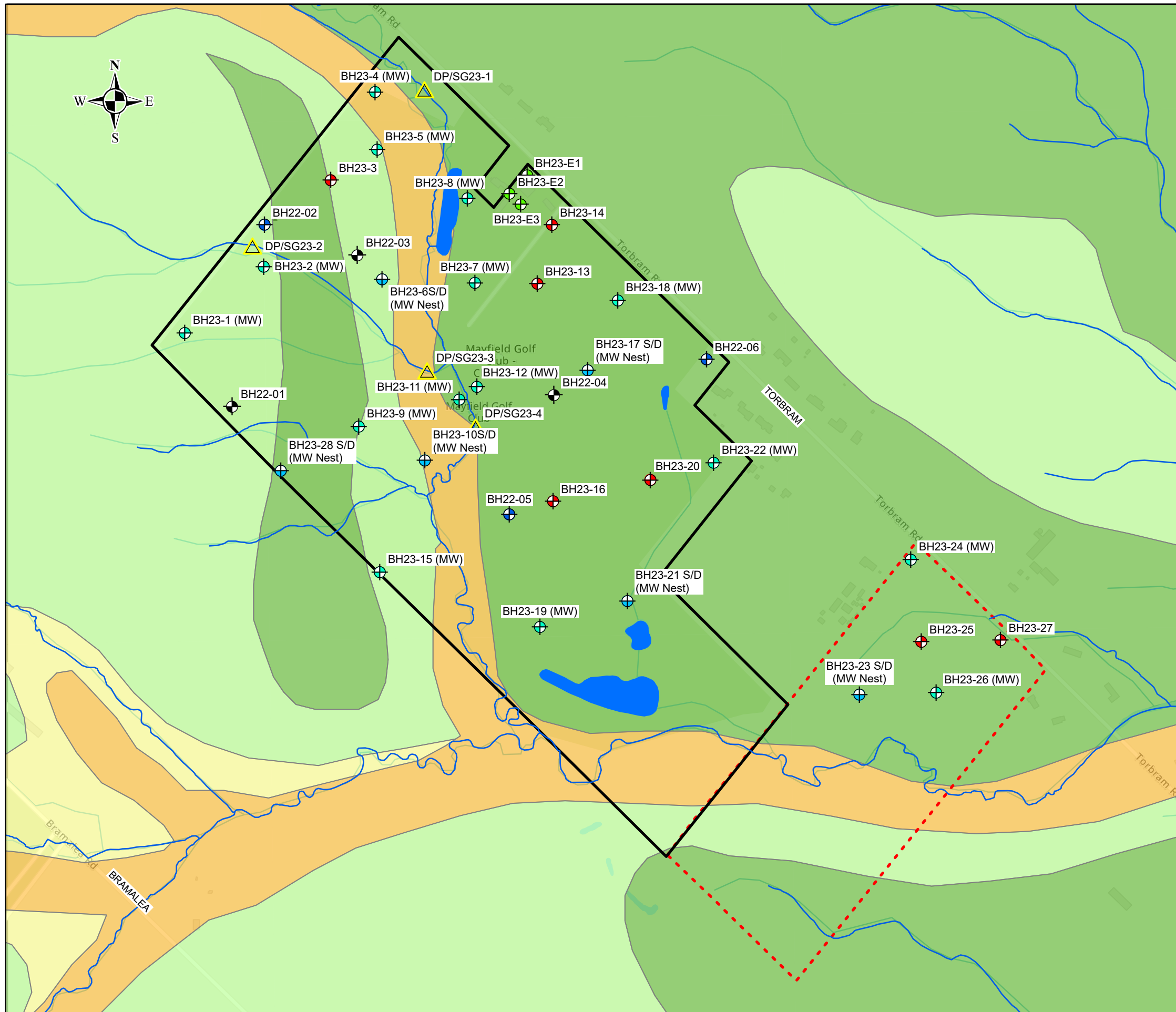
Drwn By: **S.J.** Chkd By: **A.W.**

Project No. **101987.001** Revision No. **0**

Date **JUNE 2023** **FIGURE: 3**

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Legend

- BH # — BOREHOLE ID (DEEP - D; SHALLOW - S)
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- WATERCOURSE
- WATERBODY
- APPROXIMATE MAYFIELD GOLF COURSE LANDS BOUNDARY
- APPROXIMATE SOUTH LANDS BOUNDARY

SURFICIAL GEOLOGY

- HALTON TILL (CLAY TO SILT-TEXTURED TILL)
- ICE-CONTACT STRATIFIED DRIFT (SAND AND GRAVEL, MINOR SILT, CLAY AND TILL)
- MODERN ALLUVIUM (CLAY, SILT, SAND, GRAVEL, MAY CONTAIN ORGANIC MATERIAL)
- WILDFIELD TILL (CLAY TO SILT-TEXTURED TILL)

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Parcel information obtained through the Ministry of Natural Resources and Forestry.
5. Service Layer Credits: World Topographic Map; Esri Community Maps Contributors; Province of Ontario; Esri Canada; Esri; HERE; Garmin; SafeGraph; GeoTechnologies, Inc; METI/NASA; USGS; EPA; NPS; US Census Bureau; USDA; NRCan; Parks Canada

Scale



Drawing: SURFICIAL GEOLOGY

Client: MAYFIELD GOLF COURSE INC.

Project: MAYFIELD GOLF COURSE REDEVELOPMENT
12552 AND 12580 TORBRAM ROAD
CALEDON, ONTARIO

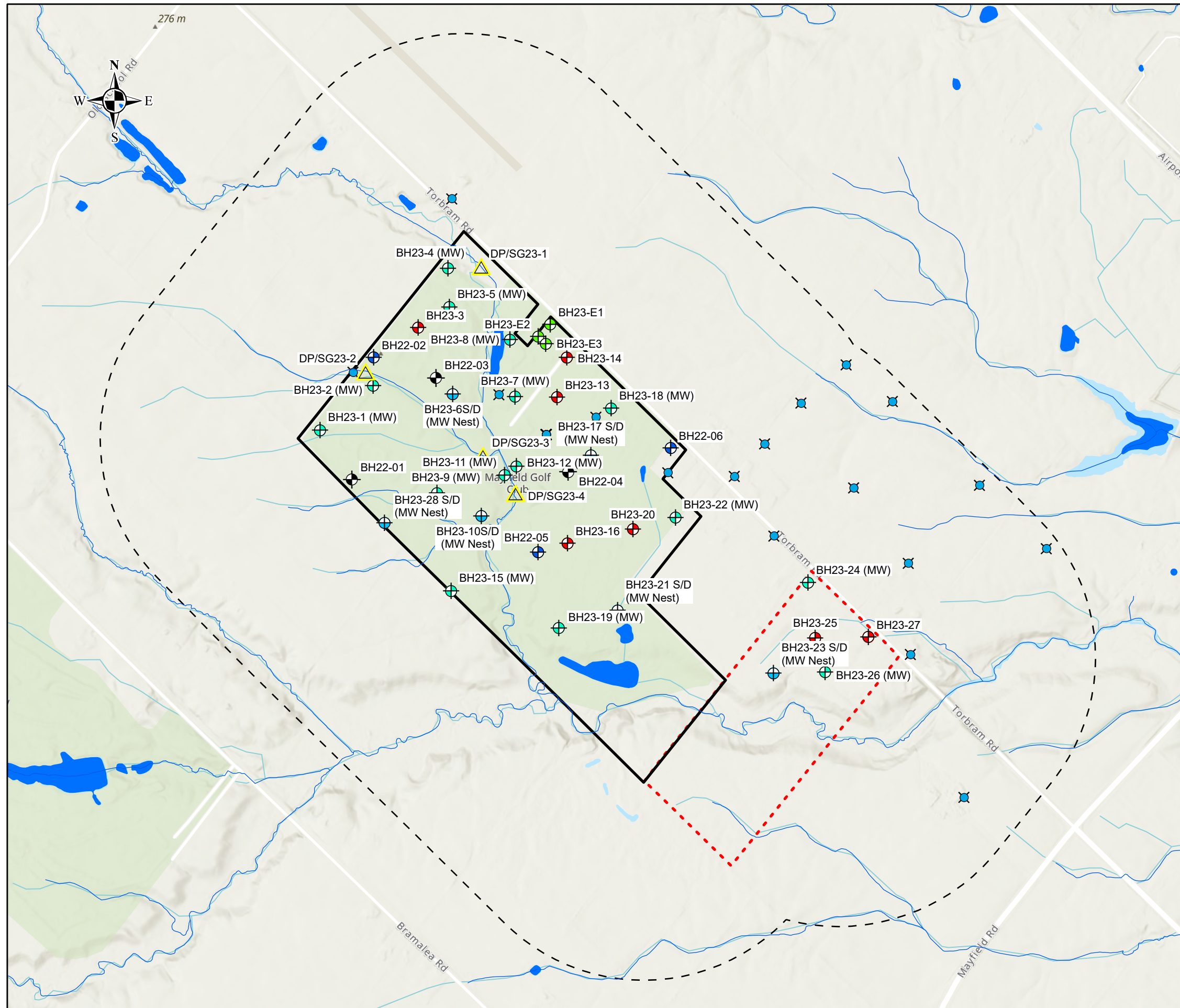
Drwn By: S.J.	Chkd By: A.W.
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Project No. 101987.001	Revision No. 0
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Date: JUNE 2023	FIGURE: 4
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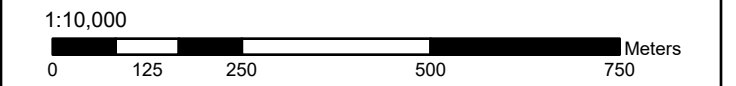
Legend

- BH # ← BOREHOLE ID (DEEP - D; SHALLOW - S)
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- WATERCOURSE
- WATERBODY
- APPROXIMATE WATER WELL RECORD LOCATION
- 500M FROM SITE BOUNDARY
- APPROXIMATE MAYFIELD GOLF COURSE LANDS BOUNDARY
- APPROXIMATE SOUTH LANDS BOUNDARY

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Parcel information obtained through the Ministry of Natural Resources and Forestry
5. Service Layer Credits: World Topographic Map: Esri Community Maps Contributors, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, World Hillshade: Esri, NASA, NGA, USGS, FEMA

Scale



Drawing
WELL RECORDS WITHIN 500 METRES OF SITE

Client:
MAYFIELD GOLF COURSE INC.

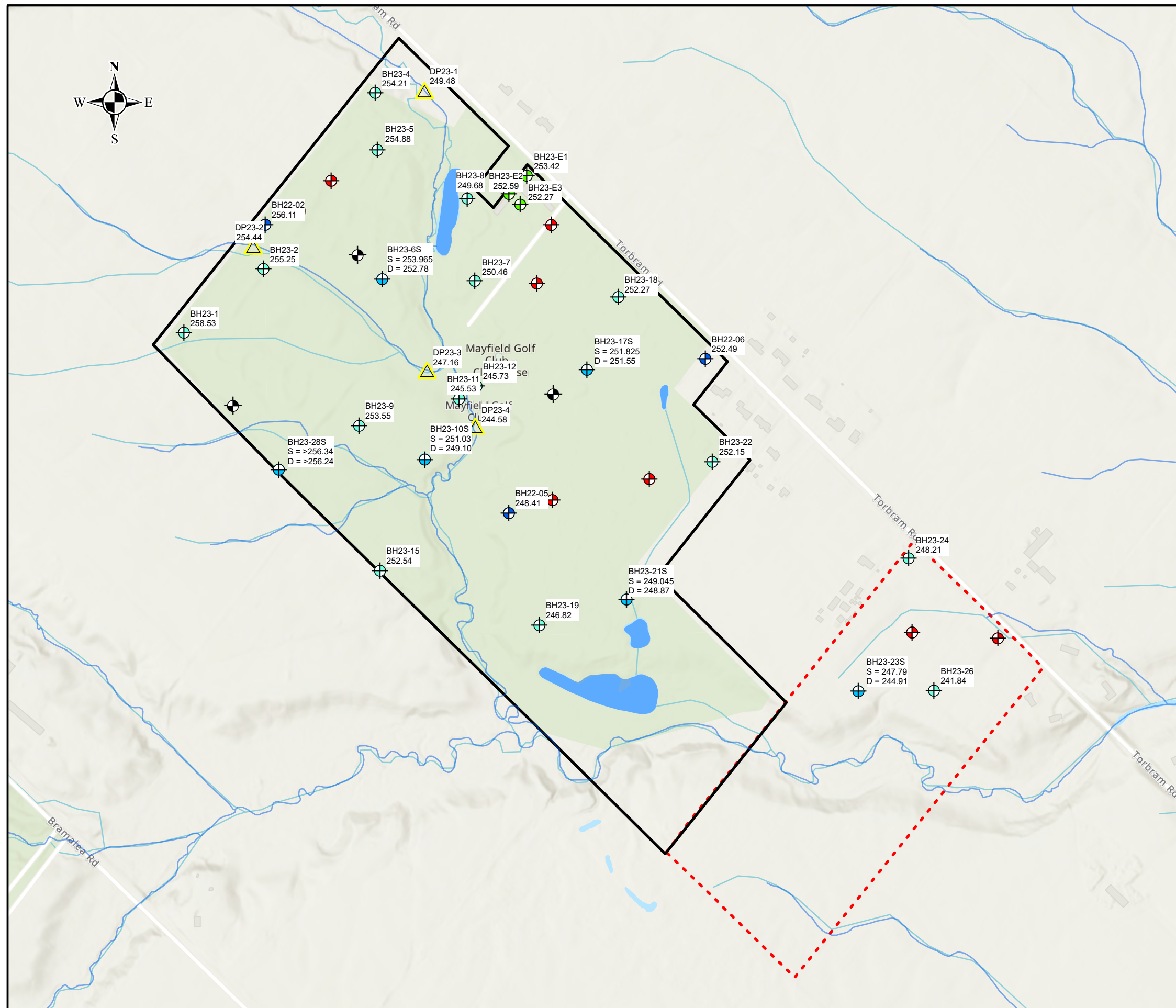
Project
**MAYFIELD GOLF COURSE REDEVELOPMENT
12552 AND 12580 TORBRAM ROAD
CALEDON, ONTARIO**

Drwn By: S.J.	Chkd By: A.W.
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Project No. 101987.001	Revision No. 0
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Date JUNE 2023	FIGURE: 5
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<p>GEMTEC CONSULTING ENGINEERS AND SCIENTISTS</p>	<p>32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca</p>
--	--



Legend

- BH # → BOREHOLE ID (DEEP - D; SHALLOW - S)
- XX.XX → GROUNDWATER ELEVATIONS, IN METERS ABOVE MEAN SEA LEVEL
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE MONITORING WELL (MW) LOCATION
- APPROXIMATE MONITORING WELL NEST (MW NEST) LOCATION
- APPROXIMATE ENVIRONMENTAL (E) MONITORING WELL LOCATION
- APPROXIMATE DRIVE-POINT PIEZOMETER & STAFF GAUGE (DP/SG) LOCATION
- APPROXIMATE MONITORING WELL LOCATION (GEMTEC, 2022)
- APPROXIMATE BOREHOLE LOCATION (GEMTEC, 2022)
- WATERCOURSE
- WATERBODY
- APPROXIMATE MAYFIELD GOLF COURSE LANDS BOUNDARY
- APPROXIMATE SOUTH LANDS BOUNDARY

NOTES:

1. The ground surface elevation at each borehole was estimate from a Site topography map provided by the client. As such elevation measurements are considered approximate
2. Coordinate system: NAD83/ UTM zone 17N.
3. Geographic dataset source: Ontario GeoHub.
4. Contains information licensed under the Open Government Licence – Ontario.
5. Parcel information obtained through the Ministry of Natural Resources and Forestry.
6. Service Layer Credits: World Topographic Map: Esri Community Maps Contributors, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCAN, Parks Canada World Hillshade: Esri, NASA, NGA, USGS, FEMA World Imagery: Maxar

Scale



Drawing **GROUNDWATER ELEVATIONS**
MAY 18, 2023

Client: **MAYFIELD GOLF COURSE INC.**

Project **MAYFIELD GOLF COURSE REDEVELOPMENT**
12552 AND 12580 TORBRAM ROAD
CALEDON, ONTARIO

Drwn By: **S.J.** Chkd By: **A.W.**

Project No. **101987.001** Revision No. **0**

Date **JUNE 2023** **FIGURE: 6**



APPENDIX C

Record of Boreholes

Abbreviations and Terminology Used on Records
of Boreholes and Test Pits

Record of Borehole Sheets BH23-E1 to BH23-E3

Record of Borehole Sheets BH23-1 to BH23-28

Record of Borehole Sheets BH22-1 to BH22-6

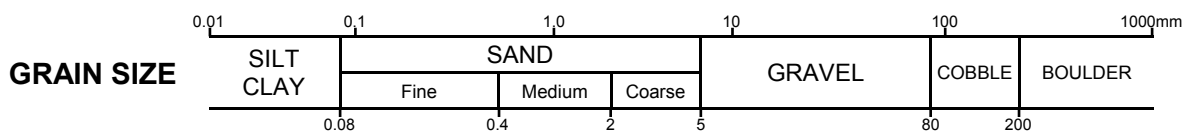
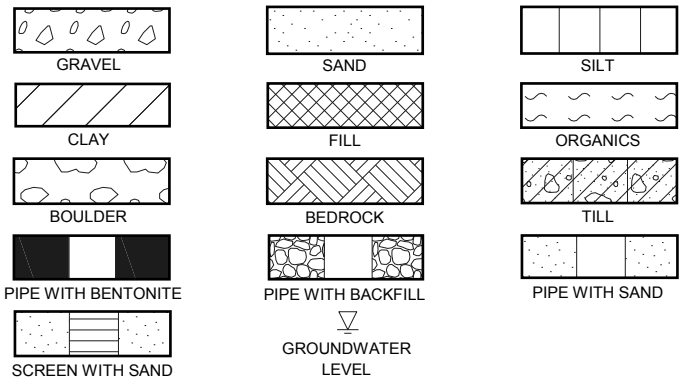
ABBREVIATIONS AND TERMINOLOGY USED ON RECORDS OF BOREHOLES AND TEST PITS

SAMPLE TYPES	
AS	Auger sample
CA	Casing sample
CS	Chunk sample
BS	Borros piston sample
GS	Grab sample
MS	Manual sample
RC	Rock core
SS	Split spoon sampler
ST	Slotted tube
TO	Thin-walled open shelby tube
TP	Thin-walled piston shelby tube
WS	Wash sample

SOIL TESTS	
w	Water content
PL, w_p	Plastic limit
LL, w_L	Liquid limit
C	Consolidation (oedometer) test
D_R	Relative density
DS	Direct shear test
G_s	Specific gravity
M	Sieve analysis for particle size
MH	Combined sieve and hydrometer (H) analysis
MPC	Modified Proctor compaction test
SPC	Standard Proctor compaction test
OC	Organic content test
UC	Unconfined compression test
γ	Unit weight

PENETRATION RESISTANCE	
<p>Standard Penetration Resistance, N The number of blows by a 63.5 kg (140 lb) hammer dropped 760 millimetres (30 in.) required to drive a 50 mm split spoon sampler for a distance of 300 mm (12 in.). For split spoon samples where less than 300 mm of penetration was achieved, the number of blows is reported over the sampler penetration in mm.</p>	
<p>Dynamic Penetration Resistance The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive a 50 mm (2 in.) diameter 60° cone attached to 'A' size drill rods for a distance of 300 mm (12 in.).</p>	
WH	Sampler advanced by static weight of hammer and drill rods
WR	Sampler advanced by static weight of drill rods
PH	Sampler advanced by hydraulic pressure from drill rig
PM	Sampler advanced by manual pressure

COHESIONLESS SOIL Compactness		COHESIVE SOIL Consistency	
SPT N-Values	Description	C_u , kPa	Description
0-4	Very Loose	0-12	Very Soft
4-10	Loose	12-25	Soft
10-30	Compact	25-50	Firm
30-50	Dense	50-100	Stiff
>50	Very Dense	100-200	Very Stiff
		>200	Hard



DESCRIPTIVE TERMINOLOGY

(Based on the CANFEM 4th Edition)

TRACE	SOME	ADJECTIVE	noun > 35% and main fraction
trace clay, etc	some gravel, etc.	silty, etc.	sand and gravel, etc.

RECORD OF BOREHOLE BH23-1

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 22 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		257.98									
		TOPSOIL		257.68									
0.30		FILL - (CL) SILTY CLAY, trace sand, trace organics; dark brown, cohesive, w>PL, firm to stiff		256.61	1	SS	356	7	●	○			
1				256.61	2	SS	305	11	●	○			
1.37		(CL) SILTY CLAY, trace sand, trace gravel; grey; cohesive, w~PL to w>PL, very stiff		255.85	3	SS	457	20	○	●			
2				255.85	4	SS	457	54	○	●			
2.13		(CL) sandy SILTY CLAY, trace gravel; brown (TILL); cohesive, w<PL to w~PL, hard		253.94	5	SS	457	56	○	●			
4				253.94	6	SS	457	20	○	●			
4.04	(CL) SILTY CLAY, trace sand; grey; cohesive, w~PL to w>PL, very stiff		252.42	7	SS	457	59	○	●				
5			252.42	8	SS	457	87	○	●				
5.56	(ML) SILT, slight plasticity, trace sand; grey (TILL); non-cohesive, moist, very dense		249.90										
6			249.90										
8			249.90										
8.08			249.90										
8		End of Borehole											
9		Notes:											
10		1. Borehole dry upon completion of drilling.											
11		2. Piezometer installed as shown upon completion of drilling.											
12		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a height of about 0.6 m above the ground surface.											
13													
14													

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	-0.6	258.5

RECORD OF BOREHOLE BH23-2

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 22 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION					
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	± NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl				
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		256.42									Monument Bentonite Filter sand 50mm dia. well screen					
		FILL - (CL) SILTY CLAY, some sand, trace gravel; brown and grey, organic inclusions, rootlets, oxidative staining; cohesive, w~PL, stiff			1	SS	457	10	●									
1		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w>PL, stiff to very stiff		255.51 0.91	2	SS	457	33	○	●								
2					3	SS	457	11	●	○								
3					4	SS	457	18	●									
3		(CL-ML) Sandy SILTY CLAY to CLAYEY SILT, trace to some gravel; brown to grey, rock fragments (TILL); cohesive, w<PL, hard		253.52 2.90	5	SS	457	45	○	●								
4																		
5					6	SS	152	98	○					MH				
6		(ML) SILT, trace sand, trace plastic fines; grey; non-cohesive, wet,		250.86 5.56														
7		(SM) SILTY SAND, some gravel, trace plastic fines; grey (TILL); non-cohesive, wet, very dense		250.07 6.35	7A	SS	457	76	○	○		●						
8				8	SS	127	500.0	○										
9				9	SS	76	500.0	○										
10	(ML) sandy SILT, trace plastic fines; grey; non-cohesive, wet, very dense		246.48 9.94															
11	End of Borehole		245.62 10.80	10	SS	125	500.0	○				MH						
12	Notes: 1. Groundwater level measured in open borehole at approximately 10.1 m below ground surface upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. 3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 1.2 m below ground surface.																	
13	GROUNDWATER OBSERVATIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>DEPTH (m)</th> <th>ELEV (m)</th> </tr> </thead> <tbody> <tr> <td>23/05/18</td> <td>1.2</td> <td>▽ 255.3</td> </tr> </tbody> </table>												DATE	DEPTH (m)	ELEV (m)	23/05/18	1.2	▽ 255.3
DATE	DEPTH (m)	ELEV (m)																
23/05/18	1.2	▽ 255.3																
14																		

GEO - BOREHOLE LOG - 101987.001:20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-3

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 22 2023





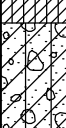
DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl
0		Ground Surface		255.54										
0.5	Power Auger Hollow Stem Auger (210mm OD)	FILL - (CL) SILTY CLAY, trace sand, trace gravel; dark brown, trace organics; cohesive, w>PL, firm - Organics/topsoil encountered between approximately 0.9 m and 1.2 m depths.			1	SS	457	5	●					
1					2	SS	457	8	●	○				
1.62			253.92		3A	SS				○				
2		(CL) SILTY CLAY, some sand to sandy, trace gravel; brown; cohesive, w<PL to w~PL, stiff to hard			3B	SS	457	13	●	○				
2.5					4	SS	457	33		○	●			
3					5	SS	457	44		○	●			
4			(SM) SILTY SAND, some gravel to gravelly; grey; non-cohesive, moist to wet, very dense			6	SS	457	50/0.3	○				
5														
6														
7														
8		- Wet below 7.6 m depth - Rock fragments between 7.6 m and 8.1 m. End of Borehole		251.50										
8.08		247.46		8	SS	457	79	○		●				
9		Notes: 1. Groundwater level measured in open borehole at approximately 7.3 m below ground surface prior to backfilling. 2. Borehole caved to approximately 7.3 m depth. 3. Borehole backfilled with bentonite and soil cuttings upon completion of drilling.												
10														
11														
12														
13														
14														

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC.2018.GDT - 6/2/23

RECORD OF BOREHOLE BH23-4

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		258.00									Monument  Bentonite Filter sand 50mm dia. well screen
0.5		FILL - (CL) SILTY CLAY, trace to some sand, trace gravel; brown, rootlets; cohesive, w>PL, firm to stiff			1	SS	203	7	●				
1					2	SS	203	7	●	○			
1.5					3	SS	457	14	●	○			
2		(OL) ORGANIC SILTY CLAY, trace sand; dark grey; cohesive, w~PL, stiff		256.12 1.88									
2.5					4	SS	457	11	●	○			
3					5	SS	254	10	●	○			
4		(CL) SILTY CLAY, trace sand, trace gravel; brown; cohesive, w~PL, hard		253.96 4.04									
4.5				6	SS	457	51	○		●			
5													
6				7	SS	457	38		○	●			
7													
7.5				8	SS	203	29	○		●			
8		(CL-ML) SILTY CLAY to CLAYEY SILT and SAND, some gravel; grey (TILL), cohesive, w~PL, very stiff		250.91 7.09									
8.5													
8.8													
8.8		End of Borehole		249.92 8.08									
9		Notes:											
9.5		1. Groundwater level measured in open borehole at approximately 7.6 m below ground surface upon completion of drilling.											
10		2. Piezometer installed as shown upon completion of drilling.											
11		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 3.8 m below ground surface.											
12													
13													
14													

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC.2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
23/05/18	3.8	254.2

RECORD OF BOREHOLE BH23-5

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 21 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL	⊕ REMOULDED			WATER CONTENT, % Wp W Wl
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		257.83										Monument	
0.5		FILL - (CL) SILTY CLAY, some sand; brown, organic inclusions; cohesive, w>PL, firm			1	SS	305	6	●						
1.0					2	SS	152	6	●	○					
1.5					3	SS	203	8	●	○					
2.0				255.70											
2.13		(OL) ORGANIC SILTY CLAY, trace sand; dark grey; cohesive, w~PL, stiff			4A	SS	305	15	●	○					
2.90				254.93		4B	SS			○					
3.0		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w<PL, hard			5	SS	457	37		○	●				
4.0				253.79											
4.04		(CL) sandy SILTY CLAY, some gravel; brown (TILL); cohesive, w<PL, hard			6	SS	457	55		○	●				
5.0				7	SS	457	49		○	●					
6.0				8	SS	457	50/0		○						
7.0			250.74												
7.09	(CL) SILTY CLAY; trace to some sand, trace to some gravel; grey; cohesive, w~PL to w<PL, hard			9	SS	457	44		○	●					
8.0	- Auger grinding at about 7.6 m depth			10	SS	457	44		○	●					
9.0				11	SS	457	44		○	●					
10.0				12	SS	457	44		○	●					
10.70	- Inferred bedrock (highly weathered shale) at 10.7 m depth End of Borehole			13	SS	25	50/0		○	●					
11.0			247.13												
11.70			10.70												
12.0	Notes: 1. Borehole dry upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. 3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 3.0 m below ground surface.														
13.0															
14.0															

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	3.0	254.9

LOGGED: AS
 CHECKED: DMF

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC 2018.GDT 6/2/23



RECORD OF BOREHOLE BH23-6D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %				
10	20								30	40	50	60	70	80	90
14		2. Piezometers installed as shown upon upon completion of drilling. Shallow piezometer installed in second borehole drilled within approximately 2 m of initial installation. 3. Groundwater levels measured in the installed monitoring well on May 18, 2023 at a depth of about 4.0 m below ground surface.													
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	4.0	252.8

GEO - BOREHOLE LOG 101987.001\2023\06\02.GPJ GEMTEC.2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-6S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface		256.66									
		TOPSOIL		0.05									
		FILL - (CL) SILTY CLAY, some sand; brown, rootlets; cohesive, w>PL, firm to stiff			1	SS	203	7	●				
1					2	SS	203	4	●	○			
				254.78									
		FILL - (SM) SILTY SAND, trace gravel, trace plastic fines; dark brown to grey, organic inclusions, non-cohesive, moist, compact		1.88	3A	SS	254	12	●	○			
2					3B	SS				○			
				253.76									
		(CL) SILTY CLAY, some sand, mottled; brown and grey; cohesive, w~PL to w>PL, very stiff		2.90	4	SS	305	24	○	●			
3					5	SS	457	18	●	○			
				252.62									
		(CL) Gravelly sandy SILTY CLAY, brown to grey; rock fragments (TILL); cohesive, w<PL to w~PL, hard		4.04	6	SS	457	40	○	●			
4													
		- Grey below about 6.1 m depth			7	SS	457	49	○	●			
		- Silty clay seam / layer between approximately 6.1 m and 6.6 m depths											
				249.04									
8		End of Borehole		7.62									
9		Notes:											
10		1. Piezometers installed as shown upon upon completion of drilling.											
11		2. Groundwater levels measured in the installed monitoring well on May 18, 2023 at a depth of about 2.1 m below ground surface.											
12		3. Subsurface descriptions based on borehole BH23-6D.											
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	2.1	254.5

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-7

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	± NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		251.92									
		TOPSOIL		251.74									
		(CL) sandy SILTY CLAY, trace gravel; brown; cohesive, w>PL, stiff		0.18	1	SS	279	9		●	○		
1		(CL) sandy SILTY CLAY, trace gravel; brown, oxidative staining, (TILL); cohesive, w~PL to w>PL, hard		251.31									
				0.61	2	SS	305	35		○	●		
2					3	SS	432	39		○	●		
3					4	SS	457	23		●			
4		- Auger grinding at about 3.1 m depth			5	SS	457	30/0.0		○			
4		(SM) SILTY SAND, trace to some gravel, trace plastic fines; brown to grey; non-cohesive, moist to wet, very dense		248.01									
			3.91	6	SS	356	50/0.08		○				
5													
6		- Gravelly and wet from approximately 6.1 m to 6.3 m depths											
7		(SP) gravelly SAND, some non-plastic fines; grey; non-cohesive, wet, very dense		245.00									
			6.92										
8		End of Borehole		244.02	8	SS	432	50/0.3		○			
			7.90										
9	Notes: 1. Groundwater level measured in open borehole at approximately 4.4 m below ground surface upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. 3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 1.5 m below ground surface.												
10													
11													
12													
13													
14													

GEO - BOREHOLE LOG_101987.001\2023\06\02.GPJ_GEMTEC.2018.GDT_6/2/23



LOGGED: IO
 CHECKED: DMF

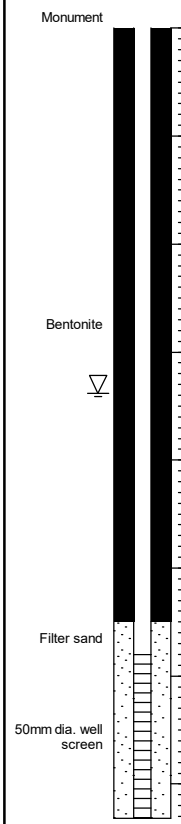
GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
23/05/18	1.5	250.5

RECORD OF BOREHOLE BH23-8

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 21 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0		Ground Surface		253.06									
		TOPSOIL		252.81									
		(CL) SILTY CLAY, trace to some sand, trace gravel; brown, oxidative staining; cohesive, w~PL to w>PL, firm to hard		0.25	1	SS	203	5	●				
1					2	SS	457	21	○	●			
2					3	SS	457	37	○	●			
		(CL) SILTY CLAY, some sand to sandy, trace gravel; brown, rock fragments (TILL); cohesive, w<PL to w~PL, hard		250.93									
				2.13	4	SS	457	45	○	●			
3					5	SS	457	44	○	●			
4	Power Auger Hollow Stem Auger (210mm OD)	(SM) SILTY SAND, some gravel, trace plastic fines; grey (TILL); non-cohesive, moist, dense		249.02									
				4.04	6	SS	457	38	○	●			
5													
6					7	SS	127	50/0.3	○				
7													
		- Inferred cobbles/boulders or bedrock at about 7.3 m depth End of Borehole		245.74									
				7.32									
8		Notes:											
9		1. Borehole was terminated at 7.3 m due to assumed bedrock contact.											
10		2. Borehole was dry and open upon completion of drilling.											
11		3. Piezometer installed as shown upon completion of drilling.											
12		4. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 3.4 m below ground surface.											
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	3.4	249.7

GEO - BOREHOLE LOG 101987.001\2023\06\02.GPJ GEMTEC 2018.GDT 6/2/23



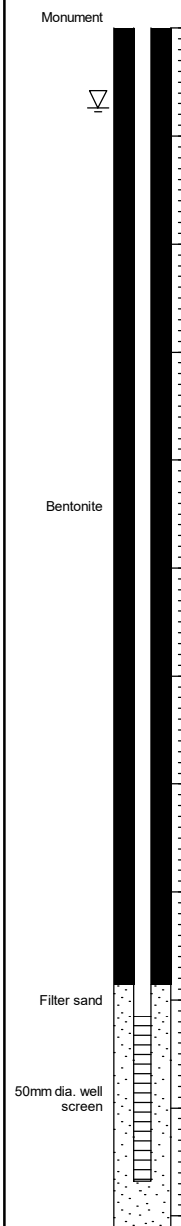
LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-9

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 8 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	± NATURAL ⊕ REMOULDED		
0		Ground Surface		254.29									
		TOPSOIL		254.04	1A	SS	457	8	●				
		(CL) SILTY CLAY, trace sand; brown, oxidative staining; cohesive, w>PL, firm to very stiff		0.25	1B	SS			○				
1					2	SS	305	28	○	●			
		(CL) sandy SILTY CLAY, trace to some gravel; brown, oxidative staining (TILL); cohesive, w<PL to w~PL, very stiff to hard		252.92	3	SS	457	26	○	●			
2				1.37	4	SS	457	66	○	●			
3					5	SS	457	51	○	●			
4		(SM) gravelly SILTY SAND; grey, rock fragments; non-cohesive, moist, dense		250.25	6	SS	457	43	○	●			
5				4.04	7	SS	457	90	○	●			
6	Power Auger	(ML) SILT, slight plasticity, trace sand; grey; non-cohesive, moist to wet, compact to very dense		249.31	8	SS	457	46	○	●			
7	Hollow Stem Auger (210mm OD)			4.98	9	SS	457	16	○	●			
8					10	SS	457	28	○	●			
9		- Wet below about 9.1 m depth											
10													
11		End of Borehole		243.16									
12		Notes:		11.13									
13		1. Groundwater level measured in open borehole at approximately 10.8 m below ground surface upon completion of drilling.											
14		2. Piezometer installed as shown upon completion of drilling.											
		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.7 m below ground surface.											



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.7	253.6

GEO - BOREHOLE LOG - 101987.001-20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-10D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 9 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface TOPSOIL		252.82								▽	Monument
0.31		(CL) SILTY CLAY, trace sand, trace gravel; brown, rootlets; cohesive, w>PL, firm to very stiff		252.51	1	SS	457	6	●				
1					2	SS	457	17	○	●			
2					3	SS	457	27	○	●			
2.13		(CL) sandy SILTY CLAY, some gravel; brown, oxidative staining (TILL); cohesive, w<PL to w~PL, hard		250.69	4	SS	457	38	○	●			
3					5	SS	457	41	○	●			
4					6	SS	457	82/0.28	○				
4.04		(ML) sandy SILT, some gravel; brown, oxidative staining (TILL); non-cohesive, moist, very dense		248.78	7	SS	457	42	○	●			
5					8	SS	457	70	○	●			
6					9	SS	457	33	○	●			
5.56		(ML) SILT, slight plasticity, trace sand, trace to some plastic fines; grey; non-cohesive, moist to wet, dense to very dense		247.26	10	SS	457	32	○	●			
7				11	SS	457	55	○	●				
8				11	SS	457	55	○	●				
9													
10													
11													
11.66	(GP-GM) Sandy SILTY GRAVEL; grey, (TILL) rock fragments; non-cohesive, wet, very dense		241.16										
12													
12.65	End of Borehole			240.17									
13													
14													

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-10D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 9 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %			
10	20								30	40	50	60	70	80
14		piezometer installation.												
15		2. Piezometers installed as shown upon completion of drilling. Shallow piezometer installed in second borehole drilled within approximately 2 m of initial installation.												
16		3. Groundwater levels measured in the installed monitoring well on May 18, 2023 at a depth of about 3.7 m below ground surface.												
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	3.7	249.1

GEO - BOREHOLE LOG - 101987.001\20230602.GPJ - GEMTEC.2018.GDT - 6/2/23



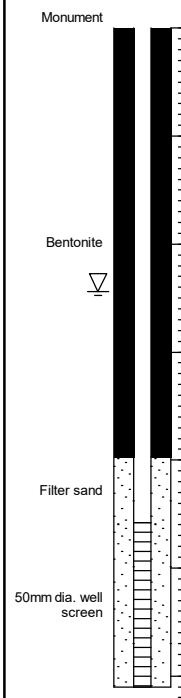
LOGGED: AS
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RECORD OF BOREHOLE BH23-10S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 9 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L		
0		Ground Surface TOPSOIL		252.93										
0.31		(CL) SILTY CLAY, trace sand, trace gravel; brown, rootlets; cohesive, w>PL, firm to very stiff		252.62	1	SS	457	6	●					
1					2	SS	457	17	○	●				
2					3	SS	457	27	○	●				
2.13		(CL) sandy SILTY CLAY, some gravel; brown, oxidative staining (TILL); cohesive, w<PL to w~PL, hard		250.80										
2.33					4	SS	457	38	○	●				
3					5	SS	457	41	○	●				
4		(ML) sandy SILT, some gravel; brown, oxidative staining (TILL); non-cohesive, moist, very dense		248.89										
4.04					6	SS	457	82/0.28	○					
5														
5.56		(ML) SILT, slight plasticity, trace sand, trace to some plastic fines; grey; non-cohesive, moist to wet, dense to very dense		247.37										
6		End of Borehole		246.83										
6.10														
7		Notes: 1. Piezometers installed as shown upon completion of drilling. 2. Groundwater levels measured in the installed monitoring well on May 18, 2023 at a depth of about 2.6 m below ground surface. 3. Subsurface description based on borehole BH23-10D.												
8														
9														
10														
11														
12														
13														
14														



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	2.6	250.5

GEO - BOREHOLE LOG - 101987.001-20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-11

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 13 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	± NATURAL ⊕ REMOULDED			WATER CONTENT, % W _p — W — W _L
0		Ground Surface TOPSOIL		245.98										
1	Power Auger Hollow Stem Auger (210mm OD)	(ML) SILT, trace to some sand, trace to some gravel, trace plastic fines; brown, mottling (TILL); non-cohesive, moist, compact to very dense		245.29	1	SS	203	7		●				
				0.69										
2							2	SS	406	21		○	●	
3				242.98	3	SS	457	85/0.20		○				
4														
5	Diamond Rotary Core HQ Casing	(GP/GM) sandy SILTY GRAVEL, some fines, cobbles and boulders; grey (TILL); non-cohesive, wet, very dense		3.00	RC 1	RC	1670							
6							RC 2	RC	508					
7	Power Auger Hollow Stem Auger (210mm OD)						6	SS	152	58/0.25		○		
8														
9	Diamond Rotary Core HQ Casing	Weathered to fresh, grey to dark grey, LIMESTONE and SHALE BEDROCK (GEORGIAN BAY FORMATION)		7.80	RC 3	RC	1499							
10							RC 4	RC	1092					
11				235.03	RC 5	RC	1600							
				10.95										
12		End of Borehole												
13		Notes:												
14		1. Borehole started on Mar 13, 2023 and completed on Mar 14, 2023. 2. Sample 5 not shown due to 0 mm penetration. 3. Rock coring discontinued between approximately 5.2 m and 6.8 m depths due to subsurface conditions. 4. Water level not measured upon completion of drilling due to use of water during rock coring.												

GEO - BOREHOLE LOG, 101987.001\2023\06\02.GPJ, GEMTEC, 2018.GDT, 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-11

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 13 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %						
10	20			30					40	50	60	70	80	90			
14		5. Piezometer installed as shown upon completion of drilling. 6. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.5 m below ground surface.															
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.5 ▽	245.5

GEO - BOREHOLE LOG - 101987.001-20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-12

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 15 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED				
0		Ground Surface TOPSOIL		245.78											
1	Power Auger Hollow Stem Auger (210mm OD)	(SM) SILTY SAND, some gravel to gravelly, trace plastic fines; brown to grey (TILL); non-cohesive, moist to wet, dense to very dense - Auger grinding at about 1.5 m and from approximately 2.1 m to 2.3 m depths		245.09	1	SS	152	4	●						
				0.69	2	SS	457	37	○						
2				3	SS	457	43	○							
				4	SS	304	50/0.3	○							
3				5	SS	76	50/0.3	○							
4				6	SS	76	50/0.3	○							
5				7	SS	101	50/0.3	○							
8				Diamond Rotary Core HQ Casing	- Rock fragments at 7.7 m depth Slightly weathered to fresh, grey, LIMESTONE BEDROCK with shale interbeds (GEORGIAN BAY FORMATION)		237.93	8	SS	101	50/0.3	○			
	7.85	RC1	RC				381	TCR = 94%, SCR = 69%, RQD = 38%							
9					RC2	RC	1524	TCR = 100%, SCR = 100%, RQD = 93%							
10		End of Borehole		236.03											
				9.75											
11		Notes:													
12		1. Water level not measured upon completion of drilling due to use of water during rock coring													
		2. Piezometer installed as shown upon completion of drilling.													
		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.1 m below ground surface.													
13															
14															



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.1	245.7

GEO - BOREHOLE LOG 101987.001\20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-13

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % Wp W Wl			⊕ NATURAL ⊕ REMOULDED
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		253.50										
		TOPSOIL		0.08	1	SS	102	6	●					
		FILL - (CL) SILTY CLAY, some sand; brown, contains clay pockets and rootlets; cohesive, w>PL, firm to very stiff				2	SS	356	18	●	○			
				252.13										
		(CL) SILTY CLAY, some sand, trace gravel; brown to grey; cohesive, w~PL to w>PL, stiff to hard		1.37	3	SS	305	23		●	○			
						4	SS	152	42		○			
						5	SS	330	27		○	●		
						6	SS	457	25		○	●		
		- Grey below 6.1 m depth.			7	SS	457	13	●					
				246.41										
		(SM) SILTY SAND, some gravel, trace plastic fines; grey, rock fragments (TILL); non-cohesive, moist, very dense - Auger grinding at 7.3 m depth		7.09										
				245.42										
8		End of Borehole		8.08	8	SS	356	98	○				●	
9		Notes: 1. Borehole dry upon completion of drilling. 2. Borehole caved to approximately 7.4 m depth. 3. Borehole backfilled with bentonite and soil cuttings upon completion of drilling.												
10														
11														
12														
13														
14														

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC.2018.GDT - 6/2/23



LOGGED: IO
 CHECKED: DMF

RECORD OF BOREHOLE BH23-14

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPa		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		254.67									
		TOPSOIL		254.64	1A	SS	0		●				
		(CL) SILTY CLAY, some sand; brown to grey; cohesive, w~PL to w>PL, stiff to hard		0.13	1B	SS	254	8	●	○			
1					2	SS	254	28		○	●		
2					3	SS	381	35		○	●		
3					4	SS	356	26			●		
4					5	SS	457	19		●	○		
5			- Sand pockets between approximately 4.6 m and 5.0 m depths - Grey below about 4.9 m depth		6	SS	305	26		○	●		
6				7	SS	356	23		○	●			
7													
8		(CL) sandy SILTY CLAY, trace gravel; grey, (TILL); cohesive, w>PL, very stiff		247.58									
				7.09									
8				246.59	8	SS	356	29		○	●		
				8.08									
9		End of Borehole											
10		Notes: 1. Borehole dry upon completion of drilling. 2. Borehole caved to approximately 7.5 m depth. 3. Borehole backfilled with bentonite and soil cuttings upon completion of drilling.											
11													
12													
13													
14													

GEO - BOREHOLE LOG 101987.001/20230602.GPJ GEMTEC.2018.GDT 6/2/23



LOGGED: IO
 CHECKED: DMF

RECORD OF BOREHOLE BH23-15

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 9 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		253.31									
		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w~PL to w>PL, very stiff		252.75 0.56	1A	SS	406	6	●				
1					1B	SS							
		(CL) sandy SILTY CLAY, trace to some gravel; brown to grey, oxidative staining, (TILL); cohesive, w~PL to w>PL, very stiff to hard		251.94 1.37	2	SS	457	21	○	●			
2					3	SS	457	32	○	●			
3					4	SS	457	29	○	●			
4	Power Auger Hollow Stem Auger (210mm OD)	- Grey at about 3.5 m depth			5A	SS	457	24	○	●			
					5B	SS			○				
5		(CL) SILTY CLAY, trace sand; grey; cohesive, w~PL to w>PL, stiff		249.27 4.04	6	SS	305	11	●	○			
6		(SM) gravelly SILTY SAND; grey, rock fragments, (TILL); non-cohesive, moist, dense		247.75 5.56	7	SS	203	30	○	●			
7		- Auger grinding at 7.0 m depth											
8		(ML) SILT, trace sand, trace gravel; grey, rock fragments; non-cohesive, wet, dense		246.22 7.09	8	SS	457	46	○	●			
8		End of Borehole		245.23 8.08									
9		Notes: 1. Borehole was dry upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. 3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.8 m below ground surface.											
10													
11													
12													
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.8 ▽	252.5

GEO - BOREHOLE LOG - 101987.001-20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-16

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		251.96									
1		(CL) SILTY CLAY, some sand; brown, organic inclusions; cohesive, w~PL to w>PL, very stiff		251.29 0.67	1	SS	305	6	●				
2		(CL) sandy SILTY CLAY, trace to some gravel; brown to grey, oxidative staining, rock fragments (TILL); cohesive, w~PL to w>PL, very stiff to hard		250.59 1.37	2	SS	406	20	●				
3					3	SS	406	26	○				
4					4	SS	178	31	○				
5					5	SS	457	37	○				
6		- Grey below about 4.7 m depth			6	SS	406	19	○ ●				
7		- Contains sand seams between approximately 6.1 m and 6.6 m depths			7	SS	381	40	○ ●				
8		(SM) SILTY SAND, some gravel; grey; non-cohesive, moist, very dense		244.87 7.09	8	SS	305	50/0.3	○				
9		End of Borehole		244.06 7.90									
10		Notes: 1. Groundwater level measured in open borehole at approximately 7.3 m below ground surface prior to backfilling. 2. Borehole caved to approximately 7.6 m upon completion. 3. Borehole backfilled with soil cuttings upon completion of drilling.											

GEO - BOREHOLE LOG 101987.001\2023\06\02.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-17D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 27 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPa		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % Wp W Wl			± NATURAL ⊕ REMOULDED	
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface TOPSOIL		253.04									MH	Monument	
0.46		(CL) SILTY CLAY, trace to some sand, trace gravel; brown, oxidative staining; cohesive, w-PL to w>PL, very stiff		252.58	1	SS	51	5	●						
1					2	SS	305	19		●	○				
2					3	SS	457	17		●	○				
3					4	SS	457	24	○	●					
4					5	SS	457	20		●					
4.04		(CL-ML) sandy SILTY CLAY to CLAYEY SILT, trace to some gravel; brown to grey (TILL); cohesive, w-PL, stiff to hard		249.00											
5					6	SS	457	56	○		●				
6		- Auger grinding at about 5.2 m depth													
7		- Grey below about 6.1 m depth			7	SS	457	14		●	○				
8					8	SS	457	31	○		●				
9					9	SS	457	38	○		●				
10		- Auger grinding at about 9.8 m and from approximately 10.1 m to 10.7 m depths			10	SS	76	50/0.08	○						
11		(GM/GP) Sandy SILTY GRAVEL, some plastic fines; grey (TILL); non-cohesive, wet, very dense		242.91											
12	- Auger grinding from approximately 10.7 m to 12.2 m depths														
13	- Gravel and shale fragments between approximately 2.2 m and 12.5 m depths			11	SS	254	50/0.10	○							
13.31															
14	Slightly weathered to fresh, fine grained, grey LIMESTONE BEDROCK with interbedded shale (GEORGIAN BAY FORMATION)		239.73												
				RC1	RC	1055	TCR = 97%, SCR = 90%, RQD = 52%							Filter sand	

GEO - BOREHOLE LOG 101987.001/20230602.GPJ GEMTEC 2018.GDT 6/2/23



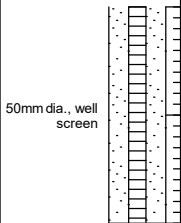
LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-17D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 27 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				● PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p — W — W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m				
14	Diamond Rotary Core HQ Casing											
15					RC2	RC	1600	TCR	100%, SCR = 95%, RQD = 89%			
16		End of Borehole		237.04 16.00								
17		Notes:										
18		1. Water level not measured upon completion of drilling due to use of water during rock coring.										
19		2. Piezometers installed as shown upon completion of drilling. Shallow piezometer installed in second borehole drilled within approximately 2 m of initial installation.										
20		3. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 1.5 m below ground surface.										
21												
22												
23												
24												
25												
26												
27												
28												



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	1.5 ▽	251.6

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC.2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-17S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 27 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPa		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		253.03									Monument
0.46		(CL) SILTY CLAY, trace to some sand, trace gravel; brown, oxidative staining; cohesive, w-PL to w>PL, very stiff		252.57	1	SS	51	5	●				
1					2	SS	305	19		●	○		
2					3	SS	457	17		●	○		
3					4	SS	457	24	○	●			
4					5	SS	457	20		●			
4.04		(CL-ML) sandy SILTY CLAY to CLAYEY SILT, trace to some gravel; brown to grey (TILL); cohesive, w-PL, stiff to hard		248.99									
5		- Auger grinding at about 5.2 m depth			6	SS	457	56	○		●		
6													Bentonite
7		- Grey below about 6.1 m depth			7	SS	457	14		●			MH
8					8	SS	457	31	○	●			
9													
10		- Auger grinding at about 9.8 m and from approximately 10.1 m to 10.7 m depths											
10.13		(GM/GP) Sandy SILTY GRAVEL, some plastic fines; grey (TILL); non-cohesive, wet, very dense		242.90									
11		- Auger grinding from approximately 10.7 m to 12.2 m depths			10	SS	76	50/0.08	○				
12													Filter sand
13		- Gravel and shale fragments between approximately 12.2 m and 12.5 m depths			11	SS	254	50/0.10	○				
12.95		End of Borehole		240.08									50mm dia. well screen
13		Notes: 1. Piezometers installed as shown upon completion of drilling.		12.95									Sand Bentonite

GEO - BOREHOLE LOG 101987.001/20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-17S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 27 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %			
10	20								30	40	50	60	70	80
14														
15		2. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 1.2 m below ground surface.												
16		3. Subsurface conditions based on borehole BH23-17D.												
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	1.2 ▽	251.8

GEO - BOREHOLE LOG 101987.001:20230602.GPJ GEMTEC.2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-18

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p — W — W _L		
0		Ground Surface		254.41									
		TOPSOIL		254.28	1A	SS							
		(CL) SILTY CLAY, trace to some sand, trace gravel; brown to grey, oxidative staining; cohesive, w~PL to w>PL, firm to hard		254.13	1B	SS	229	6	●	○			
1					2	SS	279	25		○	●		
2					3	SS	229	27		○	●		
		- Sand pockets between approximately 2.3 m and 2.7 m depths			4	SS	381	27		○	●		
3					5	SS	457	37		○	●		
4					6	SS	432	16		○	●		
		- Grey below about 4.6 m depth			7	SS	254	13		○	●		
5					8	SS	330	15		○	●		
6					9	SS	102	50/0.18					
		(SM/ML) Gravelly SILTY SAND to SILT and SAND, trace plastic fines, grey (TILL), non-cohesive, wet, very dense		245.80									
		- Auger grinding and possible cobbles/ boulders at 9.4 m depth		8.61	10	SS	51	50/0.18					
7					11	SS	254	50/0.18		○			
8					12	SS	279	50/0.18		○			
		- Water encountered during drilling at about 11.3 m depth			13	SS	76	50/0.18		○			
9													
10													
11													
12													
13													
14													

GEO - BOREHOLE LOG 101987.001:20230602.GPJ GEMTEC 2018.GDT 6/2/23



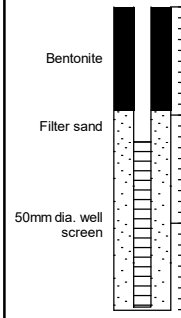
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RECORD OF BOREHOLE BH23-18

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				● PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p — W — W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m				
14		13.7 m to 14.6 m and from approximately 15.2 m to 16.2 m depths										
15		- Gravelly between approximately 15.2 m and 15.5 m depths			14	SS	152	50/0.10				
16		Highly weathered grey SHALE BEDROCK (GEORGIAN BAY FORMATION)		238.26 16.15								
17		End of Borehole		237.60 16.81	15	SS	51	50/0.45				
18		Notes: 1. Auger refusal was reached at 10 m on Feb 6, 2023. Borehole was moved approximately 2 m west and resumed to final depth of 16.8 m on Feb 21, 2023. 2. Water level not measured upon completion of drilling due to use of water during drilling. 3. Piezometer installed as shown upon completion of drilling. 4. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 2.1 m below ground surface.										
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	2.1	252.3

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: IO/AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-19

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 24 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface TOPSOIL		250.43								MH	Monument Bentonite Filter sand 50mm dia. well screen
0.69		1	SS	254	8								
1		(CL) sandy SILTY CLAY, some gravel; brown, oxidative staining (TILL); cohesive, w~PL to w>PL, very stiff to hard		249.74									
1.69		2	SS	457	15								
2			3	SS	457	44							
2.69			4	SS	457	42							
3			5	SS	457	45							
3.69			6	SS	152	27							
5.56		- Difficult augering between approximately 5.2 m and 5.5 m depths		244.87									
5.69		(CL) SILTY CLAY, trace to some sand, trace to some gravel; grey; cohesive, w~PL to w>PL, very stiff to hard		242.40									
8.03		8	SS	457	48								
8.69	(SM) Gravelly SILTY SAND, trace plastic fines; grey; non-cohesive, moist, very dense		242.40										
9		9	SS	254	50/0.								
10													
10.80	- Auger grinding between approximately 9.5 m and 10.8 m depths		239.63										
11		10	SS	127	50/0.								
11	End of Borehole												
12	Notes:												
13	1. Borehole was dry upon completion of drilling.												
13	2. Piezometer installed as shown upon completion of drilling.												
13	3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 3.6 m below ground surface.												
14													

GEO - BOREHOLE LOG 101987.001\2023\06\02.GPJ GEMTEC 2018.GDT 6/2/23






LOGGED: AS
 CHECKED: DMF

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
23/05/18	3.6	246.8

RECORD OF BOREHOLE BH23-20

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 24 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		253.12										
		TOPSOIL		252.97										
		(CL) SILTY CLAY, trace to some sand; brown, oxidative staining; cohesive, w~PLto w>PL, firm to very stiff		0.15	1	SS	305	7	●					
1					2	SS	432	19		●	○			
2					3	SS	457	27		○	●			
3					4	SS	457	21		●	○	—		
4					5	SS	457	17		●	○			
5					6	SS	457	20		○	●			
6			(CL) sandy SILTY CLAY, trace to some gravel; grey (TILL); cohesive, w~PL to w>PL, very stiff		247.56									
				5.56	7	SS	457	26		○	●	—		
7				8	SS	457	24		○	●				
8				9	SS	457	29		○	●				
9				10										
10		(SM) SILTY SAND, trace gravel; grey (TILL); non-cohesive, moist, very dense		242.99										
		- Auger grinding between approximately 10.1 m and 10.4 m depths		242.17										
11		End of Borehole		10.95	10	SS	279	50/0.3	○	●				
12		Notes: 1. Borehole was dry upon completion of drilling. 2. Borehole did not cave upon completion of drilling. 3. Borehole backfilled with soil cuttings upon completion of drilling.												
13														
14														

GEO - BOREHOLE LOG 101987.001\2023\06\02.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-21D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 22 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		249.28									
0.30		(CL) sandy SILTY CLAY, trace gravel; brown, oxidative staining, rock fragments (TILL); cohesive, w~PL to w>PL, very stiff to hard		248.98	1	SS	305	5	●				
1					2	SS	457	35	○	●			
2					3	SS	457	40	○	●			
3					4	SS	457	32	○	●			
4					5	SS	457	33	○	●			
5	Power Auger Hollow Stem Auger (210mm OD)				6	SS	457	17	○	●			
5.56		(ML) SILT, trace to some sand, trace plastic fines; grey; non-cohesive, moist to wet, very dense		243.72									
6					7	SS	457	69	○	●			
7													
8		- Wet below about 7.6 m depth			8	SS	457	79	○	●			MH
8.61		(SM) SILTY SAND, some gravel, trace plastic fines; grey (TILL); non-cohesive, moist to wet, very dense		240.67									
9					9	SS	457	77/0.28	○	●			
10													
10.77		End of Borehole		238.51	10	SS	76	50/0.10	○	●			
11		Notes: 1. Groundwater level measured in open borehole at approximately 7.6 m below ground surface upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. Shallow piezometer installed in second borehole drilled within approximately 2 metres of initial installation. 3. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 0.4 m below											
12													
13													
14													



GEO - BOREHOLE LOG 101987.001:20230602.GPJ GEMTEC 2018.GDT 6/2/23



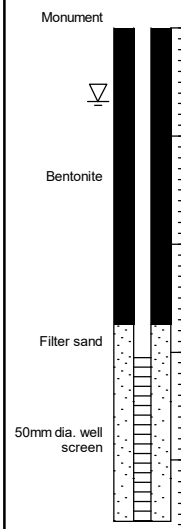
LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-21S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 22 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % W _p W W _L		
0		Ground Surface TOPSOIL		249.24									
		(CL) sandy SILTY CLAY, trace gravel; brown, oxidative staining, rock fragments (TILL); cohesive, w~PL to w>PL, very stiff to hard		248.94 0.30	1	SS	305	5	●				
1					2	SS	457	35	○	●			
2					3	SS	457	40	○	●			
3					4	SS	457	32	○	●			
4					5	SS	457	33	○	●			
5		End of Borehole		244.67 4.57									
5		Notes: 1. Piezometers installed as shown upon completion of drilling. 2. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 0.6 m below ground surface. 3. Subsurface conditions based on borehole BH23-21D.											
6													
7													
8													
9													
10													
11													
12													
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.6 ▽	248.6

GEO - BOREHOLE LOG 101987.001:20230602.GPJ GEMTEC.2018.GDT 6/2/23



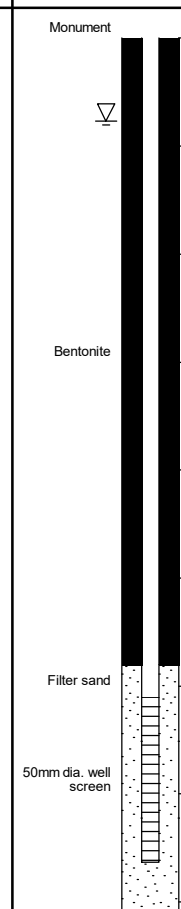
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RECORD OF BOREHOLE BH23-22

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 17 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0		Ground Surface		252.92									
		TOPSOIL		252.72	1A								
		(CL) SILTY CLAY, trace sand; brown; cohesive, w~PL to w>PL, stiff to very stiff		0.20	1B	SS	254	9	●	○			
1					2	SS	305	24		○			
		(CL) sandy SILTY CLAY, trace to some gravel; grey, oxidative staining (TILL); cohesive, w~PL, hard		251.55									
				1.37	3	SS	457	33		○			
2					4A	SS	457	44		○			
					4B					○			
3					5	SS	457	32		○			
		- Sand pockets between approximately 3.1 m and 3.5 m depths											
4					6	SS	457	15		●			
		(CL) Sandy SILTY CLAY, some gravel; grey; cohesive, w~PL to w>PL, stiff to very stiff		248.88									
				4.04	7	SS	457	19		○			
5													
6													
7													
8					8	SS	457	19		○			
8		End of Borehole		244.84									
				8.08									
9		Notes:											
		1. Borehole was dry upon completion of drilling.											
		2. Piezometer installed as shown upon completion of drilling.											
		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.8 m below ground surface.											
10													
11													
12													
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.8	252.2

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC-2018.GDT - 6/2/23

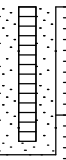


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RECORD OF BOREHOLE BH23-23D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 14 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				● PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p — W — W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m				
14			235.51									Filter sand 50mm dia. well screen 
15		Highly weathered grey SHALE BEDROCK (GEORGIAN BAY FROMATION)	14.44									
15		End of Borehole	234.58	13	SS	76	500.3					
16		Notes:	15.37									
17		1. Original Borehole reached practical auger refusal at about 4 m on Feb 14, 2023 and was moved approximately 2 m NE where it was advanced to termination on Feb 15, 2023.										
18		2. Groundwater level measured in open borehole at approximately 15.2 m below ground surface upon completion of drilling.										
19		3. Piezometers installed as shown upon completion of drilling. Shallow piezometer installed in second borehole drilled within approximately 2 metres of initial installation.										
20		4. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 5.0 m below ground surface.										
21												
22												
23												
24												
25												
26												
27												
28												

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
23/05/18	5.0 ▽	244.9

GEO - BOREHOLE LOG_101987.001\2023\06\02.GPJ_GEMTEC.2018.GDT_6/2/23



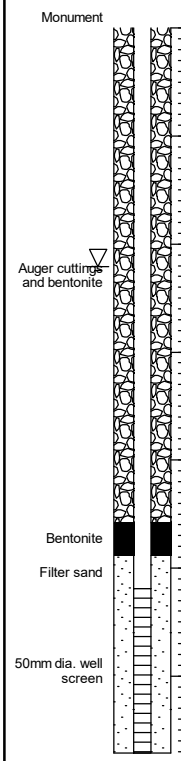
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RECORD OF BOREHOLE BH23-23S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 14 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		249.89									
		(CL) SILTY CLAY, some sand, trace gravel; brown, organic inclusions; cohesive, w~PL to w>PL, very stiff		249.43 0.46	1A	SS	305	7	●				
1					1B					○			
		(CL) sandy SILTY CLAY, trace to some gravel; brown to grey (TILL); cohesive, w~PL to w>PL, very stiff to hard		248.52 1.37	2	SS	457	25	●				
2					3	SS	457	40	○				
					4	SS	457	42	○				
3					5	SS	457	40	○				
4		- Auger grinding at about 4.0 m and from approximately 6.4 m to 7.0 m depths											
5					6A	SS	305	34	○				
					6B				○				
6		- Grey below approximately 6.1 m depth											
7		End of Borehole		243.18 6.71	7	SS	356	34	○	●			
8		Notes: 1. Piezometers installed as shown upon completion of drilling. 2. Groundwater level measured in the installed monitoring well on May 18, 2023 at a depth of about 2.2 m below ground surface. 3. Subsurface description based on borehole BH23-23D.											
9													
10													
11													
12													
13													
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
23/05/18	2.2	247.7

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC-2018.GDT - 6/2/23



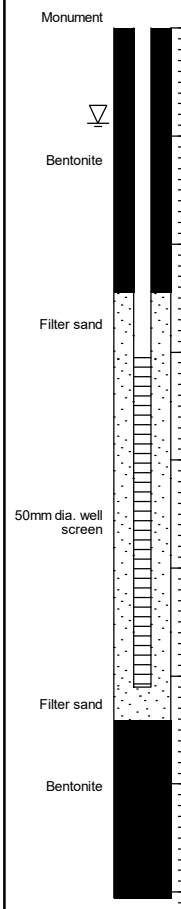
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RECORD OF BOREHOLE BH23-24

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 13 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				● PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p — W — W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm				
0		Ground Surface TOPSOIL		249.09							
0.51		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w~PL to w>PL, very stiff to hard		248.58	1A	SS	457	7	●		
1				0.51	1B				○		
2					2	SS	457	31	○	●	
3					3	SS	457	35	○	●	
4					4	SS	457	27	○	●	
5					5	SS	457	21	○	●	
3.66		(CL) sandy SILTY CLAY, trace gravel; grey (TILL); cohesive, w~PL to w>PL, very stiff		245.43	6	SS	457	23	○	●	
4				3.66	7	SS	457	20	○	●	
5					8	SS	457	29	○	●	
6		- Auger grinding between approximately 5.2 m and 6.1 m depth			9	SS	457	81/0.28	○		
7											
7.09		(CL) SILTY CLAY, some sand; grey; cohesive, w~PL, hard		242.00							
8				7.09							
8.05		End of Borehole		241.04							
9		Notes: 1. Borehole started on Feb 13, 2023 and completed on Feb 14, 2023. 2. Water level measured at about 5.9 m depth upon completion of drilling. 3. Piezometer installed as shown upon completion of drilling. 4. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 0.9 m below ground surface.									
10											
11											
12											
13											
14											



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	0.9	248.2

GEO - BOREHOLE LOG, 101987.001/20230602.GPJ, GEMTEC, 2018, GDT, 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-26

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0		Ground Surface TOPSOIL		248.75									
0.69		(CL) SILTY CLAY, trace sand; brown; cohesive, w~PL to w>PL, firm		248.24	1A	SS	457	5	●				
1		(CL) sandy SILTY CLAY, trace to some gravel; brown to grey, oxidative staining (TILL); cohesive, w~PL to w>PL, very stiff to hard		248.06	1B				○				
2					2	SS	457	26	○	●			
3					3	SS	457	30	○	●			
4					4	SS	457	35	○	●			
5		- Grey below about 4.6 m depth			5	SS	457	44	○	●			
6					6	SS	457	61	○	●			
7					7	SS	305	37	○	●			
8					8	SS	457	26	○	●			
8.61		(CL) SILTY CLAY, some sand; grey; cohesive, w~PL, hard		240.14									
9					9	SS	127	50/0.3	○				
9.97		(SM/ML) SAND and SILT, some gravel, trace plastic fines; grey, rock fragments; non-cohesive, moist to wet, very dense		238.78									
10					10	SS	127	50/0.3	○				
11		- Auger grinding at about 11 m depth											
12		- Hard augering from approximately 12.2 m to 13.7 m depths			11	SS	102	50/0.3	○				
13													
14		- Wet below about 13.7 m depth							○	●			

GEO - BOREHOLE LOG 101987.001/2023/06/02.GPJ GEMTEC 2018.GDT 6/2/23



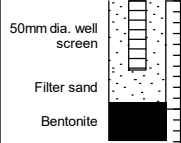
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 CHECKED: DMF

RECORD OF BOREHOLE BH23-26

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Feb 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				● PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p — W — W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m				
14					12	SS	457	81				
15				233.46 15.29	13	SS	51	50/0.45	○			
16		End of Borehole Notes: 1. Groundwater level measured in open borehole at approximately 13.7 m below ground surface upon completion of drilling. 2. Piezometer installed as shown upon completion of drilling. 3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 6.9 m below ground surface.										
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	6.9 ▽	241.8

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-27

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 13 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp W Wl
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		246.47										
		TOPSOIL		246.17										
		(CL) SILTY CLAY, some sand, trace gravel; brown to grey; cohesive, w~PL to w>PL, very stiff to hard		0.30	1	SS	406	7	●					
1					2	SS	432	36		○				
2					3	SS	457	35		○				
3			- Sand pocket / lenses from approximately 2.5 m to 2.6 m depths		4	SS	457	45		○				
4					5	SS	457	20		○	●			
4			(CL) sandy SILTY CLAY, trace gravel; grey, (TILL); cohesive, w~PL to w>PL, stiff to very stiff		242.43									
5				6	SS	457	12	●	○					
6				7	SS	457	19			●				
7				8	SS	381	95/0.23			○				
8		End of Borehole		238.47										
9		Notes:		8.00										
10		1. Groundwater level measured in open borehole at approximately 7.9 m below ground surface prior to backfilling.												
11		2. Borehole did not cave upon completion of drilling.												
12		3. Borehole backfilled with soil cuttings and bentonite upon completion of drilling.												
13														
14														

GEO - BOREHOLE LOG, 101987.001/20230602.GPJ, GEMTEC, 2018, GDT, 6/2/23

RECORD OF BOREHOLE BH23-28D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 1 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L			
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		255.21									Monument	
		TOPSOIL		0.08	1A									
		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w~PL to w>PL, stiff		0.69	1B	SS	457	9	●	○				
1		(CL) sandy SILTY CLAY, trace gravel; brown (TILL); cohesive, w~PL to w>PL, hard		0.69	2	SS	305	36	○					
		(SM) SILTY SAND, some gravel; brown, oxidative staining (TILL); non-cohesive, moist, dense		1.37	3	SS	457	43	○					
2		- Silt seams between approximately 2.3 m and 2.7 m depths			4	SS	305	46	○					
		(CL) SILTY CLAY, trace sand; grey; cohesive, w~PL to w>PL, very stiff to hard		2.90	5	SS	457	42	○					
3														
4														
5					6	SS	457	29	○					
6		(SM) SILTY SAND, some gravel; grey, rock fragments (TILL); non-cohesive, moist, very dense		5.56	7	SS	457	95/0.28	○					
		- Auger grinding at about 5.8 m depth												
7														
	(ML) sandy SILT, trace plastic fines; grey; non-cohesive, wet, compact to very dense		7.09	8	SS	457	25	○						
8														
9				9	SS	76	50/0.18	○						
10	(SM/GM) SILTY SAND and GRAVEL, trace plastic fines; grey, rock fragments; non-cohesive, moist to wet, very dense		9.94											
	- Auger grinding from approximately 11.3 m to 12.2 m depths													
11				10	SS	457	78	○						
12														
				11	SS	457	58	○						
13														
				12	SS	254	50/0.13	○						
14														

GEO - BOREHOLE LOG 101987.001/20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-28D

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Mar 1 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	+	⊕ NATURAL	WATER CONTENT, % W _p W W _L			
14															
15					13	SS	254	50/0.3	3	○					
16															
17					14	SS	102	50/0.3	0	○					
18		(CL) SILTY CLAY, trace sand; grey, shale fragments; cohesive, w~PL to w>PL, hard		237.63 17.58											
18		End of Borehole		236.87 18.34	15	SS	51	50/0.3	0	○					
19		Notes:													
20		1. Borehole started on Mar 1, 2023 and completed on Mar 2, 2023.													
21		2. Groundwater encountered at about 7.6 m depth during drilling.													
22		3. Inferred bedrock contact at 18.3 m depth based on spoon refusal.													
23		4. Groundwater observed flowing above surface on March 2, 2023 prior to resuming drilling.													
24		5. Initial hole backfilled with grout prior to drilling additional boreholes within approximately 2 m of original location for well installations.													
25		6. Piezometer installed as shown upon completion of drilling.													
26		7. The groundwater was observed flowing out of the top of the monitoring well on May 18, 2023. The top of the well casing is located about 1 m above ground surface.													
27		GROUNDWATER OBSERVATIONS													
27		DATE	DEPTH (m)	ELEV (m)											
27		23/05/18	-1.0	▽ 256.2											
28															

GEO - BOREHOLE LOG - 101987.001\2023\06\02.GPJ - GEMTEC-2018.GDT - 6/2/23



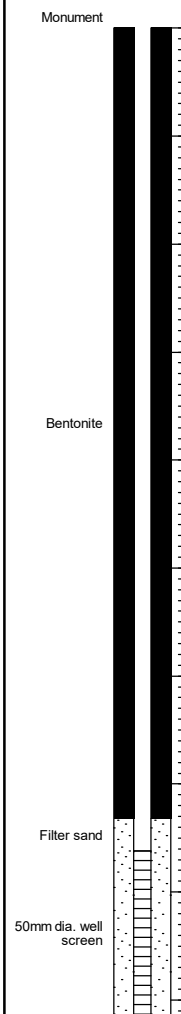
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 CHECKED: DMF

RECORD OF BOREHOLE BH23-28S

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 1 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0		Ground Surface		255.32									
		TOPSOIL		0.08	1A								
		(CL) SILTY CLAY, some sand, trace gravel; brown; cohesive, w~PL to w>PL, stiff		254.63	1B	SS	457	9	●	○			
1		(CL) sandy SILTY CLAY, trace gravel; brown (TILL); cohesive, w~PL to w>PL, hard		253.95	2	SS	305	36	○	●			
2		(SM) SILTY SAND, some gravel; brown, oxidative staining (TILL); non-cohesive, moist, dense		252.42	3	SS	457	43	○	●			
		- Silt seams between approximately 2.3 m and 2.7 m depths		252.42	4	SS	305	46	○	●			
3		(CL) SILTY CLAY, trace sand; grey; cohesive, w~PL to w>PL, very stiff to hard		249.76	5	SS	457	42	○	●			
4				249.76	6	SS	457	29	○	●			
6		(SM) SILTY SAND, some gravel; grey, rock fragments (TILL); non-cohesive, moist, very dense		248.23	7	SS	457	95/0.28	○	●			
		- Auger grinding at about 5.8 m depth		248.23	8	SS	457	25	○	●			
7		(ML) sandy SILT, trace plastic fines; grey; non-cohesive, wet, compact to very dense		246.18									
8				246.18									
9		End of Borehole		9.14									
10		Notes:											
11		1. Piezometer installed as shown upon completion of drilling.											
12		2. The groundwater was observed flowing out of the top of the monitoring well on May 18, 2023. The top of the well casing is located about 1 m above ground surface.											
13		3. Subsurface conditions based on borehole BH23-28D.											
14													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	-1.0	256.3

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC - 2018.GDT - 6/2/23



LOGGED: AS
 CHECKED: DMF

RECORD OF BOREHOLE BH23-E1

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 8 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0		Ground Surface CONCRETE		254.51									
0.33		(CL) SILTY CLAY, trace to some sand, trace gravel; brown; cohesive, w~PL to w>PL, stiff to very stiff		254.18	1	SS	127	9	●			Combustible Gas Readings: 5 ppm	Flush Mount Concrete
1		- Organic inclusions above about 0.6 m			2	SS	203	17	●	○		5 ppm	▽
2					3	SS	305	15	●	○		0 ppm	Bentonite
3		- Contains silty sand seams from approximately 2.3 m to 2.7 m depths			4	SS	610	20	●			0 ppm	
4					5	SS	254	19	●			0 ppm	
4.11		(CL) sandy SILTY CLAY, trace gravel; grey (TILL); cohesive, w~PL to w>PL, very stiff		250.40									Filter sand
5					6	SS	610	20	○	●		5 ppm	
5.64		(CL) SILTY CLAY, some sand; grey; cohesive, w~PL to w>PL, very stiff		248.87									50mm dia. well screen
6					7	SS	610	17	●	○		5 ppm	
7													
7.16		(ML) sandy SILT, trace gravel; grey (TILL); non-cohesive, moist, very dense		247.35									
8					8	SS	381	86	○			0 ppm	Filter sand
8.23		End of Borehole		246.28									
9		Notes: 1. Borehole Started Feb 8, 2023 and completed on Feb 10, 2023. 2. Borehole dry upon completion of drilling. 3. Piezometer installed as shown upon completing of drilling. 4. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 1.1 m below ground surface.											
10													
11													
12													
13													
14													

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	1.1	253.4

GEO - BOREHOLE LOG - 101987.001-20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: IO
 CHECKED: DMF

RECORD OF BOREHOLE BH23-E2

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 7 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED			WATER CONTENT, % W _p W W _L
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		254.01								Combustible Gas Readings: 5 ppm 0 ppm 0 ppm 0 ppm 0 ppm 0 ppm 3 ppm 0 ppm		
		FILL - (GP) sandy GRAVEL, trace non-plastic fines; brown; non-cohesive, moist, compact			1	SS	178	17	18	20				
1		(CL) SILTY CLAY, trace to some sand, trace gravel; brown; cohesive, w~PL to w>PL, firm to hard		253.32 0.69	2	SS	203	7	15	20				
		- Organic inclusions between approximately 0.8 m and 1.4 m depths			3	SS	356	20	25	28				
2					4	SS	508	29	35	40				
3					5	SS	610	36	45	50				
4					6	SS	610	22	25	28				
5					7	SS	356	13	15	18				
6				8	SS	432	44	45	50					
7		(ML) SILT, slight plasticity, some sand, trace gravel; grey (TILL); non-cohesive, moist, dense		246.85 7.16										
8		End of Borehole		245.78 8.23										
9		Notes:												
10		1. Borehole started on Feb 7, 2023 and completed on Feb 8, 2023.												
11		2. Groundwater level measured in open borehole at approximately 5.0 m below ground surface prior to well construction.												
12		3. Borehole caved to approximately 6.7 m depth.												
13		4. Piezometer installed as shown upon completion of drilling.												
14		5. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 1.4 m below ground surface.												

GEO - BOREHOLE LOG 101987.001/20230602.GPJ GEMTEC 2018.GDT 6/2/23



LOGGED: IO
 CHECKED: DMF

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	1.4	252.6

RECORD OF BOREHOLE BH23-E3

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course - Detailed Investigation
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Feb 8 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m ▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA + NATURAL ⊕ REMOULDED WATER CONTENT, % W _p W W _L	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m				
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface TOPSOIL		254.11								Flush Mount Concrete Combustible Gas Readings: 5 ppm 5 ppm 0 ppm 0 ppm 0 ppm 5 ppm 5 ppm 5 ppm 5 ppm 50mm dia. well screen Filter sand
		(CL) SILTY CLAY, some sand, trace gravel; brown to grey; cohesive, w~PL to w>PL, stiff to hard		253.81 0.30	1	SS	229	9	●			
1		- Rootlets between approximately 0.8 m and 1.4 m depths			2	SS	254	22	●			
2					3	SS	457	23	●			
3					4	SS	483	22	●			
4					5	SS	178	31	●			
5					6	SS	356	21	●			
6					7	SS	508	14	●			
7		(SM) SILTY SAND, some gravel; grey (TILL); non-cohesive, moist, dense		246.95 7.16								
8				8	SS	229	33	●				
8		End of Borehole		245.88 8.23								
9		Notes:										
10		1. Borehole dry upon completion of drilling.										
11		2. Piezometer installed as shown upon completing of drilling.										
12		3. Groundwater level measured in installed monitoring well on May 18, 2023 at a depth of about 1.8 m below ground surface.										
13												
14												

GEO - BOREHOLE LOG - 101987.001/20230602.GPJ - GEMTEC-2018.GDT - 6/2/23



LOGGED: IO
 CHECKED: DMF

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
23/05/18	1.8	252.3

RECORD OF BOREHOLE 22-1

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD2013
 BORING DATE: Jul 12 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl
0	Power Auger Hollow Stem Auger (152mm OD)	Ground Surface		257.70										
		FILL - (CL) SILTY CLAY, some sand; brown, rootlets, cohesive, w<PL to w~PL, firm.				1	SS	228	5	●	○			
1			(CL) sandy SILTY CLAY, trace to some gravel; brown to grey, oxidation staining (TILL); cohesive, w<PL to w>PL, stiff to hard		256.63	2A	SS	127	5	●	○			
					1.07	2B								
2						3	SS	305	25	○	●			
						4	SS	457	40	○	●			
3			- grey below approximately 3.0 m depth - oxidation staining to approximately 3.1 m depth			5	SS	457	30	○	●			
4						6	SS	457	18	○	●			
5						7	SS	457	27	○	●			
6			(ML) sandy SILT, trace gravel; grey (TILL), non-cohesive, moist, compact		252.14									
				5.56										
7		(ML) SILT, some sand, grey; non-cohesive, moist, compact		250.61										
				7.09										
8		End of Borehole		249.62	8	SS	457	25	○	●				
				8.08										
9		Notes: 1. Borehole was open and dry upon completion of drilling. 2. Borehole backfilled with bentonite upon completion of drilling.												
10														

GEO - BOREHOLE LOG 101987.001.GPJ GEMTEC 2018.GDT 9/5/22



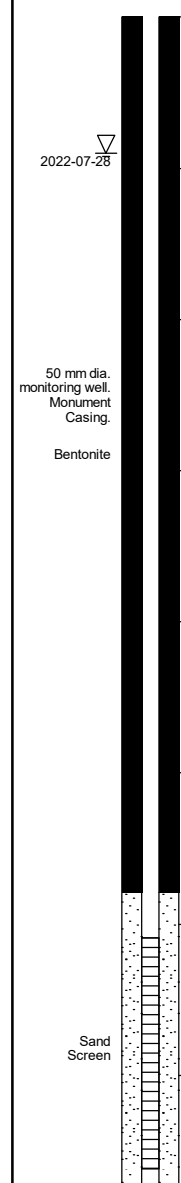
LOGGED: TO
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RECORD OF BOREHOLE 22-2

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD2013
 BORING DATE: Jul 12 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl
0	Power Auger Hollow Stem Auger (203mm OD)	Ground Surface		256.30										
0.5		FILL - (CL) SILTY CLAY, some sand to sandy, trace gravel; brown, rootlets, grey, cohesive, w<PL to w~PL, firm.			1	SS	457	5	●					
1					2	SS	76	7	●	○				
1.5		(CL) SILTY CLAY, some sand; grey, rootlets; cohesive, w~PL, stiff to very stiff		254.93		3	SS	457	18	●				
2					4A									
2.5		(CL) sandy SILTY CLAY, trace gravel, grey, (TILL); cohesive, w<PL to w>PL, stiff to very stiff		254.17		4B	SS	406	25	○	●			
3		- inferred cobbles/boulders from auger grinding at approximately 2.6 m depth (ML) SILT, slight plasticity, trace sand, grey, non-cohesive, moist to wet, compact		253.63		5	SS	381	19		●			
4					6	SS	406	21		●				
5					7	SS	432	56	○		●			
6	(SM) SILTY SAND, some gravel, grey, (possible TILL); non-cohesive, wet, very dense		251.04		8	SS	381	55	○		●			
7	- inferred cobbles/boulders from auger grinding between approximately 5.5 m and 5.6 m depth													
8	End of Borehole		248.55		9	SS	127	50/0.13	○					
8.5	Notes:		7.75											
9	1. Water level measured at approximately 3.4 m bgs upon completion of drilling.													
9.5	2. Groundwater level monitoring well installed upon completion of drilling.													
10	3. Water level measured in installed monitoring well at approximately 0.9 m bgs on July 28, 2022.													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
22/07/28	0.9	255.4

GEO - BOREHOLE LOG 101987.001.GPJ GEMTEC 2018.GDT 9/5/22



LOGGED: TO
 CHECKED: DMF

RECORD OF BOREHOLE 22-3

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD2013
 BORING DATE: Jul 12 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● NATURAL ⊕ REMOULDED	WATER CONTENT, % Wp — W — Wl		
0	Power Auger Hollow Stem Auger (152mm OD)	Ground Surface		256.50									
		TOPSOIL (75 mm)		256.42									
		FILL - (CL) SILTY CLAY, some sand to sandy; brown to grey; cohesive, w<PL to w~PL, firm to stiff			1	SS	381	10	●				
1			-contains rootlets between approximately 0.1 m and 0.5 m depth			2	SS	406	10	●	○		
						3	SS	406	14	●			
2													
						4	SS	457	11	●	○		
3													
			- grey at approximately 3.4 m depth - contains organics at approximately 3.4 m depth			5	SS	457	8	●	○		
4			(CL) sandy SILTY CLAY, trace gravel; brown, oxidation staining, (TILL); cohesive, w<PL to w>PL, very stiff to hard		252.46 4.04								
5					6	SS	457	43	○	●			
6		- inferred cobbles/boulders from auger grinding at approximately 5.8 m depth											
7		- grey at approximately 6.4 m depth			7	SS	457	48		●		MH	
8		- inferred cobbles/boulders from auger grinding at approximately 7.6 m depth		248.83 7.67									
		(ML) sandy SILT, trace gravel, grey, non-cohesive, moist		248.86 7.82									
		End of Borehole			8A	SS	203	50/0.05	○				
		Notes			8B								
9		1. Borehole caved at approximately 7.5 m depth.											
		2. Borehole dry upon completion of drilling.											
		3. Borehole backfilled with bentonite and soil cuttings upon completion of drilling.											
10													

GEO - BOREHOLE LOG_101987.001.GPJ_GEMTEC 2018.GDT_9/5/22



LOGGED: TO
 CHECKED: DMF

RECORD OF BOREHOLE 22-4

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD2013
 BORING DATE: Jul 13 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl	
0	Power Auger Hollow Stem Auger (152mm OD)	Ground Surface		251.70											
		FILL- (GP) GRAVEL; grey; non-cohesive, dry (CL) SILTY CLAY, trace to some sand; brown, oxidation staining; cohesive, w<PL to w~PL, firm to stiff -rootlets to approximately 0.5 m depth		250.68	1	SS	457	7	●						
1				250.33	2	SS	457	13	●	○					
		(CL) sandy SILTY CLAY, trace to some gravel; brown, oxidation staining, (TILL); cohesive, w<PL to w>PL, stiff to hard		1.37	3	SS	457	14	●						
2					4	SS	457	33	○	●					
3					5	SS	457	23	○	●					
4			(CL) SILTY CLAY, trace sand; grey, cohesive, w~PL to w>PL, stiff		247.66	6	SS	457	11	●	○				
5				4.04											
6		(CL) SILTY CLAY, trace to some sand, trace gravel; grey, (TILL); cohesive, w~PL, very stiff		246.14	7	SS	457	17	○	●					
			5.56												
7		(ML) sandy SILT, trace to some gravel, grey, (TILL), non-cohesive, moist, dense		244.61	8	SS	457	44	○						
			7.09												
8		End of Borehole		243.62											
			8.08												
9		Notes: 1. Borehole was open and dry upon completion of drilling. 2. Borehole backfilled with bentonite and soil cuttings upon completion of drilling.													
10															

GEO - BOREHOLE LOG, 101987.001.GPJ, GEMTEC 2018.GDT, 9/5/22



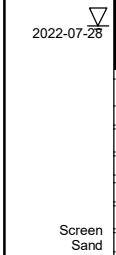
LOGGED: TO
 CHECKED: DMF

RECORD OF BOREHOLE 22-5

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD2013
 BORING DATE: Jul 13 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (203mm OD)	Ground Surface		251.20								MH	50 mm dia. monitoring well. Monument Casing. Bentonite
		TOPSOIL (50 mm)		250.08	1	SS	457	6	●				
		(CL) sandy SILTY CLAY; brown, rootlets, cohesive, w<PL, firm		250.59									
1		(CL) sandy SILTY CLAY, trace gravel; brown, oxidation staining, (TILL); cohesive, w<PL to w>PL, stiff to very stiff		0.61	2	SS	457	27	○	●			
2					3	SS	457	26	○	●			
		- inferred cobbles/boulders from auger grinding at approximately 1.9 m depth			4	SS	457	26		●			
3					5	SS	457	29	○	●			
4					6	SS	406	24	○	●			
5													
6		(ML) SILT, slight plasticity, trace sand, trace gravel; grey, non-cohesive, moist to wet, dense to very dense		245.64									
				5.56	7	SS	457	54	○	●			
7													
8				243.12	8	SS	457	43	○	●			
				8.08									
9		End of Borehole											
		Notes: 1. Borehole dry upon completion of drilling. 2. Groundwater level monitoring well installed upon completion of drilling 3. Water level measured in installed monitoring well at 5.5 m bgs on July 28, 2022.											
10													



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
22/07/28	5.5	245.7

GEO - BOREHOLE LOG_101987.001.GPJ_GEMTEC 2018.GDT_9/5/22



LOGGED: TO
 CHECKED: DMF

RECORD OF BOREHOLE 22-6

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD2013
 BORING DATE: Jul 13 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED			WATER CONTENT, % Wp — W — Wl
0	Power Auger Hollow Stem Auger (203mm OD)	Ground Surface		253.50								MH	50 mm dia. monitoring well. Monument Casing.	
		TOPSOIL (125 mm)		253.37										
		(CL) SILTY CLAY, trace sand, trace to some gravel; brown to grey, oxidation stains; cohesive, w<PL to w>PL. firm to stiff - rootlets to approximately 0.5 m depth		0.13	1	SS	457	6	●					
1					2	SS	279	11	●	⊕				
					3	SS	457	13	●					
2					4	SS	457	13	●	⊕				
					5	SS	457	14	●					
3			- grey below approximately 2.9 m depth		6	SS	457	9	●	⊕				
4					7	SS	406	8	●	⊕				
5					8	SS	457	26	●					
6				8A	SS	457	26	●						
7		(CL) SILTY CLAY, trace to some sand; grey, oxidation staining, (TILL); cohesive, w<PL to w~PL, stiff to very stiff		246.42										
				7.08										
8		(ML) sandy SILT, trace gravel, grey (TILL); non-cohesive, moist		245.58										
				245.32										
		End of Borehole		8.08										
9		Notes: 1. Wet conditions encountered at approximately 6.1 m depth during drilling. 2. Borehole dry upon completion of drilling. 3. Groundwater level monitoring well installed upon drilling completion												
10														

Bentonite
2022-07-28

Screen Sand

GEO - BOREHOLE LOG - 101987.001.GPJ - GEMTEC 2018.GDT - 9/5/22



LOGGED: TO
 CHECKED: DMF

RECORD OF BOREHOLE 22-6

CLIENT: Mayfield Golf Course Inc.
 PROJECT: Mayfield Golf Course Redevelopment, Caledon, Ontario
 JOB#: 101987.001
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD2013
 BORING DATE: Jul 13 2022

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %				
10	20								30	40	50	60	70	80	90
10		4. Water level measured in installed monitoring well at 2.9 m bgs on July 28, 2022.													
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
22/07/28	2.9 ▽	250.6

GEO - BOREHOLE LOG - 101987.001.GPJ GEMTEC 2018.GDT 9/5/22



LOGGED: TO
 CHECKED: DMF



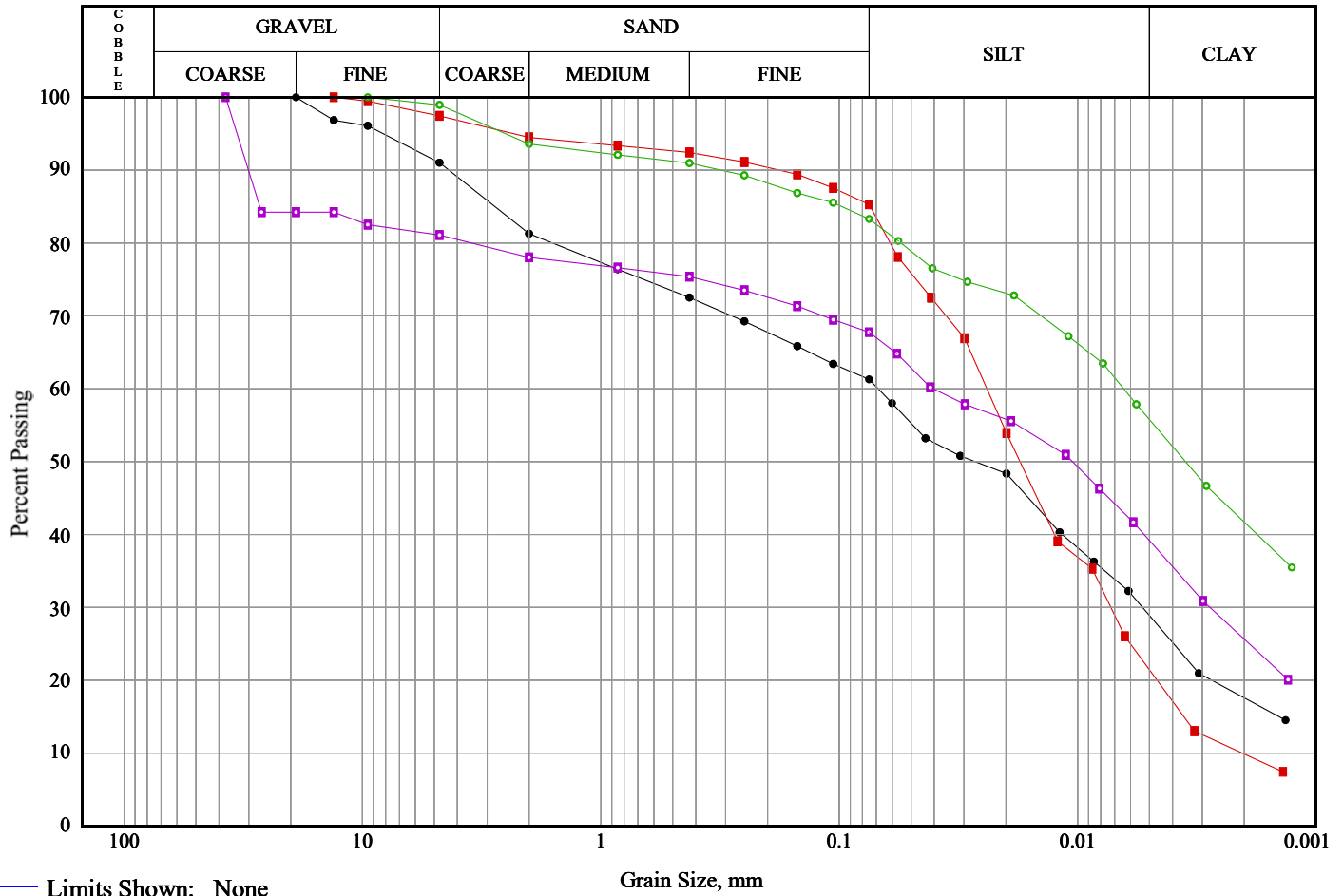
APPENDIX D

Geotechnical Laboratory Testing Results

Grain Size Distribution Testing (Sieve and Hydrometer)

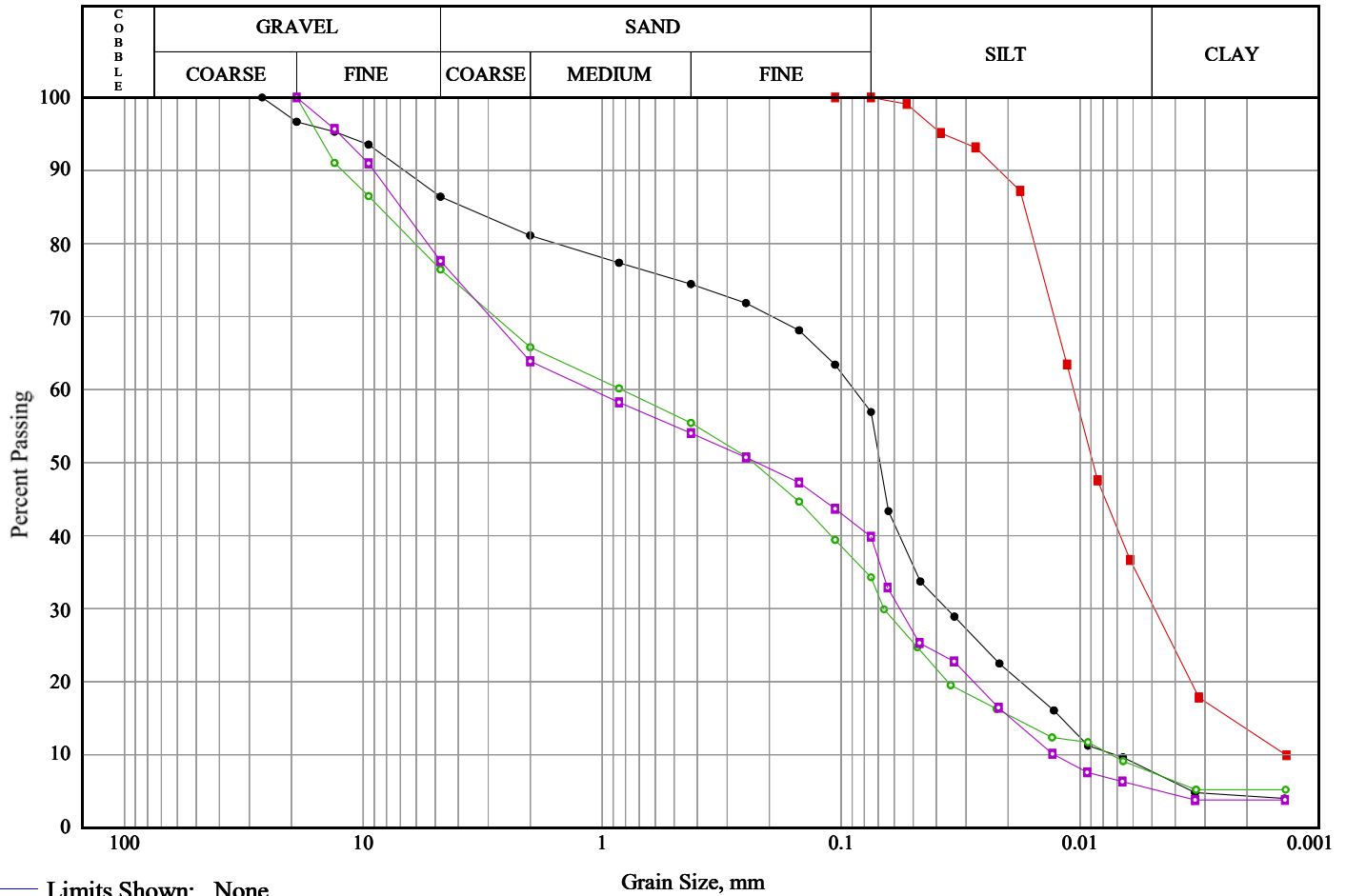
Atterberg Limits Testing

Rock Core Testing



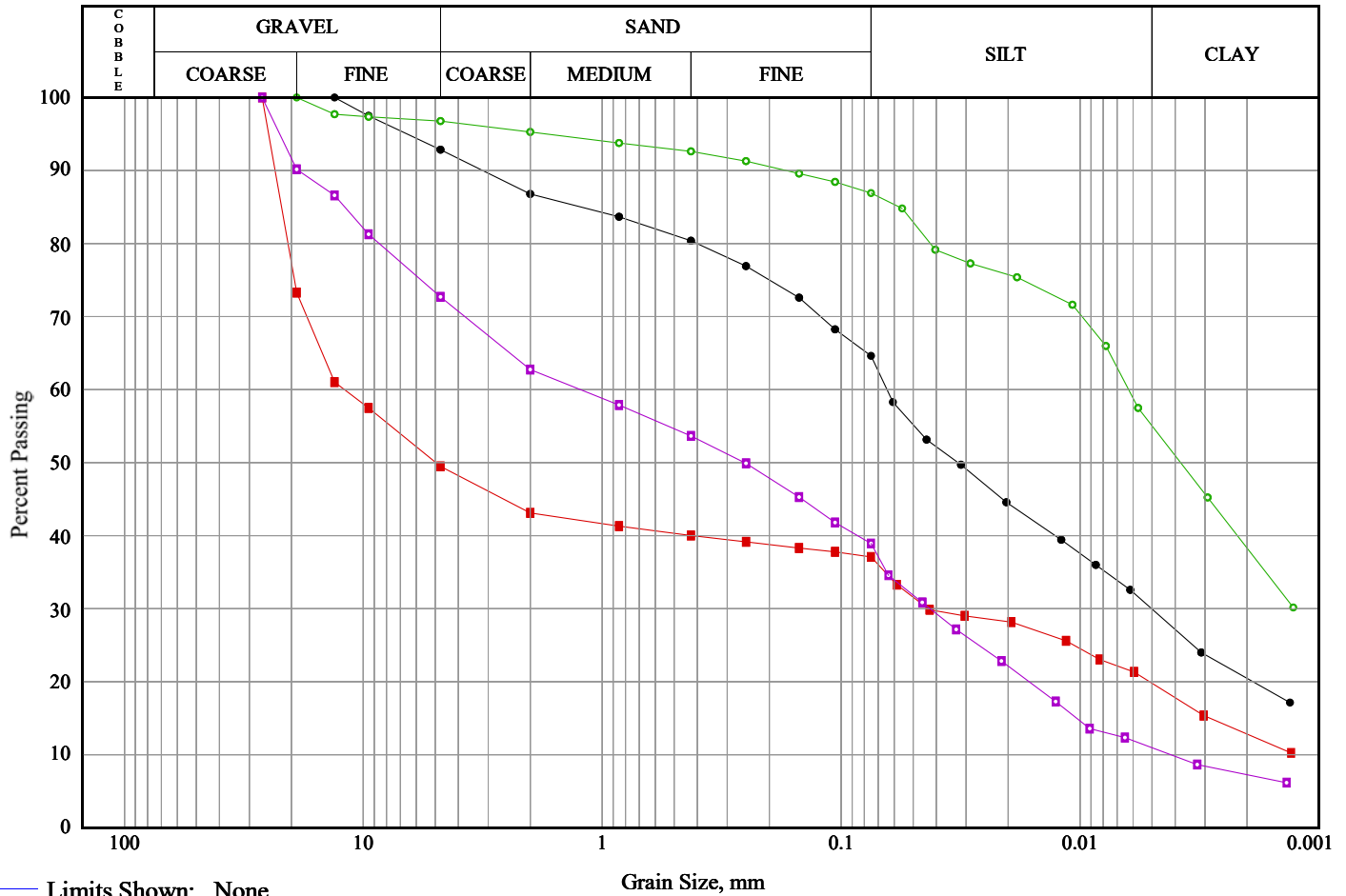
Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—	(CL-ML) Sandy SILTY CLAY to CLAYEY SILT TILL	BH23-02	SA-06	4.6-5.0	9.0	29.7	32.4	28.9
—■—	(ML) Sandy SILT	BH23-02	SA-10	10.7-10.8	2.5	12.2	63.9	21.4
—○—	(CL) SILTY CLAY	BH23-05	SA-08	7.6-8.1	1.0	15.7	27.5	55.8
—□—	(CL) Gravelly sandy SILTY CLAY TILL	BH23-06D	SA-08	7.6-8.0	18.9	13.3	28.6	39.2

Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Clayey sand and silt, trace gravel	N/A	---	0.00	0.01	0.03	0.07	2.78	32.4
—■—	Clayey silt, some sand, trace gravel	N/A	0.00	0.00	0.01	0.02	0.02	0.07	63.9
—○—	Silty clay, some sand, trace gravel	N/A	---	---	---	0.00	0.01	0.10	27.5
—□—	Silty clay, some gravel, some sand	CL	---	---	0.00	0.01	0.04	26.95	28.6



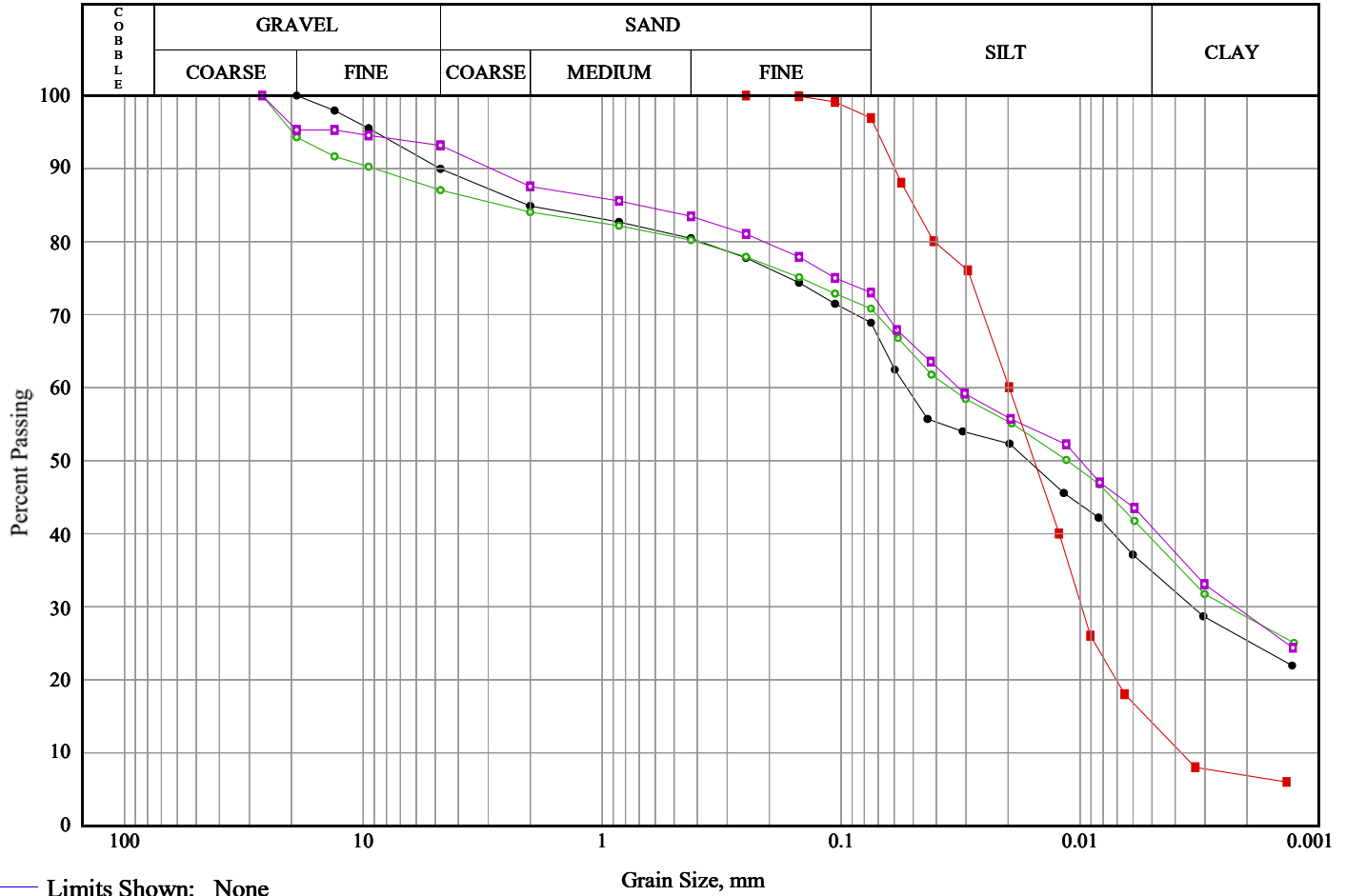
Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—	(ML) Gravelly Sandy SILT	BH23-06D	SA-11	12.2-12.5	13.6	29.5	49.2	7.7
—■—	(ML) SILT	BH23-10D	SA-08	7.6-8.1	0.0	0.0	69.3	30.7
—○—	(SM) Gravelly SILTY SAND	BH23-12	SA-04	2.3-2.6	23.6	42.2	26.7	7.6
—□—	(SM) Gravelly SILTY SAND	BH23-12	SA-07	6.1-6.2	22.4	37.8	34.6	5.3

Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Sandy silt, some gravel , trace clay	N/A	0.01	0.01	0.04	0.07	0.09	3.78	49.2
—■—	Clayey silt, trace sand	N/A	0.00	0.00	0.00	0.01	0.01	0.02	69.3
—○—	Gravelly silty sand, trace clay	N/A	0.01	0.02	0.07	0.23	0.83	8.57	26.7
—□—	Gravelly silty sand, trace clay	N/A	0.01	0.02	0.06	0.23	1.11	6.97	34.6



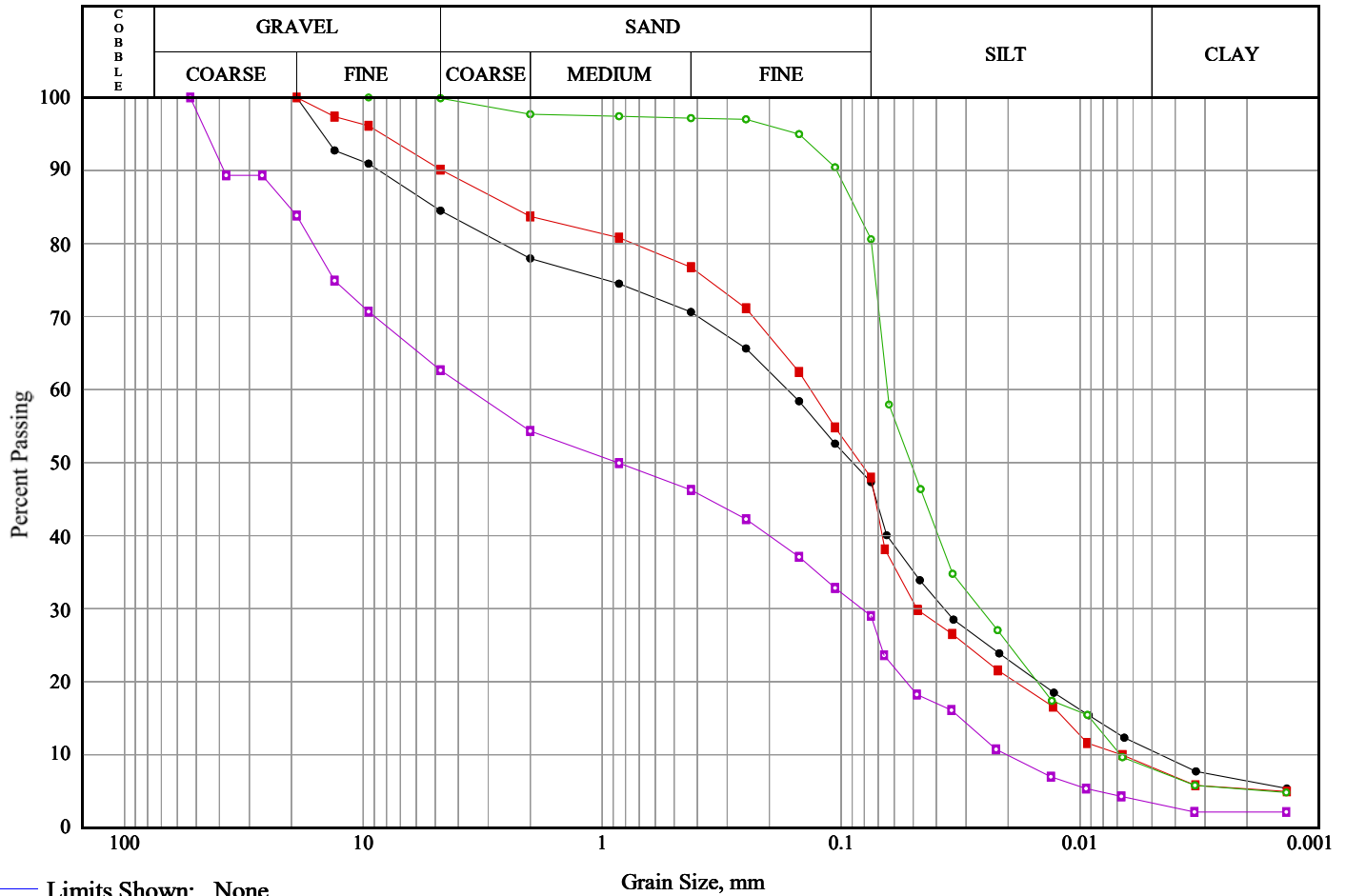
Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—	(CL-ML) Sandy SILTY CLAY to CLAYEY SILT TILL	BH23-17D/S	SA-07	6.1-6.6	7.2	28.2	34.7	30.0
—■—	(GM/GP) Sandy SILTY GRAVEL TILL	BH23-17D/S	SA-11	12.2-12.4	50.5	12.4	17.3	19.8
—○—	(CL) SILTY CLAY	BH23-19	SA-07	6.1-6.6	3.2	9.8	31.9	55.1
—□—	(SM) Gravelly SILTY SAND	BH23-19	SA-09	9.1-9.4	27.3	33.8	28.0	11.0

Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Clayey sand and silt, trace gravel	CL-ML	---	---	0.01	0.03	0.06	1.23	34.7
—■—	Gravel, some sand, some silt, some clay	N/A	---	0.00	0.04	4.97	12.01	21.98	17.3
—○—	Silty clay, trace gravel, trace sand	CL	---	---	---	0.00	0.01	0.06	31.9
—□—	Gravel and sand and silt, some clay	N/A	0.00	0.01	0.04	0.25	1.23	11.96	28.0



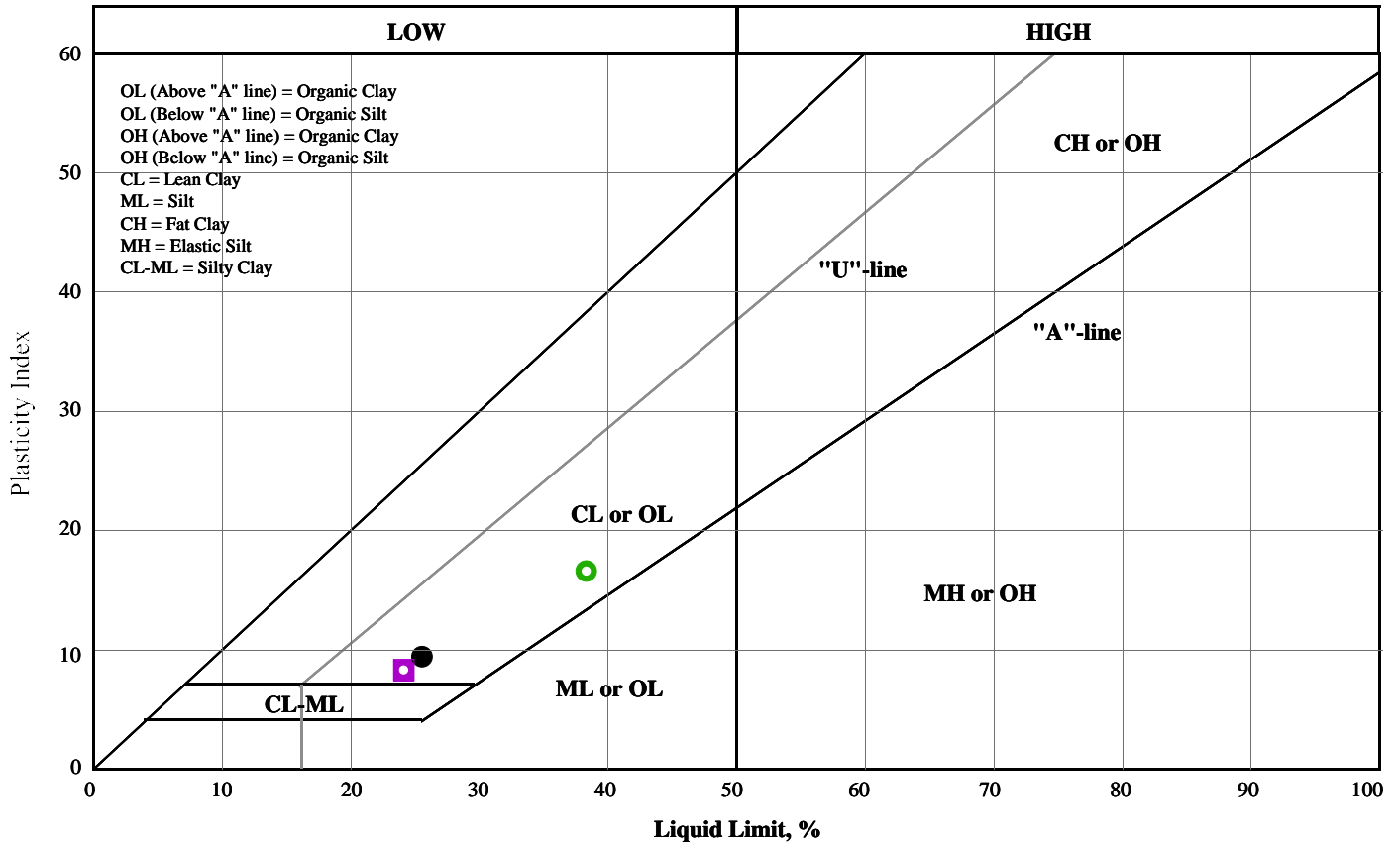
Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—	(CL) Sandy SILTY CLAY TILL	BH23-20	SA-07	6.1-6.6	10.0	21.1	34.1	34.8
—■—	(ML) SILT	BH23-21D	SA-08	7.6-8.1	0.0	3.1	82.8	14.1
—○—	(CL) Sandy SILTY CLAY	BH23-22D/S	SA-07	6.1-6.6	12.9	16.2	31.6	39.2
—□—	(CL) Sandy SILTY CLAY TILL	BH23-23D/S	SA-07	6.1-6.6	6.8	20.2	32.1	40.9

Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Clayey sand and silt, some gravel	CL	---	---	0.00	0.02	0.05	2.04	34.1
—■—	Silt, some clay, trace sand	N/A	0.00	0.01	0.01	0.02	0.02	0.05	82.8
—○—	Silty clay, some gravel, some sand	N/A	---	---	0.00	0.01	0.04	2.63	31.6
—□—	Sandy silty clay, trace gravel	CL	---	---	0.00	0.01	0.03	0.70	32.1

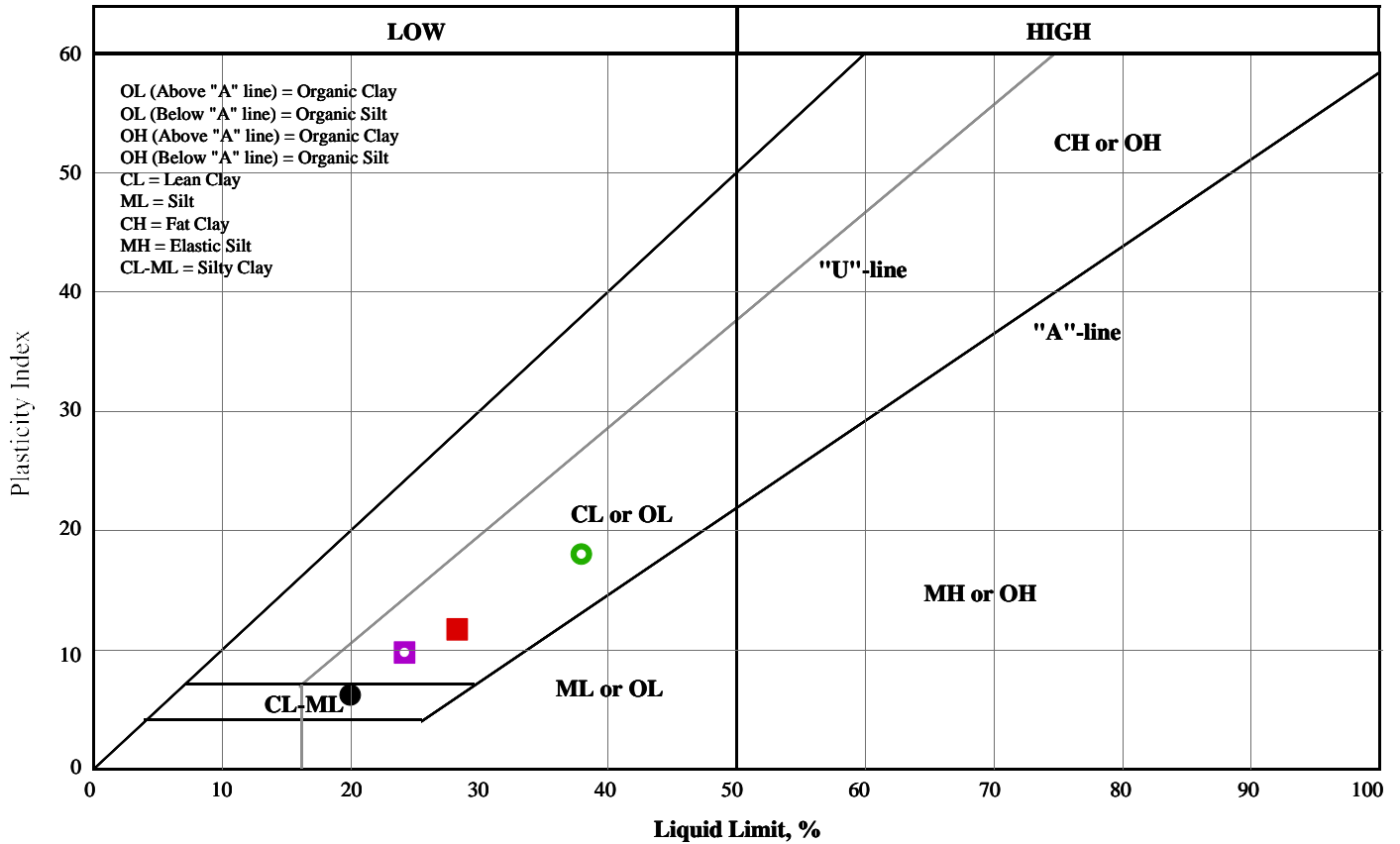


Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—	(SM/ML) Gravelly SAND and SILT	BH23-23D	SA-09	9.1-9.2	15.5	37.2	36.8	10.5
—■—	(SM/ML) SAND and SILT	BH23-26	SA-10	10.7-10.8	9.9	42.2	39.7	8.3
—○—	(ML) Sandy SILT	BH23-28D/S	SA-08	7.6-8.1	0.1	19.3	72.5	8.1
—□—	(SM/GM) SILTY SAND and GRAVEL	BH23-28D	SA-11	12.2-12.7	37.4	33.6	25.6	3.4

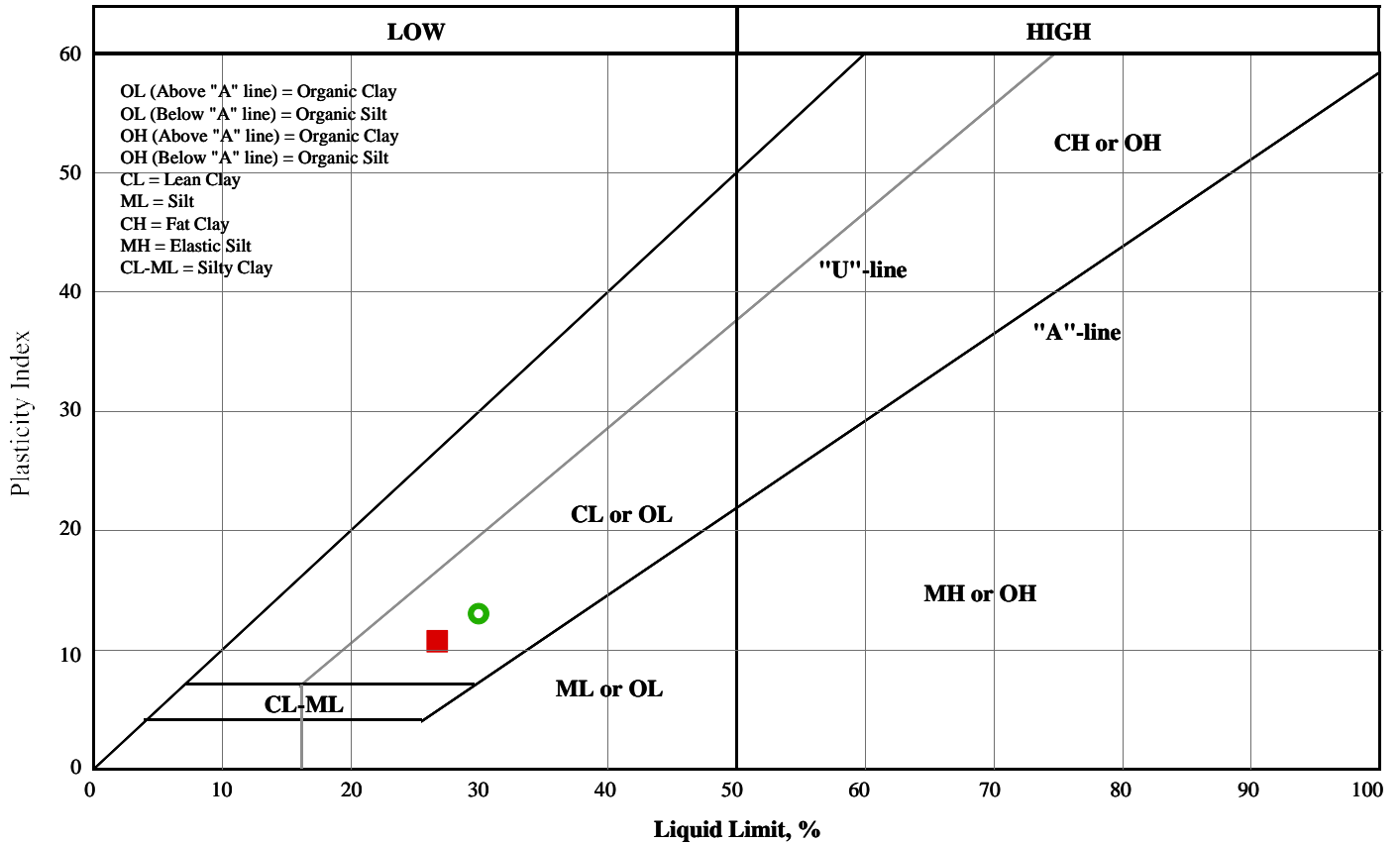
Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Sand and silt, some gravel, some clay	N/A	0.00	0.01	0.04	0.09	0.17	5.02	36.8
—■—	Sand and silt, trace gravel, trace clay	N/A	0.01	0.01	0.05	0.08	0.13	2.38	39.7
—○—	Silt, some sand, trace gravel, trace clay	N/A	0.01	0.01	0.03	0.05	0.06	0.09	72.5
—□—	Sandy silty gravel, trace clay	N/A	0.02	0.03	0.08	0.86	3.61	20.38	25.6



Symbol	Borehole /Test Pit	Sample Number	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Non-Plastic	Moisture Content, %
●	BH23-06D	SA-08	7.6-8.0	25.5	16.1	9.4	<input type="checkbox"/>	7.7
■	BH23-10	SA-08	7.6-8.1				<input checked="" type="checkbox"/>	18.3
○	BH23-14	SA-05	3.1-3.5	38.3	21.7	16.6	<input type="checkbox"/>	22.5
■	BH23-16	SA-06	4.6-5.0	24.1	15.8	8.3	<input type="checkbox"/>	14.5



Symbol	Borehole /Test Pit	Sample Number	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Non-Plastic	Moisture Content, %
●	BH23-17D/S	SA-07	6.1-6.6	20.0	13.7	6.2	☐	13.7
■	BH23-19	SA-07	6.1-6.6	28.3	16.5	11.7	☐	16.1
○	BH23-20	SA-04	2.3-2.7	37.9	19.9	18.0	☐	25.9
◻	BH23-20	SA-07	6.1-6.6	24.2	14.4	9.8	☐	11.8



Symbol	Borehole /Test Pit	Sample Number	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Non-Plastic	Moisture Content, %
●	BH23-21D	SA-08	7.6-8.1				<input checked="" type="checkbox"/>	18.3
■	BH23-23D/S	SA-07	6.1-6.6	26.7	16.0	10.7	<input type="checkbox"/>	12.9
○	BH23-27	SA-05	3.1-3.5	29.9	16.9	13.0	<input type="checkbox"/>	13.7



APPENDIX E

Rock Core Photos

Rock Core Photographs for BH23-11,
BH23-12 and BH23-17

BOREHOLE: BH23-11

BORING DATE: March 13, 2023

DEPTH: 6.8 m to 11.0 m bgs

6.8 m

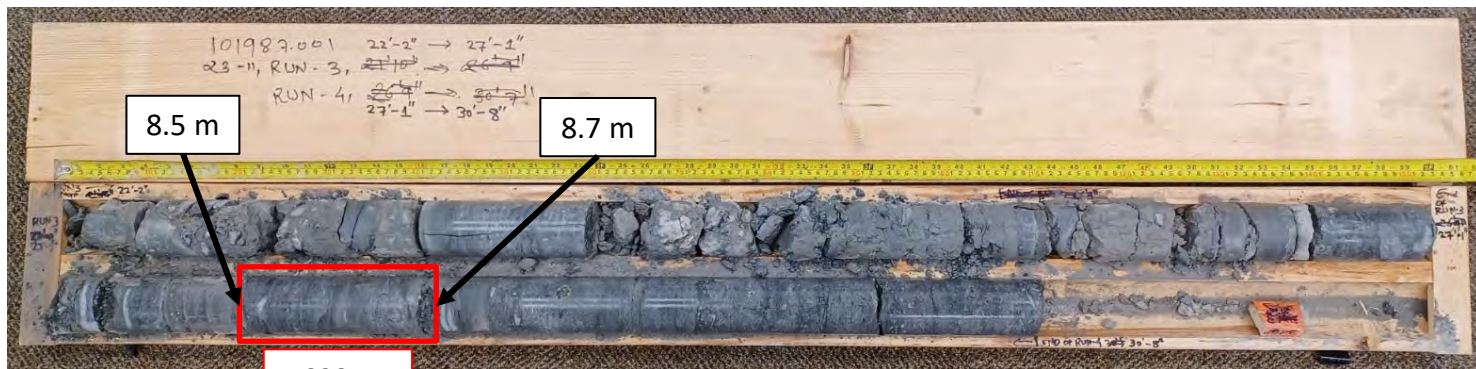


8.5 m

8.7 m



RC23-11



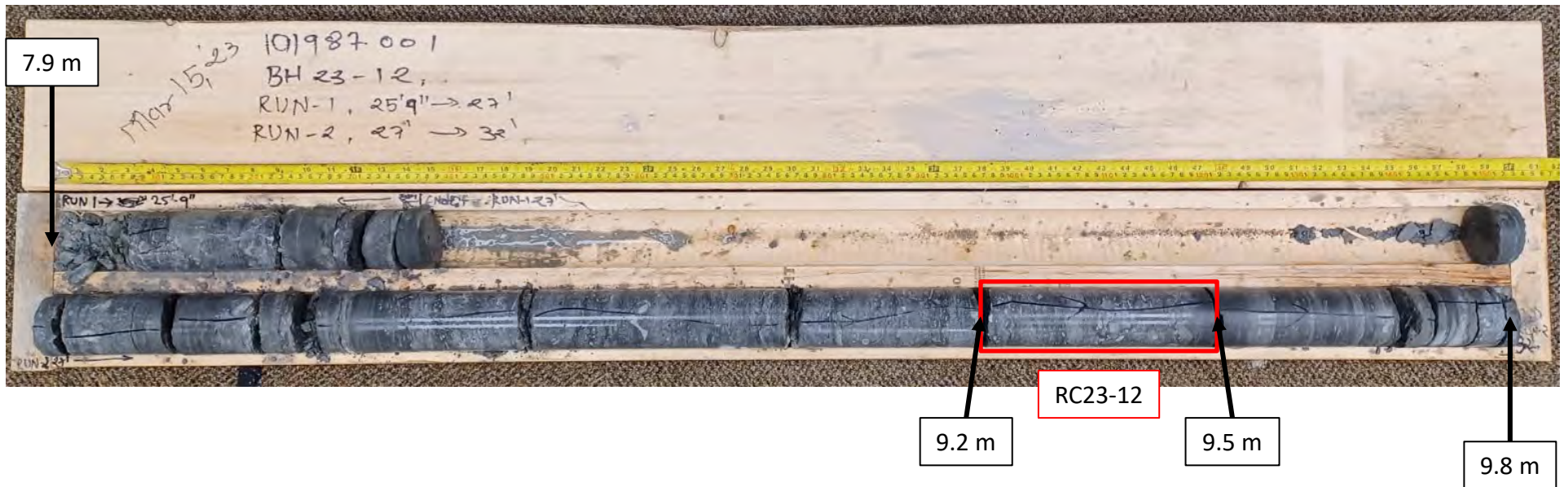
11.0 m



BOREHOLE: BH23-12

BORING DATE: March 15, 2023

DEPTH: 7.9 m to 9.8 m bgs



BOREHOLE: BH23-17

BORING DATE: February 27, 2023

DEPTH: 13.3 m to 16.0 m bgs





APPENDIX F

Monitoring Well Construction Information

Table F-1: Monitoring Well Construction Information

Table F-2: Groundwater Depths and Elevations

Table F-3: Summary of Hydraulic Conductivity Values

Table F-1: Monitoring Well Construction Information - Mayfield Golf Course Development

Monitoring Location	UTM Coordinates*		Installation Date	Ground Surface Elevation*	Top of Casing or Gauge Elevation*	Stick-up (m)	Top of Screen (m bgs)	Bottom of Screen (m bgs)	Top of Screen (m amsl)	Bottom of Screen (m amsl)	Screened Lithology
	Easting	Northing		(m amsl)	(m amsl)		(m bgs)	(m bgs)	(m amsl)	(m amsl)	
Monitoring Wells											
BH23-1	596913	4849440	22-Mar-23	257.98	258.83	0.85	6.10	7.62	251.88	250.36	(ML) Silt
BH23-2	597048	4849548	22-Mar-23	256.42	257.20	0.78	9.14	10.67	247.28	245.75	(SM) Silty Sand Till; (ML) Sandy Silt
BH23-4	597239	4849849	20-Mar-23	257.98	258.83	0.85	6.10	7.62	251.88	250.36	(CL) Silty Clay; (CL-ML) Silty Clay to Clayey Silt and Sand Till
BH23-5	597245	4849754	21-Mar-23	257.83	258.57	0.74	7.62	10.67	250.21	247.16	(CL) Silty Clay
BH23-6S	597249	4849533	20-Mar-23	256.66	257.42	0.76	6.10	7.62	250.56	249.04	(CL) Gravelly Sandy Silty Clay Till
BH23-6D	597251	4849531	20-Mar-23	256.73	257.60	0.87	10.67	12.19	246.06	244.54	(ML) Gravelly Sandy Silt
BH23-7	597410	4849527	10-Feb-23	251.92	252.60	0.68	6.10	7.62	245.82	244.30	(SM) Silty Sand; (SP) Gravelly Sand
BH23-8	597394	4849674	21-Mar-23	253.06	253.88	0.82	5.79	7.32	247.27	245.74	(SM) Silty Sand Till
BH23-9	597211	4849282	8-Mar-23	254.29	255.15	0.86	9.14	10.67	245.15	243.62	(ML) Silt
BH23-10S	597322	4849226	10-Mar-23	252.93	253.91	0.98	4.57	6.10	248.36	246.83	(ML) Sandy Silt Till; (ML) Silt
BH23-10D	597323	4849224	10-Mar-23	252.82	253.79	0.97	10.67	12.19	242.15	240.63	(ML) Silt; (GP-GM) Sandy Silty Gravel Till
BH23-11	597382	4849327	14-Mar-23	245.98	246.97	0.99	4.57	6.10	241.41	239.88	(GP-GM) Sandy Silty Gravel Till
BH23-12	597412	4849349	16-Mar-23	245.78	246.73	0.95	7.92	9.75	237.86	236.03	Limestone
BH23-15	597247	4849035	9-Mar-23	253.31	254.18	0.87	6.10	7.62	247.21	245.69	(SM) Gravelly Silty Sand Till; (ML) Silt
BH23-17S	597602	4849375	28-Feb-23	253.04	253.94	0.90	10.97	12.50	242.07	240.54	(GM/GP) Sandy Silty Gravel Till
BH23-17D	597601	4849377	28-Feb-23	253.03	253.75	0.72	13.87	16.00	239.16	237.03	Limestone
BH23-18	597653	4849497	21-Feb-23	254.41	255.18	0.77	15.24	16.76	239.17	237.65	(SM/ML) Gravelly Silty Sand Till; (SM/ML) Silt and Sand Till; Shale
BH23-19	597519	4848942	24-Feb-23	250.43	251.29	0.86	9.14	10.67	241.29	239.76	(SM) Gravelly Silty Sand
BH23-21S	597660	4848983	22-Feb-23	249.28	250.02	0.74	3.05	4.57	246.23	244.71	(CL) Sandy Silty Clay Till
BH23-21D	597662	4848983	22-Feb-23	249.24	250.10	0.86	9.14	10.67	240.10	238.57	(SM) Silty Sand Till
BH23-22	597815	4849221	17-Feb-23	252.92	253.79	0.87	6.10	7.62	246.82	245.30	(CL) Sandy Silty Clay
BH23-23S	598066	4848829	15-Feb-23	249.89	250.64	0.75	5.18	6.71	244.71	243.18	(CL) Sandy Silty Clay Till
BH23-23D	598063	4848828	15-Feb-23	249.95	250.67	0.72	13.72	15.24	236.23	234.71	(SM/ML) Gravelly Sand and Silt Till; Shale
BH23-24	598150	4849053	14-Feb-23	249.09	249.92	0.83	3.05	6.10	246.04	242.99	(CL) Silty Clay; (CL) Sandy Silty Clay Till
BH23-26	598193	4848830	16-Feb-23	248.75	249.54	0.79	13.11	14.63	235.64	234.12	(SM/ML) Sand and Silt
BH23-28S	597078	4849204	8-Mar-23	255.32	256.34	1.02	7.62	9.14	247.70	246.18	(ML) Sandy Silt
BH23-28D	597076	4849207	7-Mar-23	255.21	256.24	1.03	15.24	16.76	239.97	238.45	(SM/GM) Silty Sand and Gravel
BH23-E1	597499	4849707	10-Feb-23	254.51	254.43	-0.08	4.57	7.62	249.94	246.89	(CL) Sandy Silty Clay; (CL) Silty Clay; (ML) Sandy Silt Till
BH23-E2	597468	4849673	8-Feb-23	254.01	253.91	-0.10	4.57	7.62	249.44	246.39	(CL) Silty Clay; (ML) Silt
BH23-E3	597489	4849655	8-Feb-23	254.11	254.86	0.75	4.57	7.62	249.54	246.49	(CL) Silty Clay; (SM) Silty Sand Till
2022 Monitoring Wells (GEMTEC)											
BH22-02	597051	4849625	12-Jul-22	256.30	257.28	0.98	6.10	7.62	250.20	248.68	(SM) Silty Sand Till
BH22-05	597467	4849133	13-Jul-22	251.20	252.20	1.00	6.10	7.62	245.10	243.58	(ML) Silt
BH22-06	597802	4849396	13-Jul-22	253.50	253.39	-0.11	6.10	7.62	247.40	245.88	(CL) Silty Clay; (CL) Silty Clay Till
Drive-Point Piezometers and Staff Gauges											
DP23-1	597321	4849853	14-Apr-23	250.20	251.82	1.62	1.38	1.68	248.82	248.52	N/A
SG23-1	597322	4849854	14-Apr-23	N/A	250.79	N/A	N/A	N/A	N/A	N/A	N/A
DP23-2	597030	4849586	8-Feb-23	254.47	255.96	1.49	1.18	1.48	253.29	252.99	N/A
SG23-2	597032	4849588	8-Feb-23	N/A	255.60	N/A	N/A	N/A	N/A	N/A	N/A
DP23-3	597327	4849373	8-Feb-23	247.27	248.31	1.04	0.99	1.29	246.28	245.98	N/A
SG23-3	597328	4849374	8-Feb-23	N/A	248.40	N/A	N/A	N/A	N/A	N/A	N/A
DP23-4	597409	4849275	8-Feb-23	244.81	245.93	1.12	0.95	1.25	243.86	243.56	N/A
SG23-4	597408	4849275	8-Feb-23	N/A	245.67	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

- m - metre
 - m amsl - metres above mean sea level
 - m bgs - metres below ground surface
 - UTM - Universal Transverse Mercator
 - N/A - not applicable
- * = UTM coordinates and elevations surveyed by R-PE Surveying Ltd.

Table F-2 Groundwater Depths and Elevations - Mayfield Golf Course Development

Monitoring Location	Ground Surface Elevation* (m amsl)	Top of Casing or Gauge Elevation* (m amsl)	Top of Screen (m amsl)	Bottom of Screen (m amsl)	Screened Lithology	April 11-14, 2023		May 18, 2023	
						Depth	Elevation	Depth	Elevation
						(m bgs)	(m amsl)	(m bgs)	(m amsl)
Monitoring Wells									
BH23-1	257.98	258.83	251.88	250.36	(ML) Silt	-0.38	258.36	-0.55	258.53
BH23-2	256.42	257.20	247.28	245.75	(SM) Silty Sand Till; (ML) Sandy Silt	1.02	255.41	1.17	255.25
BH23-4	257.98	258.83	251.88	250.36	(CL) Silty Clay; (CL-ML) Silty Clay to Clayey Silt and Sand Till	3.44	254.54	3.77	254.21
BH23-5	257.83	258.57	250.21	247.16	(CL) Silty Clay	2.67	255.16	2.95	254.88
BH23-6S	256.66	257.42	250.56	249.04	(CL) Gravelly Sandy Silty Clay Till	2.70	253.97	2.09	254.58
BH23-6D	256.73	257.60	246.06	244.54	(ML) Gravelly Sandy Silt	3.76	252.97	3.95	252.78
BH23-7	251.92	252.60	245.82	244.30	(SM) Silty Sand; (SP) Gravelly Sand	1.18	250.74	1.46	250.46
BH23-8	253.06	253.88	247.27	245.74	(SM) Silty Sand Till	3.83	249.23	3.38	249.68
BH23-9	254.29	255.15	245.15	243.62	(ML) Silt	0.18	254.11	0.74	253.55
BH23-10S	252.93	253.91	248.36	246.83	(ML) Sandy Silt Till; (ML) Silt	1.90	251.03	2.55	250.38
BH23-10D	252.82	253.79	242.15	240.63	(ML) Silt; (GP-GM) Sandy Silty Gravel Till	3.27	249.56	3.72	249.10
BH23-11	245.98	246.97	241.41	239.88	(GP-GM) Sandy Silty Gravel Till	0.24	245.74	0.45	245.53
BH23-12	245.78	246.73	237.86	236.03	Limestone	-0.29	246.08	0.05	245.73
BH23-15	253.31	254.18	247.21	245.69	(SM) Gravelly Silty Sand Till; (ML) Silt	0.17	253.14	0.77	252.54
BH23-17S	253.04	253.94	242.07	240.54	(GM/GP) Sandy Silty Gravel Till	1.21	251.83	1.23	251.81
BH23-17D	253.03	253.75	239.16	237.03	Limestone	1.53	251.51	1.48	251.55
BH23-18	254.41	255.18	239.17	237.65	(SM/ML) Gravelly Silty Sand Till; (SM/ML) Silt and Sand Till; Shale	2.18	252.23	2.14	252.27
BH23-19	250.43	251.29	241.29	239.76	(SM) Gravelly Silty Sand	3.35	247.09	3.61	246.82
BH23-21S	249.28	250.02	246.23	244.71	(CL) Sandy Silty Clay Till	0.23	249.05	0.64	248.64
BH23-21D	249.24	250.10	240.10	238.57	(SM) Silty Sand Till	0.10	249.14	0.37	248.87
BH23-22	252.92	253.79	246.82	245.30	(CL) Sandy Silty Clay	0.54	252.38	0.77	252.15
BH23-23S	249.89	250.64	244.71	243.18	(CL) Sandy Silty Clay Till	2.10	247.79	2.15	247.74
BH23-23D	249.95	250.67	236.23	234.71	(SM/ML) Gravelly Sand and Silt Till; Shale	4.78	245.17	5.04	244.91
BH23-24	249.09	249.92	246.04	242.99	(CL) Silty Clay; (CL) Sandy Silty Clay	0.62	248.47	0.88	248.21
BH23-26	248.75	249.54	235.64	234.12	(SM/ML) Sand and Silt	6.63	242.12	6.91	241.84
BH23-28S	255.32	256.34	247.70	246.18	(ML) Sandy Silt	Flowing	>256.34	Flowing	>256.34
BH23-28D	255.21	256.24	239.97	238.45	(SM/GM) Silty Sand and Gravel	Flowing	>256.24	Flowing	>256.24
BH23-E1	254.51	254.43	249.94	246.89	(CL) Sandy Silty Clay; (CL) Silty Clay; (ML) Sandy Silt Till	0.06	254.45	1.09	253.42
BH23-E2	254.01	253.91	249.44	246.39	(CL) Silty Clay; (ML) Silt	0.08	253.93	1.42	252.59
BH23-E3	254.11	254.86	249.54	246.49	(CL) Silty Clay; (SM) Silty Sand Till	1.71	252.40	1.84	252.27
2022 Monitoring Wells (GEMTEC)									
BH22-02	256.30	257.28	250.20	248.68	(SM) Silty Sand Till	--	--	0.19	256.11
BH22-05	251.20	252.20	245.10	243.58	(ML) Silt	--	--	2.79	248.41
BH22-06	253.50	253.39	247.40	245.88	(CL) Silty Clay; (CL) Silty Clay Till	--	--	1.01	252.49
Drive-Point Piezometers and Staff Gauges									
DP23-1	250.20	251.82	248.82	248.52	N/A	1.26	248.94	0.72	249.48
SG23-1	N/A	250.79	N/A	N/A	N/A	--	249.87	--	249.80
DP23-2	254.47	255.96	253.29	252.99	N/A	0.02	254.45	0.03	254.44
SG23-2	N/A	255.60	N/A	N/A	N/A	--	254.41	--	254.40
DP23-3	247.27	248.31	246.28	245.98	N/A	Dry	<245.98	0.11	247.16
SG23-3	N/A	248.40	N/A	N/A	N/A	--	247.18	--	247.17
DP23-4	244.81	245.93	243.86	243.56	N/A	Dry	<243.56	0.23	244.58
SG23-4	N/A	245.67	N/A	N/A	N/A	--	244.65	--	244.63

Notes:

- Not Measured
- Negative values indicate that water levels are above the ground surface.
- Elev. - Elevation
- m - meter
- m amsl - meters above mean sea level
- m bgs - meters below ground surface
- m toc - meters below top of casing
- * = UTM coordinates and elevations surveyed by R-PE Surveying Ltd.

Table F-3 Summary of Hydraulic Conductivity Values - Single Well Response Tests - Mayfield Golf Course Development

Monitoring Location	Date of Test	Ground Surface Elevation	Top of Screen	Bottom of Screen	Top of Screen	Bottom of Screen	Screened Lithology	Type of Test	Hydraulic Conductivity Estimate
		(m amsl)	(m bgs)	(m bgs)	(m amsl)	(m amsl)			(m/s)
Monitoring Wells									
BH23-1	--	257.98	6.10	7.62	251.88	250.36	(ML) Silt	--	--
BH23-2	11-Apr-23	256.4	9.14	10.67	247.28	245.75	(SM) Silty Sand Till; (ML) Sandy Silt	Rising Head	5.E-07
BH23-4	--	258.0	6.10	7.62	251.88	250.36	(CL) Silty Clay; (CL-ML) Silty Clay to Clayey Silt and Sand Till	--	--
BH23-5	11-Apr-23	257.8	7.62	10.67	250.21	247.16	(CL) Silty Clay	Rising Head	4.E-08
BH23-6S	--	256.7	6.10	7.62	250.56	249.04	(CL) Gravelly Sandy Silty Clay Till	--	--
BH23-6D	11-Apr-23	256.7	10.67	12.19	246.06	244.54	(ML) Gravelly Sandy Silt	Rising Head	2.E-07
BH23-7	--	251.9	6.10	7.62	245.82	244.30	(SM) Silty Sand; (SP) Gravelly Sand	--	--
BH23-8	--	253.06	5.79	7.32	247.27	245.74	(SM) Silty Sand Till	--	--
BH23-9	11-Apr-23	254.29	9.14	10.67	245.15	243.62	(ML) Silt	Rising Head	8.E-07
BH23-10S	--	252.93	4.57	6.10	248.36	246.83	(ML) Sandy Silt Till; (ML) Silt	--	--
BH23-10D	11-Apr-23	252.82	10.67	12.19	242.15	240.63	(ML) Silt; (GP-GM) Sandy Silty Gravel Till	Rising Head	2.E-07
BH23-11	11-Apr-23	245.98	4.57	6.10	241.41	239.88	(GP-GM) Sandy Silty Gravel Till	Rising Head	1.E-07
BH23-12	12-Apr-23	245.78	7.92	9.75	237.86	236.03	Limestone	Rising Head	2.E-08
BH23-15	--	253.31	6.10	7.62	247.21	245.69	(SM) Gravelly Silty Sand Till; (ML) Silt	--	--
BH23-17S	--	253.04	10.97	12.50	242.07	240.54	(GM/GP) Sandy Silty Gravel Till	--	--
BH23-17D	--	253.03	13.87	16.00	239.16	237.03	Limestone	--	--
BH23-18	--	254.41	15.24	16.76	239.17	237.65	(SM/ML) Gravelly Silty Sand Till; (SM/ML) Silt and Sand Till; Shale	--	--
BH23-19	--	250.43	9.14	10.67	241.29	239.76	(SM) Gravelly Silty Sand	--	--
BH23-21S	12-Apr-23	249.28	3.05	4.57	246.23	244.71	(CL) Sandy Silty Clay Till	Rising Head	1.E-08
BH23-21D	12-Apr-23	249.24	9.14	10.67	240.10	238.57	(SM) Silty Sand Till	Rising Head	3.E-06
BH23-22	--	252.9	6.10	7.62	246.82	245.30	(CL) Sandy Silty Clay	--	--
BH23-23S	13-Apr-23	249.89	5.18	6.71	244.71	243.18	(CL) Sandy Silty Clay Till	Rising Head	1.E-08
BH23-23D	13-Apr-23	249.95	13.72	15.24	236.23	234.71	(SM/ML) Gravelly Sand and Silt Till; Shale	Rising Head	1.E-07
BH23-24	--	249.09	3.05	6.10	246.04	242.99	(CL) Silty Clay; (CL) Sandy Silty Clay Till	--	--
BH23-26	13-Apr-23	248.75	13.11	14.63	235.64	234.12	(SM/ML) Sand and Silt	Rising Head	9.E-08
BH23-28S	--	255.32	7.62	9.14	247.70	246.18	(ML) Sandy Silt	--	--
BH23-28D	--	255.21	15.24	16.76	239.97	238.45	(SM/GM) Silty Sand and Gravel	--	--
BH23-E1	--	254.51	4.57	7.62	249.94	246.89	(CL) Sandy Silty Clay; (CL) Silty Clay; (ML) Sandy Silt Till	--	--
BH23-E2	--	254.01	4.57	7.62	249.44	246.39	(CL) Silty Clay; (ML) Silt	--	--
BH23-E3	--	254.11	4.57	7.62	249.54	246.49	(CL) Silty Clay; (SM) Silty Sand Till	--	--
2022 Monitoring Wells (GEMTEC)									
BH22-02	--	256.3	6.10	7.62	250.20	248.68	(SM) Silty Sand Till	Rising Head	5.E-08
BH22-05	--	251.2	6.10	7.62	245.10	243.58	(ML) Silt	Rising Head	3.E-08
BH22-06	--	253.5	6.10	7.62	247.40	245.88	(CL) Silty Clay; (CL) Silty Clay Till	Rising Head	7.E-09

Notes:

All test were analysed using Hvorslev (1951)


-- Not Tested

m amsl - meters above mean sea level

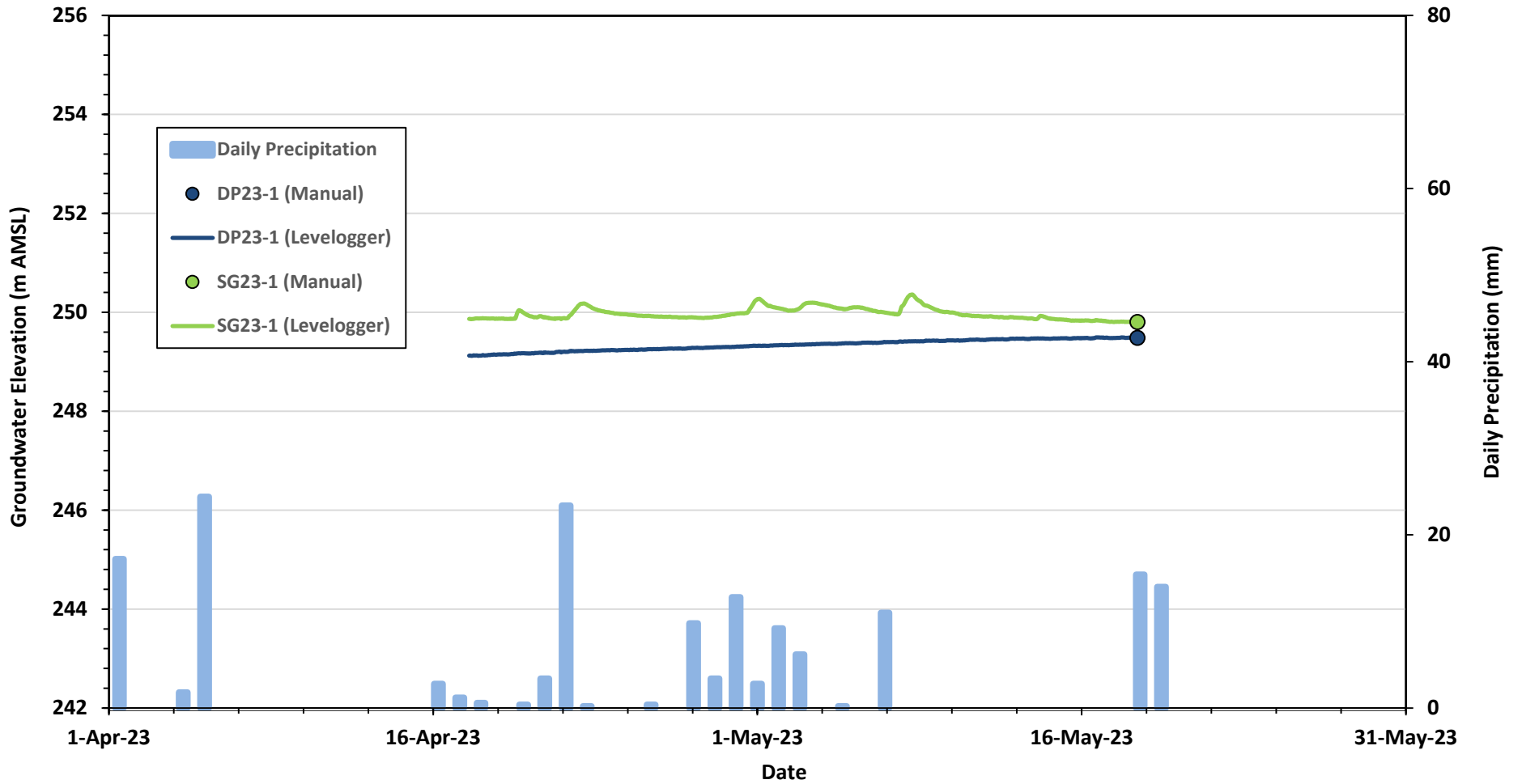
m bgs - meters below ground surface

m/s - meters per second

Hvorslev, M.J., 1951. *Time Lag and Soil Permeability in Ground-Water Observations*, Bull. No. 36, Waterways Exper. Sta. Corps of Engrs, U.S. Army, Vicksburg, Mississippi, pp. 1-50



APPENDIX G
Hydrographs
Figures G-1 to G-4



Precipitation data has been obtained from the Environment Canada Toronto Intl A climate station (ID 6158731), accessed on May 29, 2023.

DP - Drive-Point Piezometer
 SG - Staff Gauge
 AMSL - Above Mean Sea Level

Project No.: 101987.001

Client: Mayfield Golf Course Inc.
 Residential Development - 12580 and 12552 Torbram Road
 Hydrogeological Assessment

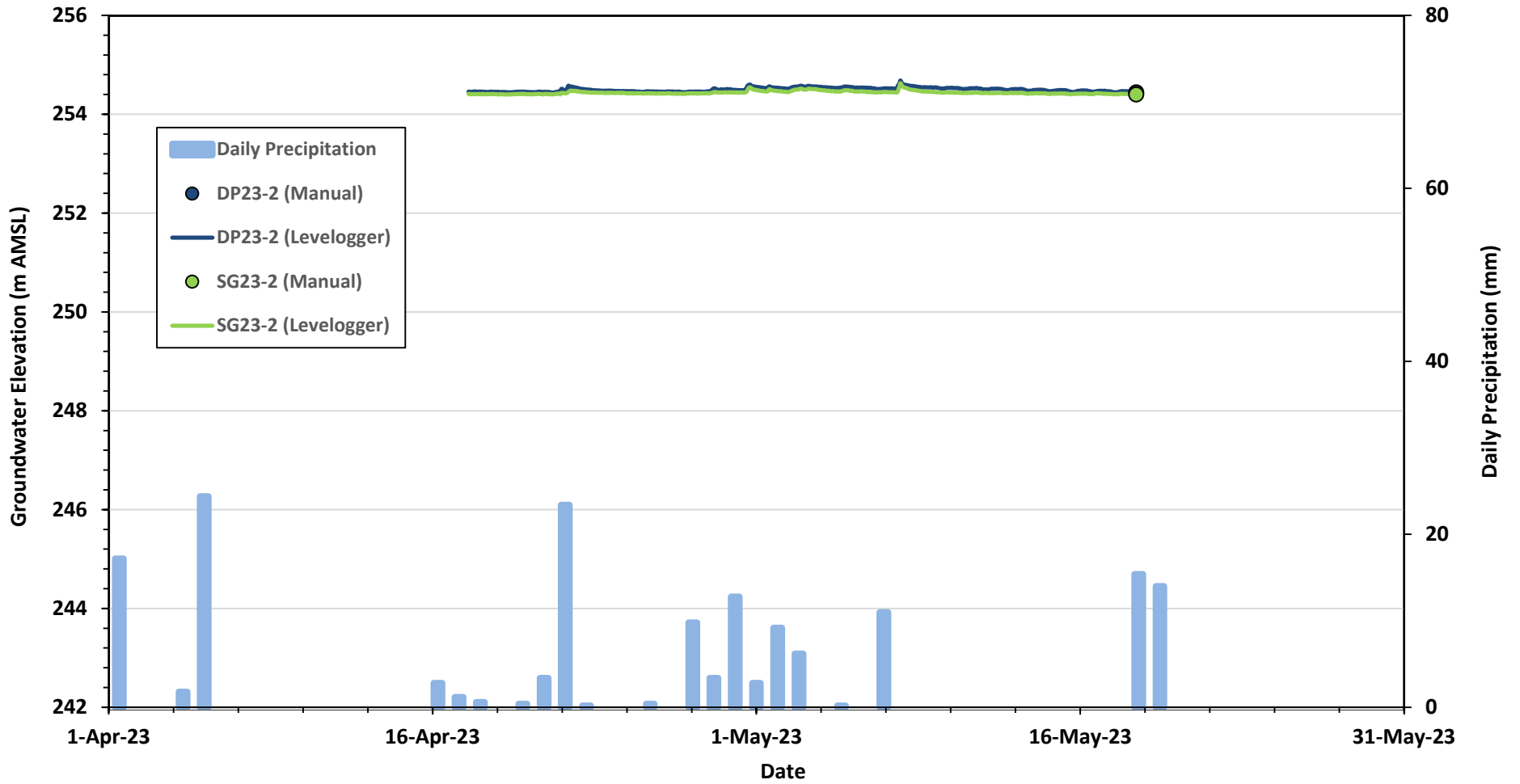
Figure No.

G-1

Title

DRIVE-POINT PIEZOMETER / STAFF GAUGE HYDROGRAPH -
 DP23-1 / SG23-1





Precipitation data has been obtained from the Environment Canada Toronto Intl A climate station (ID 6158731), accessed on May 29, 2023.

DP - Drive-Point Piezometer
 SG - Staff Gauge
 AMSL - Above Mean Sea Level

Project No.: 101987.001

Client: Mayfield Golf Course Inc.
 Residential Development - 12580 and 12552 Torbram Road
 Hydrogeological Assessment

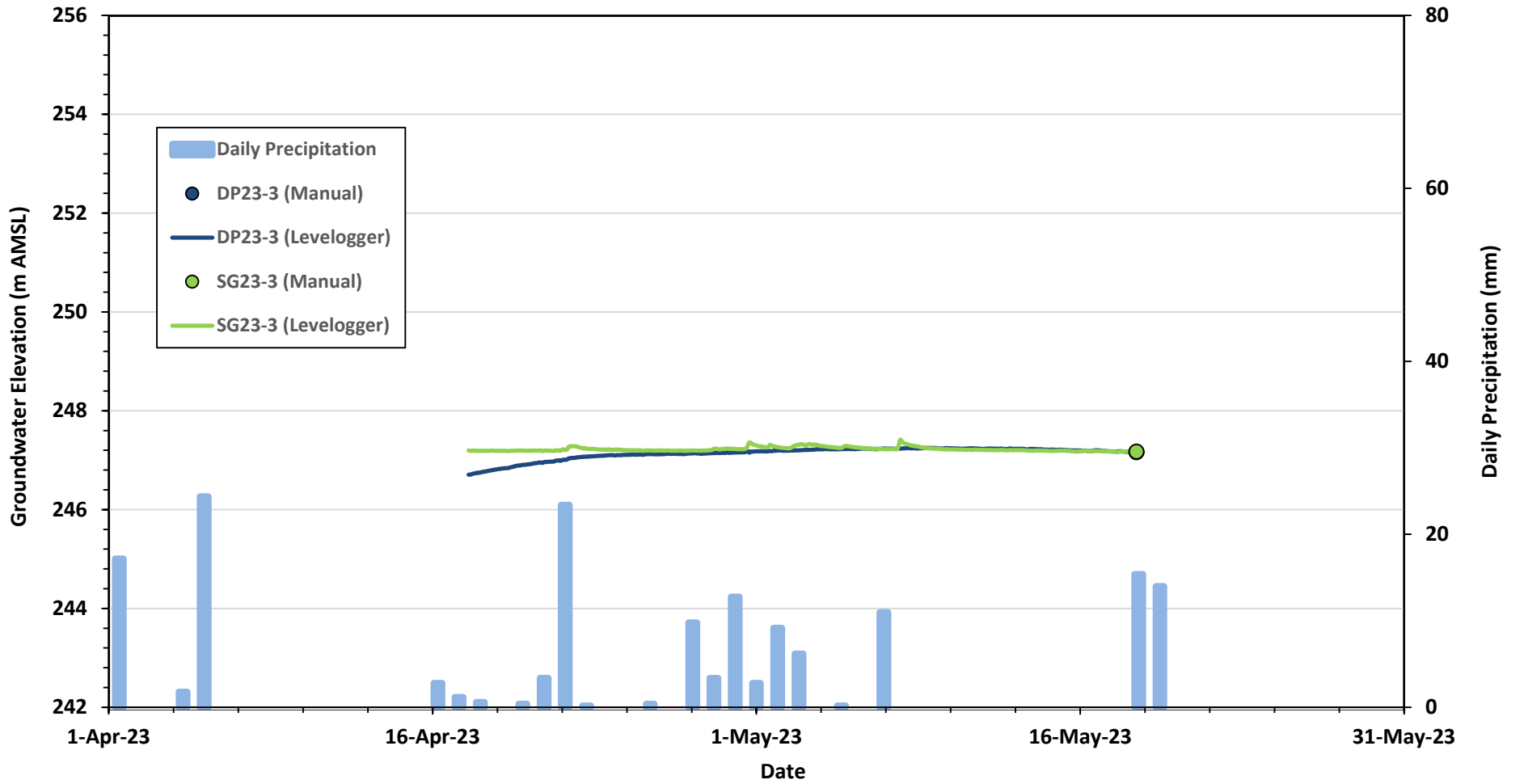
Figure No.

G-2

Title

DRIVE-POINT PIEZOMETER / STAFF GAUGE HYDROGRAPH -
 DP23-2 / SG23-2





Precipitation data has been obtained from the Environment Canada Toronto Intl A climate station (ID 6158731), accessed on May 29, 2023.

DP - Drive-Point Piezometer
 SG - Staff Gauge
 AMSL - Above Mean Sea Level

Project No.: 101987.001

Client: Mayfield Golf Course Inc.
 Residential Development - 12580 and 12552 Torbram Road
 Hydrogeological Assessment

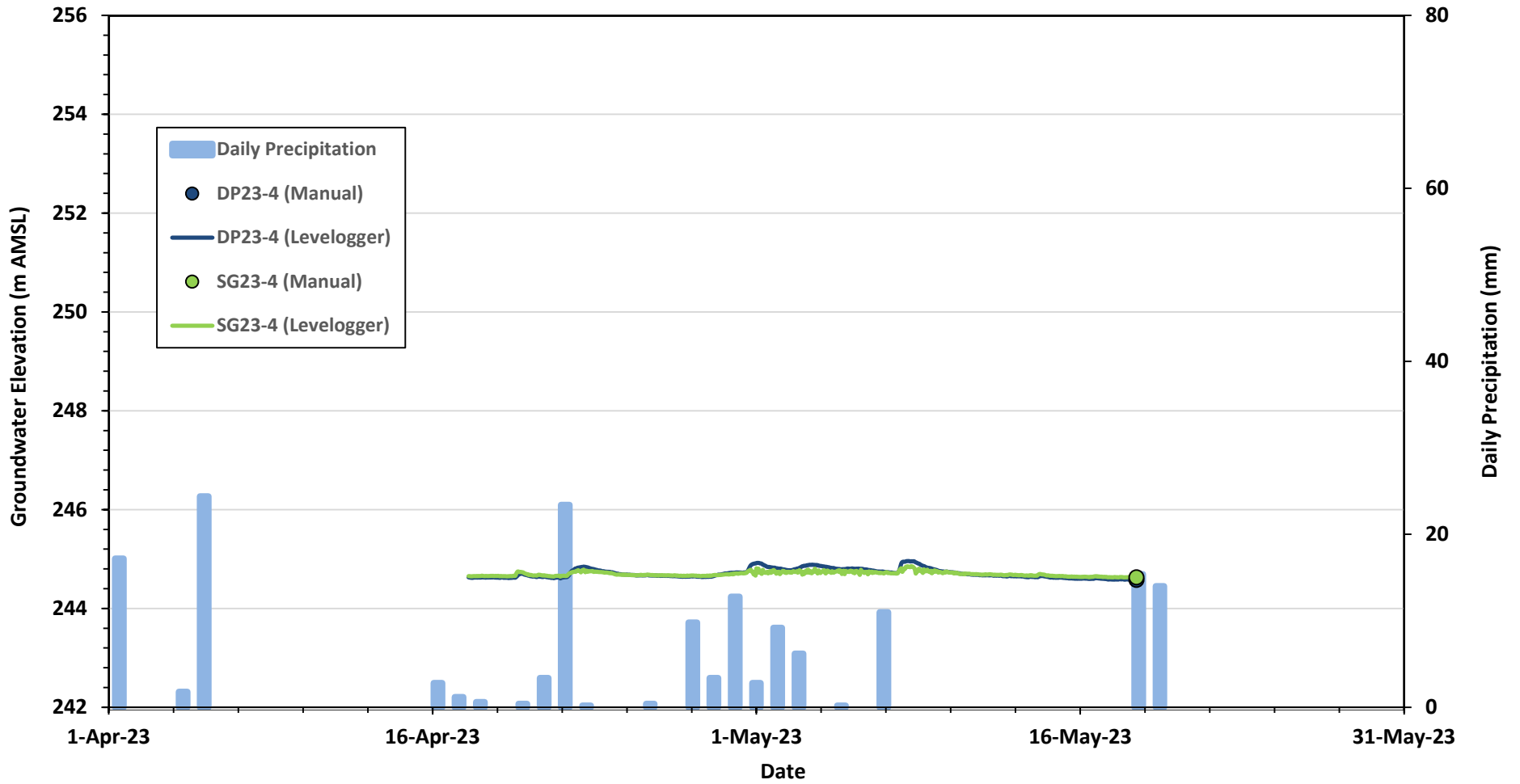
Figure No.

G-3

Title

DRIVE-POINT PIEZOMETER / STAFF GAUGE HYDROGRAPH -
 DP23-3 / SG23-3





Precipitation data has been obtained from the Environment Canada Toronto Intl A climate station (ID 6158731), accessed on May 29, 2023.

DP - Drive-Point Piezometer
 SG - Staff Gauge
 AMSL - Above Mean Sea Level

Project No.: 101987.001

Client: Mayfield Golf Course Inc.
 Residential Development - 12580 and 12552 Torbram Road
 Hydrogeological Assessment

Figure No.

G-4

Title

DRIVE-POINT PIEZOMETER / STAFF GAUGE HYDROGRAPH -
 DP23-4 / SG23-4





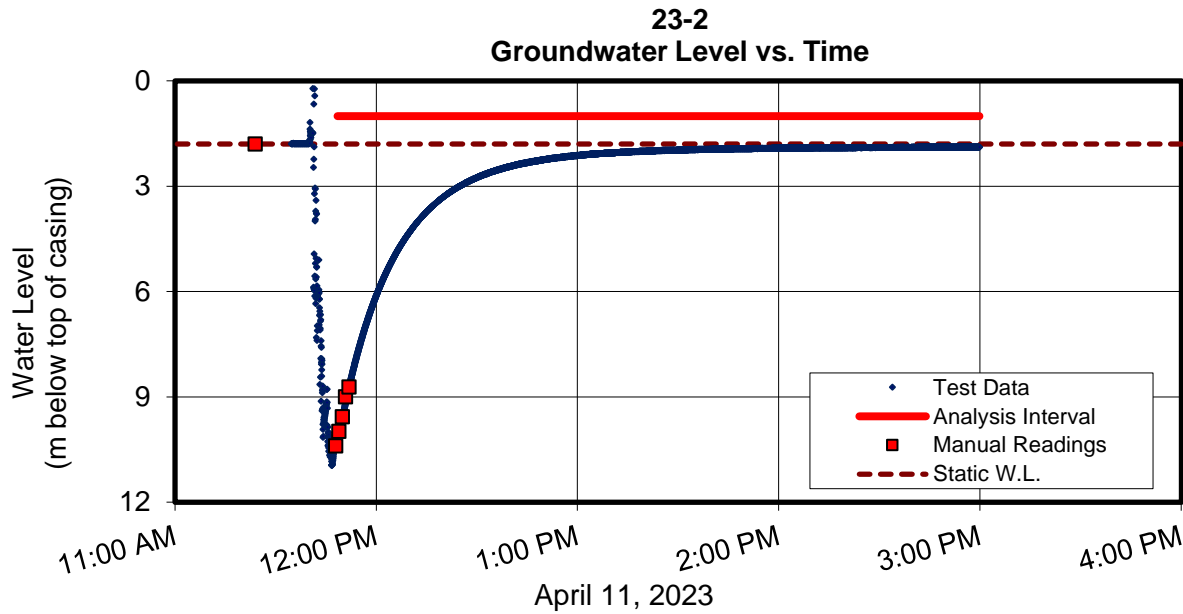
APPENDIX H

Hydraulic Response Testing Results Figures H-1 to H-12

In-Situ Hydraulic Conductivity Test Report

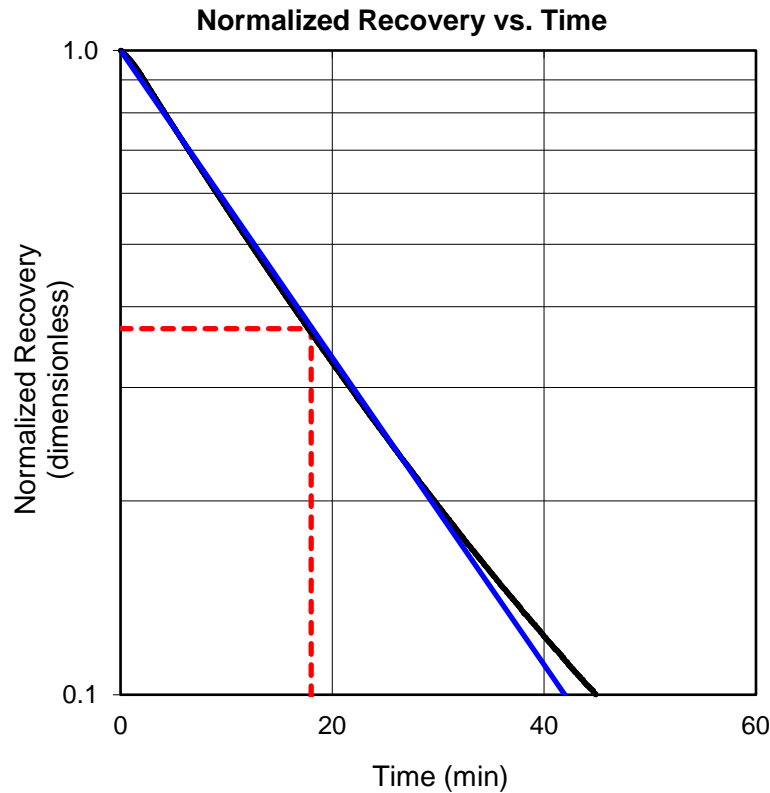
Monitoring Well 23-2

FIGURE H-1



Sand Pack Interval (below ground surface)

8.8 m - 10.8 m



Time Lag (T_0) = 18 min

Sand Pack Length (L) = 2 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 4E-07 \text{ m/s}$$

Soil Type

Silty Sand to Sandy Silt

DATE: Apr. 19, 2023

PROJECT: 101987.001



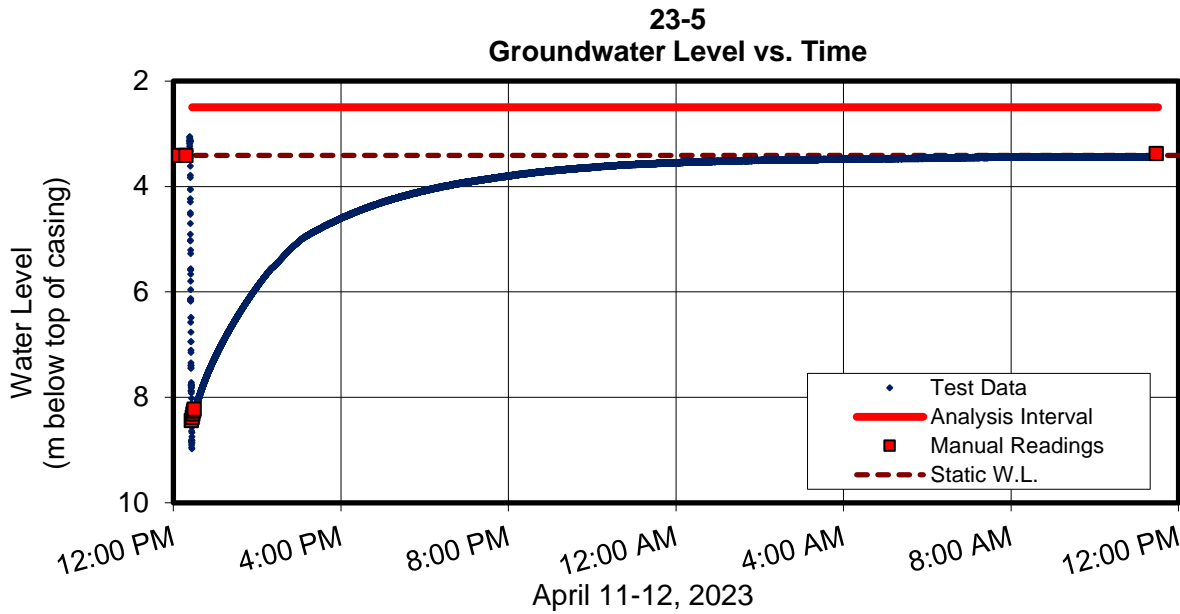
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

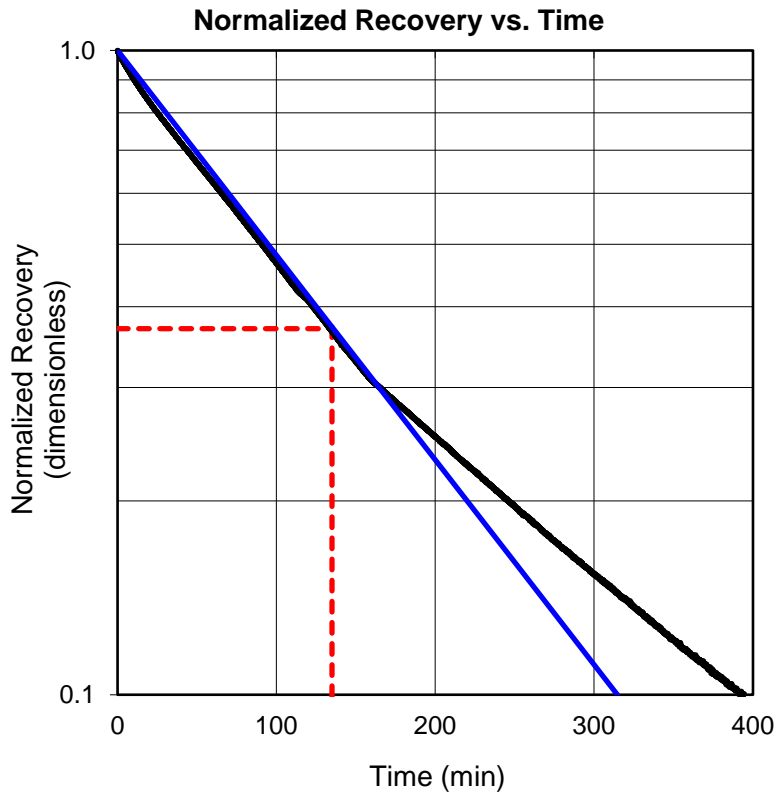
Monitoring Well 23-5

FIGURE H-2



Sand Pack Interval (below ground surface)

7.3 m - 10.7 m



Time Lag (T_0) = 135 min

Sand Pack Length (L) = 3.4 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0 L} = 4E-08 \text{ m/s}$$

Soil Type

Silty Clay

DATE: Apr. 20, 2023

PROJECT: 101987.001



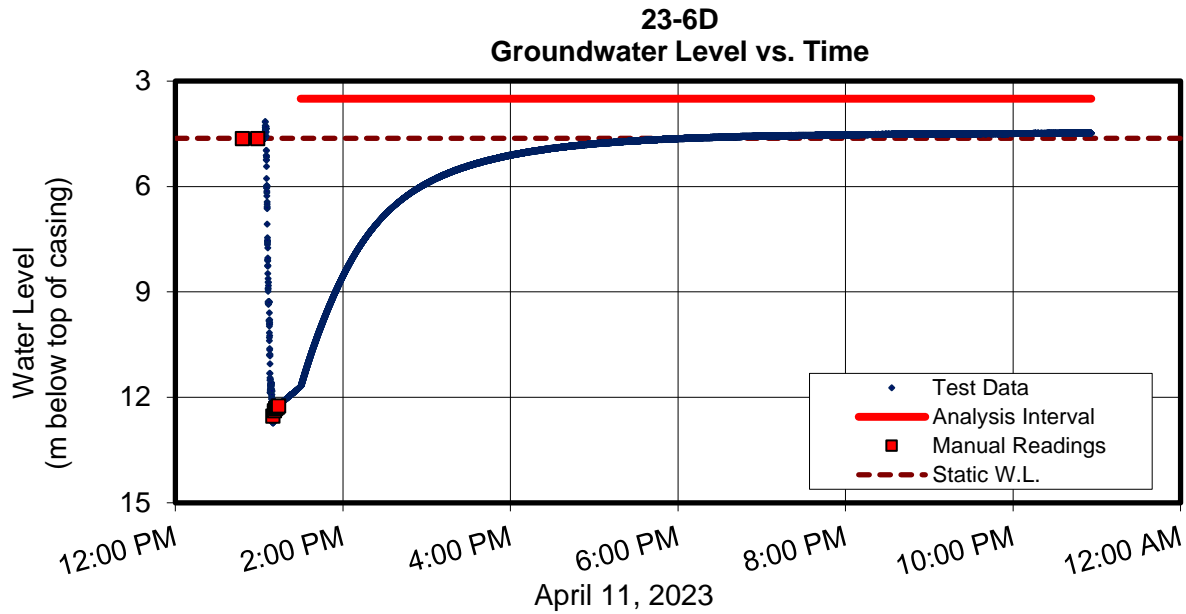
prepared by: AW

reviewed by: CMK

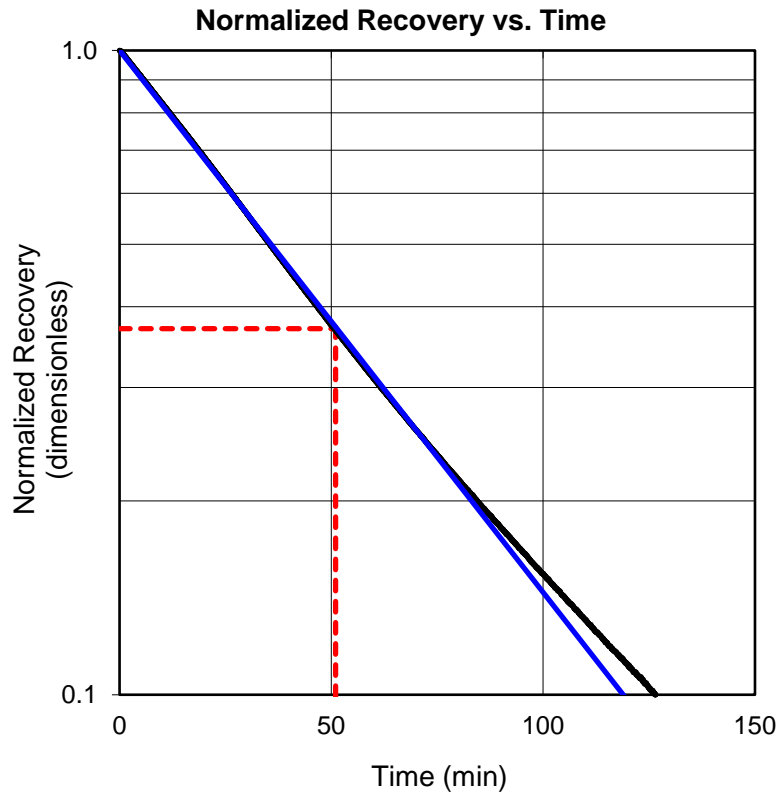
In-Situ Hydraulic Conductivity Test Report

Monitoring Well 23-6D

FIGURE H-3



Sand Pack Interval (below ground surface)
10.4 m - 12.5 m



Time Lag (T_0) = 51 min
 Sand Pack Length (L) = 2.1 m
 Well Radius (r) = 0.0254 m
 Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 2E-07 \text{ m/s}$$

Soil Type

Gravelly Sandy Silt

DATE: Apr. 20, 2023

PROJECT: 101987.001



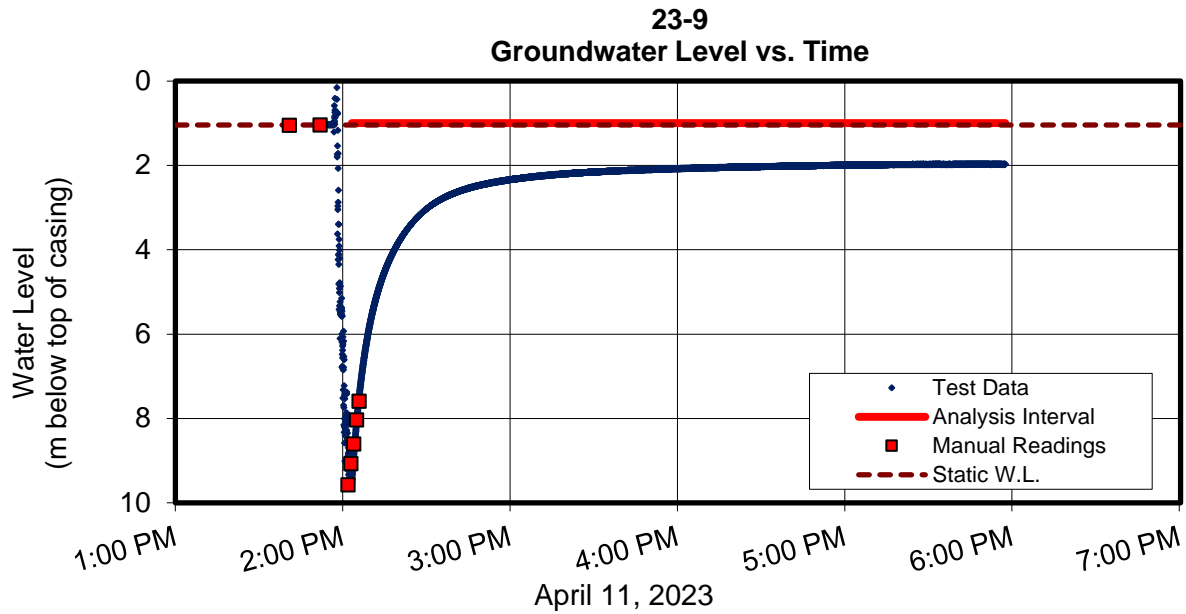
prepared by: AW

reviewed by: CMK

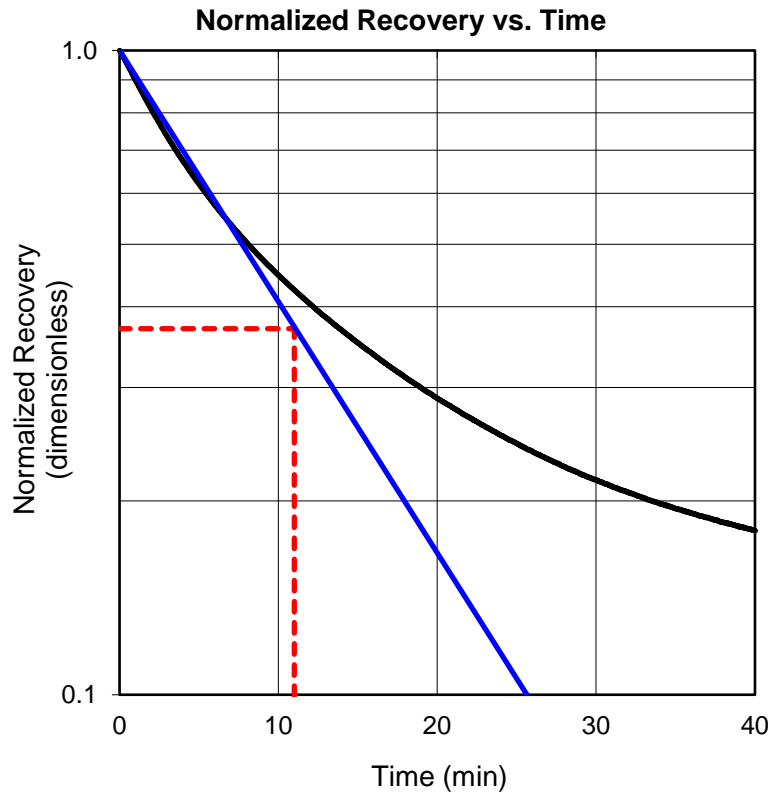
In-Situ Hydraulic Conductivity Test Report

Monitoring Well 23-9

FIGURE H-4



Sand Pack Interval (below ground surface)
8.8 m - 11.1 m



Time Lag (T_0) = 11 min
 Sand Pack Length (L) = 2.3 m
 Well Radius (r) = 0.0254 m
 Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 7E-07 \text{ m/s}$$

Soil Type

Silt

DATE: Apr. 20, 2023

PROJECT: 101987.001



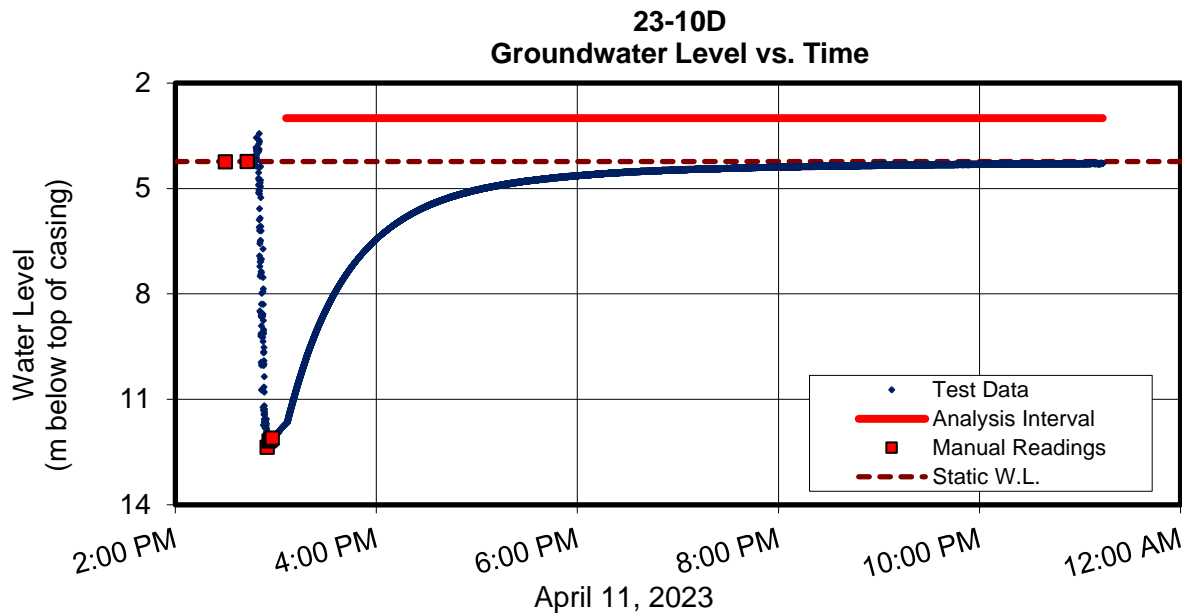
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

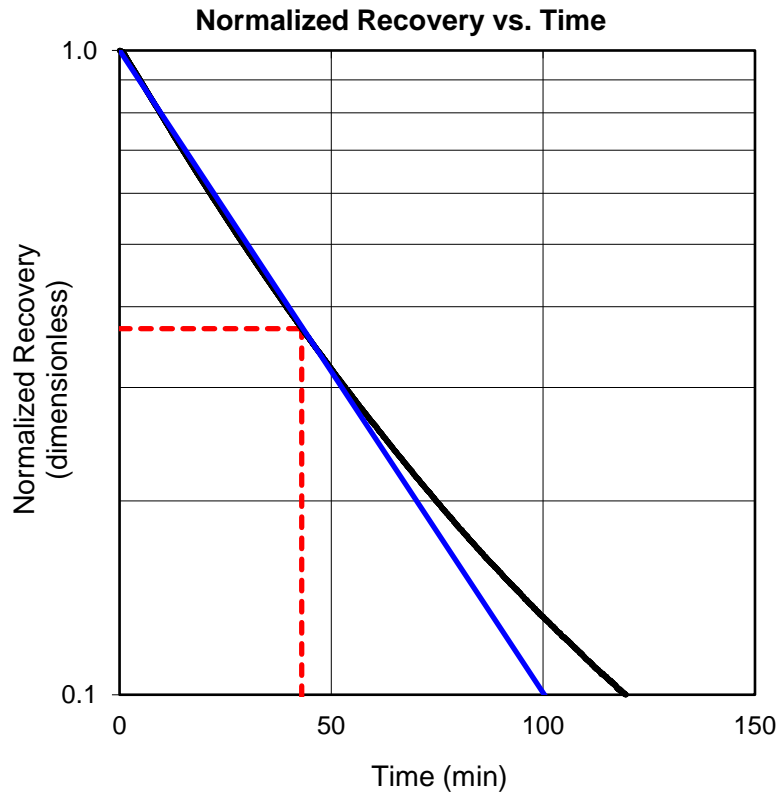
Monitoring Well 23-10D

FIGURE H-5



Sand Pack Interval (below ground surface)

10.4 m - 12.7 m



Time Lag (T_0) = 43 min

Sand Pack Length (L) = 2.3 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0 L} = 2E-07 \text{ m/s}$$

Soil Type

Silt, Sandy Silty Gravel Till

DATE: Apr. 20, 2023

PROJECT: 101987.001



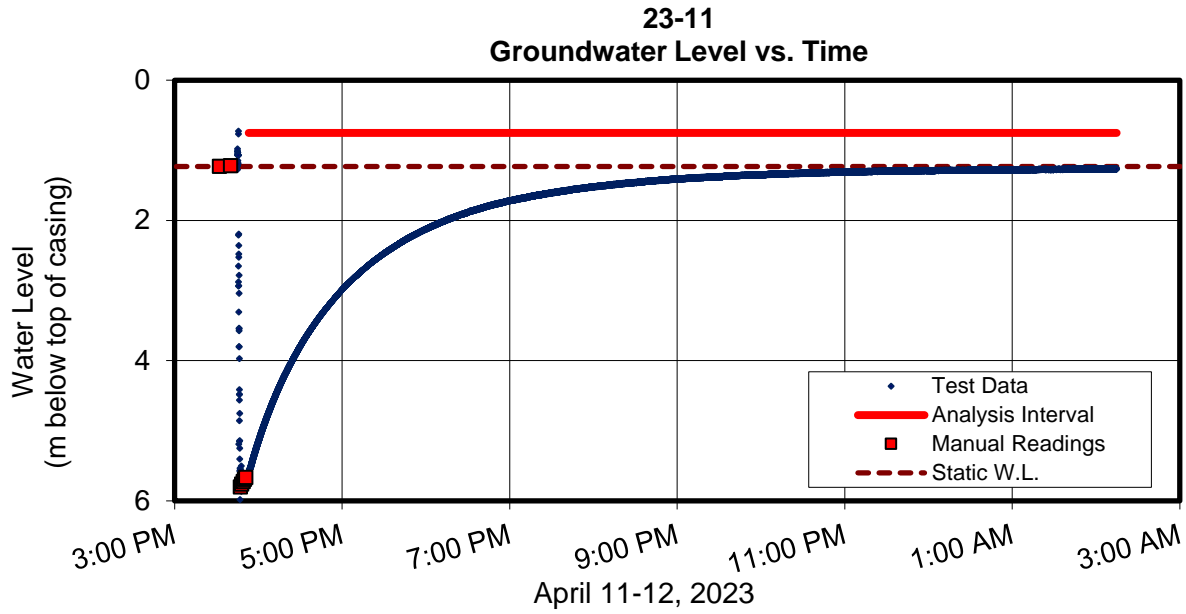
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

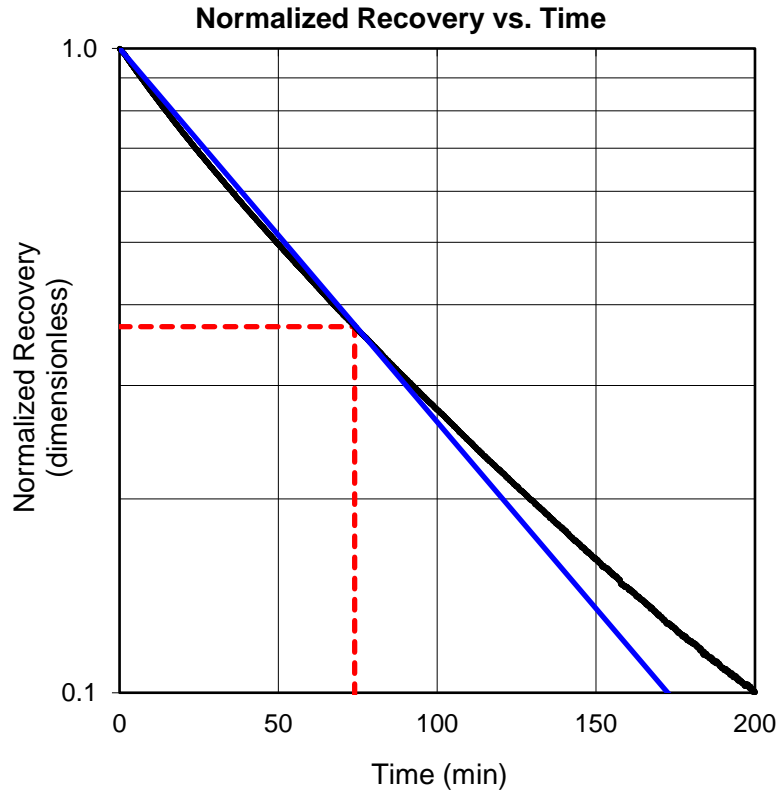
Monitoring Well 23-11

FIGURE H-6



Sand Pack Interval (below ground surface)

4.3 m - 6.4 m



Time Lag (T_0) = 74 min

Sand Pack Length (L) = 2.1 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 1E-07 \text{ m/s}$$

Soil Type

Sandy Silty Gravel Till

DATE: Apr. 20, 2023

PROJECT: 101987.001



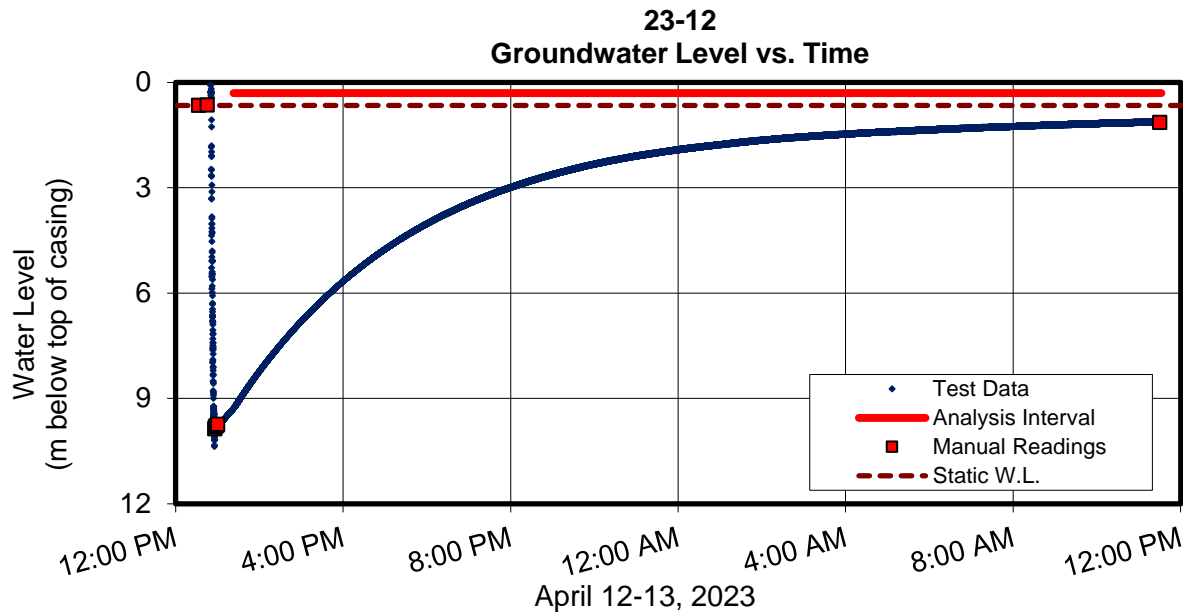
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

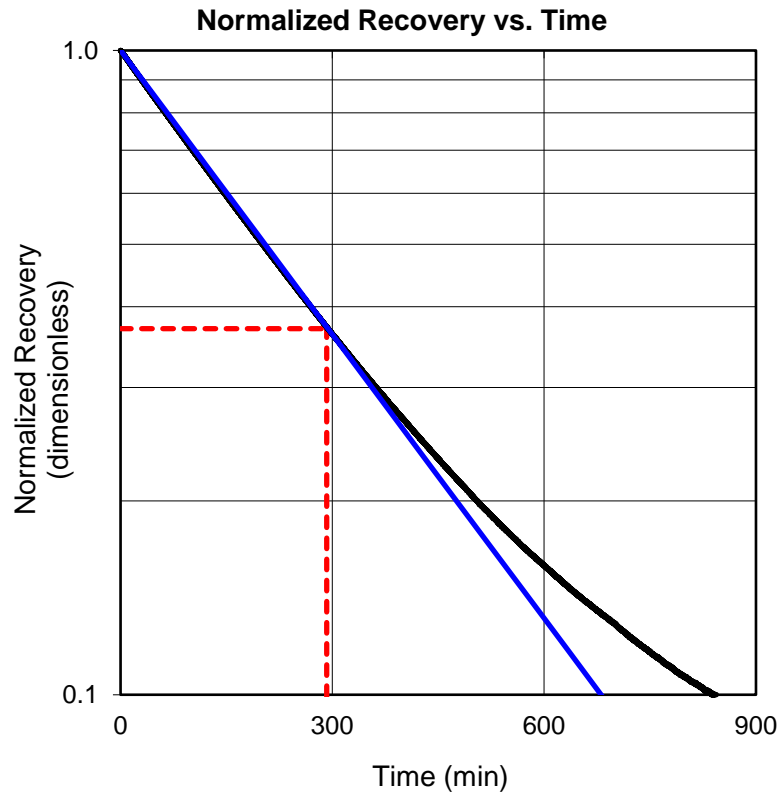
Monitoring Well 23-12

FIGURE H-7



Sand Pack Interval (below ground surface)

7.0 m - 9.8 m



Time Lag (T_0) = 292 min

Sand Pack Length (L) = 2.8 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 2E-08 \text{ m/s}$$

Rock Type

Limestone with Shale Interbeds

DATE: Apr. 20, 2023

PROJECT: 101987.001



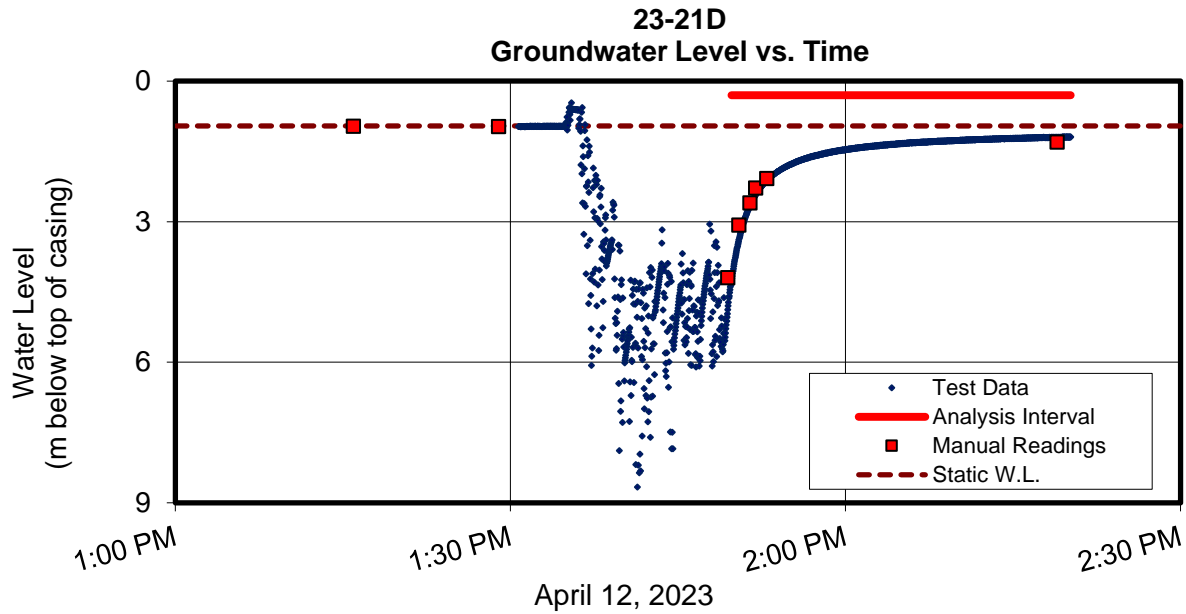
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reviewed by: CMK

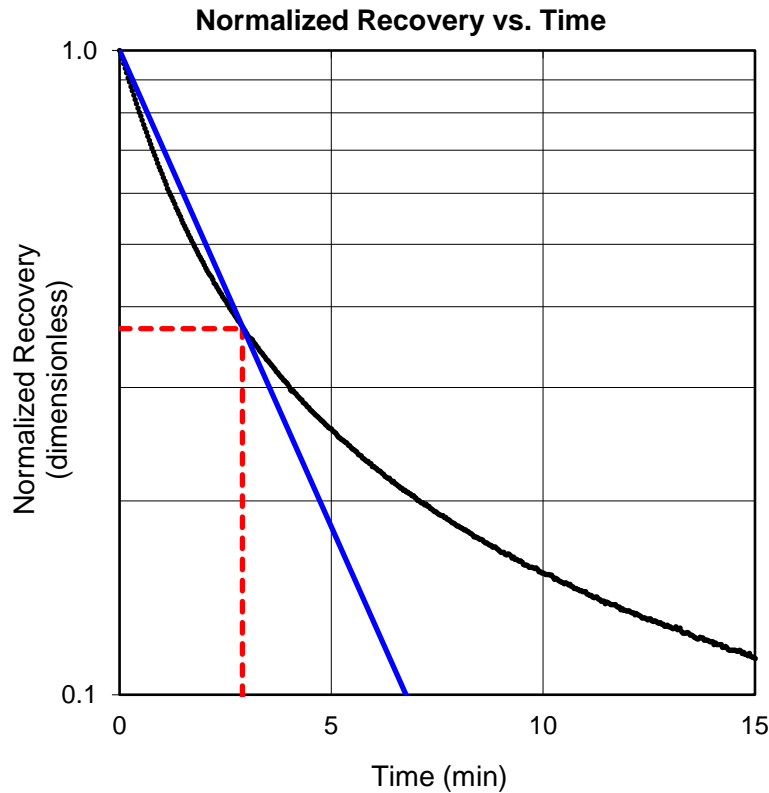
In-Situ Hydraulic Conductivity Test Report

Monitoring Well 23-21D

FIGURE H-8



Sand Pack Interval (below ground surface)
8.9 m - 10.7 m



Time Lag (T_0) = 2.9 min
 Sand Pack Length (L) = 1.8 m
 Well Radius (r) = 0.0254 m
 Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0 L} = 3E-06 \text{ m/s}$$

Soil Type

Silty Sand Till

DATE: Apr. 21, 2023

PROJECT: 101987.001



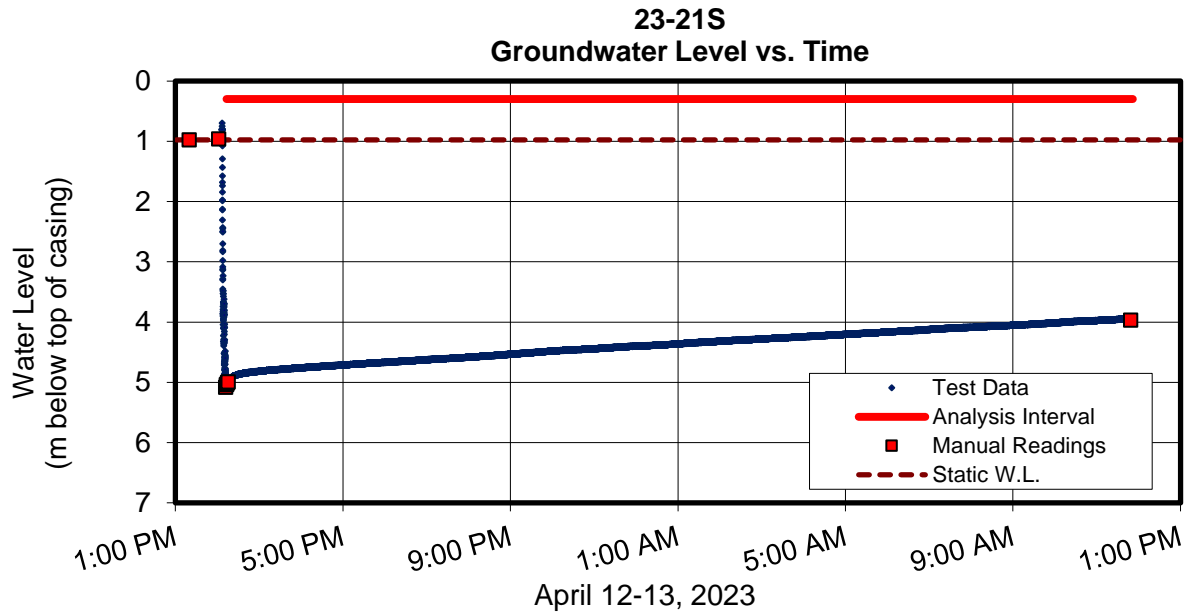
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reviewed by: CMK

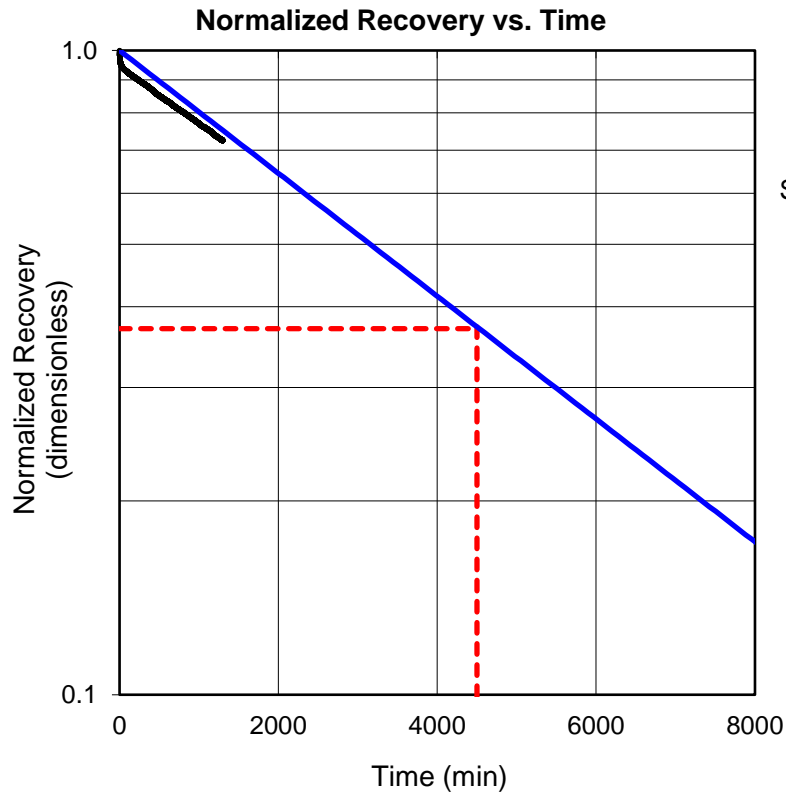
In-Situ Hydraulic Conductivity Test Report

Monitoring Well 23-21S

FIGURE H-9



Sand Pack Interval (below ground surface)
2.8 m - 4.6 m



Time Lag (T_0) = 4500 min
 Sand Pack Length (L) = 1.8 m
 Well Radius (r) = 0.06 m
 Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0L} = 1E-08 \text{ m/s}$$

Soil Type

Sandy Silty Clay Till

DATE: Apr. 24, 2023

PROJECT: 101987.001



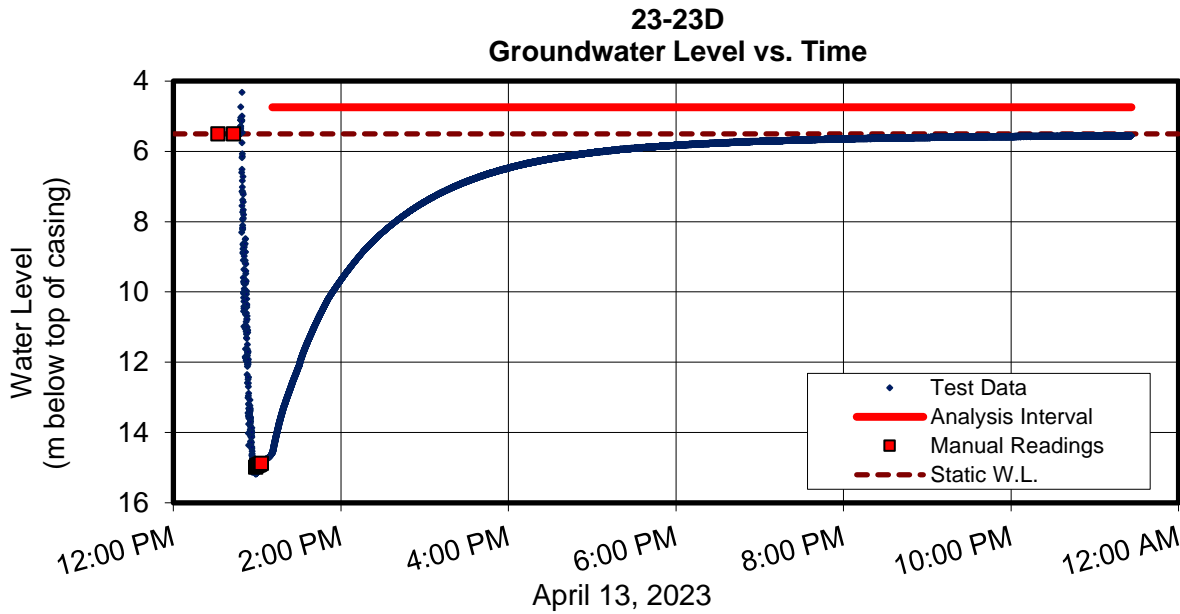
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

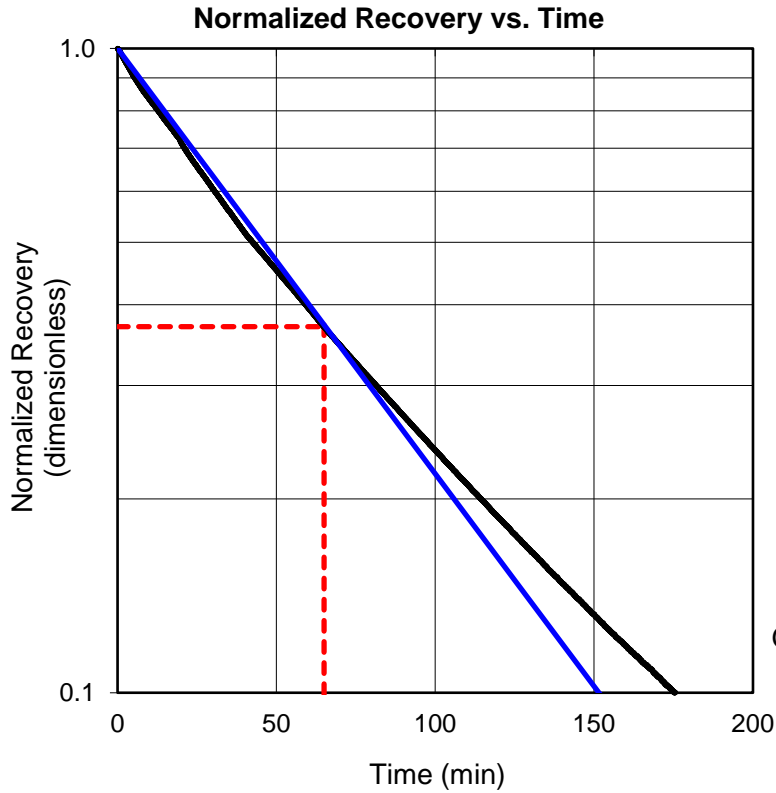
Monitoring Well 23-23D

FIGURE H-10



Sand Pack Interval (below ground surface)

13.4 m - 15.2 m



Time Lag (T_0) = 65 min

Sand Pack Length (L) = 1.8 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0 L} = 1E-07 \text{ m/s}$$

Soil / Rock Type

Gravelly Sand and Silt Till, Shale

DATE: Apr. 24, 2023

PROJECT: 101987.001



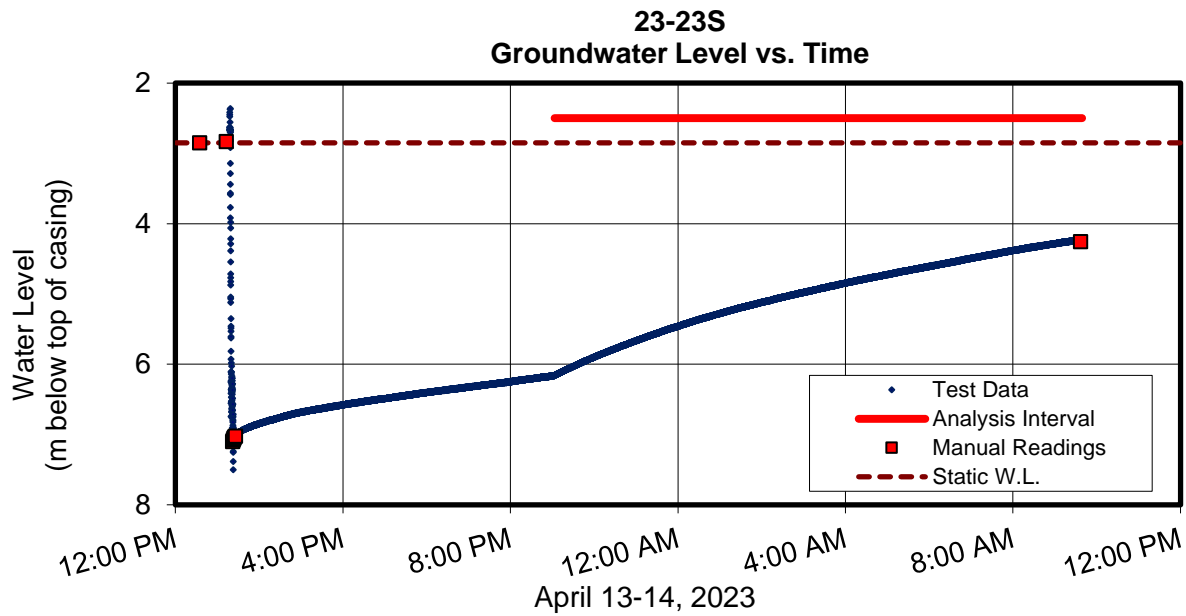
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

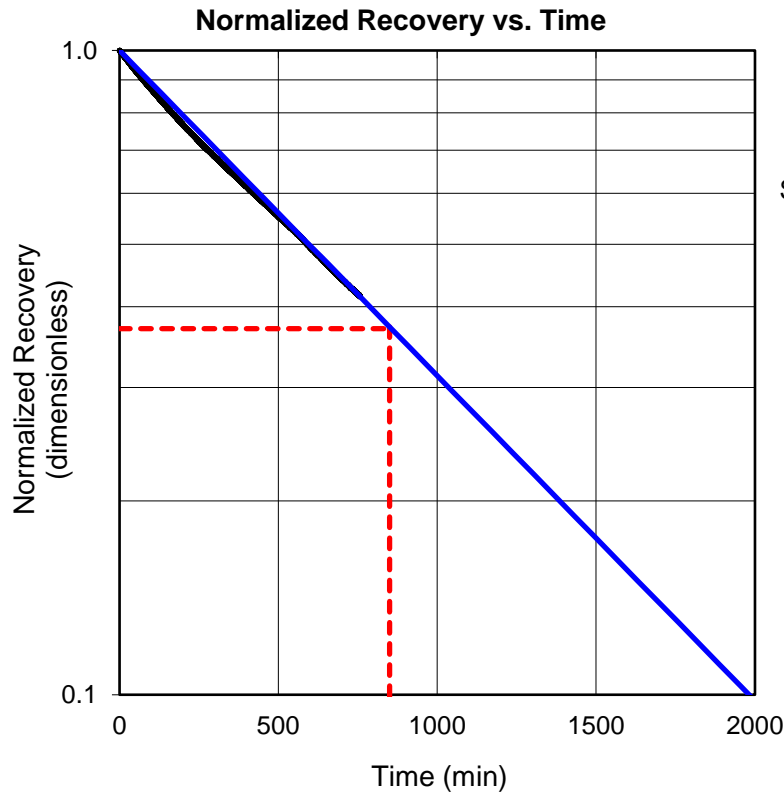
Monitoring Well 23-23S

FIGURE H-11



Sand Pack Interval (below ground surface)

4.9 m - 6.7 m



Time Lag (T_0) = 850 min

Sand Pack Length (L) = 1.8 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/R)}{2T_0 L} = 1E-08 \text{ m/s}$$

Soil Type

Sandy Silty Clay Till

DATE: Apr. 24, 2023

PROJECT: 101987.001



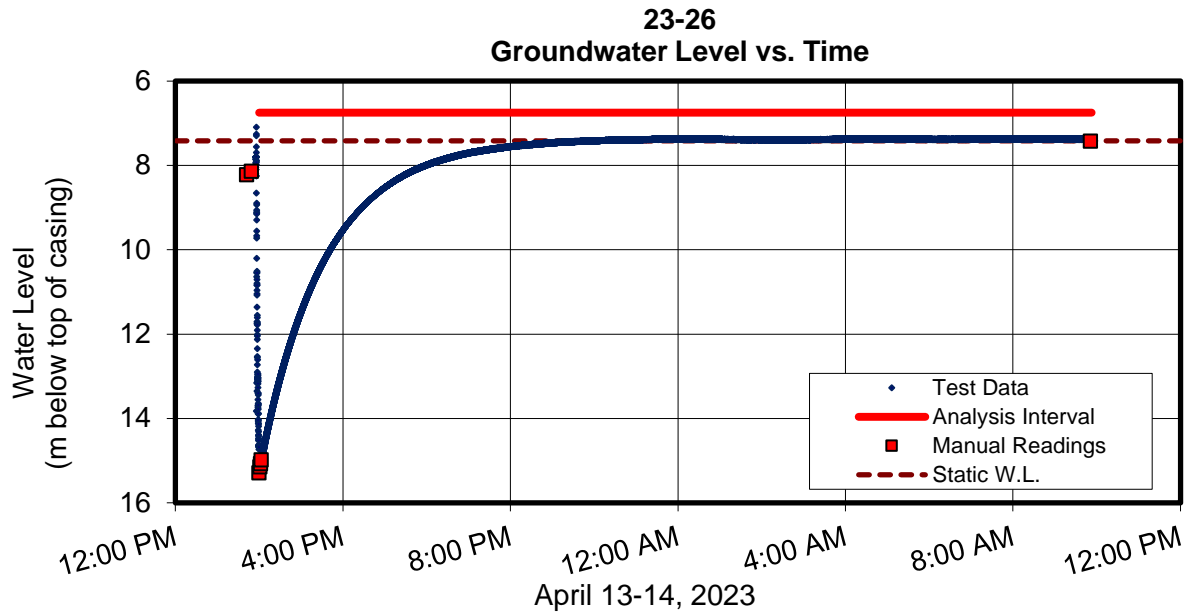
prepared by: AW

reviewed by: CMK

In-Situ Hydraulic Conductivity Test Report

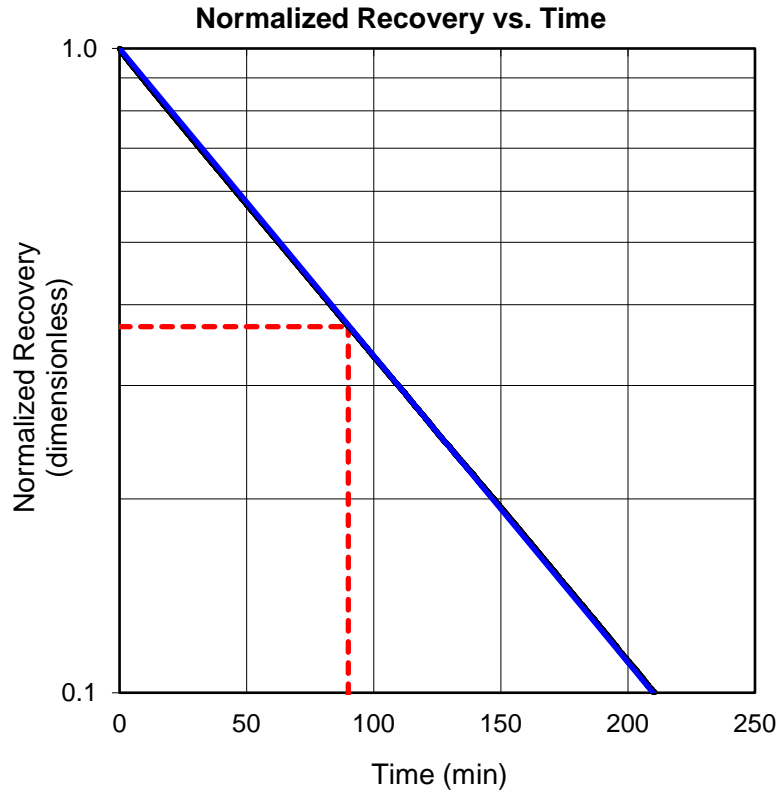
Monitoring Well 23-26

FIGURE H-12



Sand Pack Interval (below ground surface)

12.8 m - 14.9 m



Time Lag (T_0) = 90 min

Sand Pack Length (L) = 2.1 m

Well Radius (r) = 0.0254 m

Hole Radius (R) = 0.105 m

Hvorslev Analysis

$$K = \frac{(r^2) \ln(L/r)}{2T_0L} = 9E-08 \text{ m/s}$$

Soil Type

Sand and Silt

DATE: Apr. 24, 2023

PROJECT: 101987.001



prepared by: AW

reviewed by: CMK

experience • knowledge • integrity



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geotechnical	géotechnique
environmental	environnement
structural	structures
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