PATERSON GROUP

Hydrogeological Existing Conditions Report

Proposed Residential Development

5993 & 6115 Flewellyn Road & 6030 & 6070 Fernbank Road
Ottawa, Ontario

Prepared for Caivan (Stittsville South) Inc. & Caivan (Stittsville West) Ltd.

Report PH4625-REP.01.R2
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1.0 Introduction

Paterson Group (Paterson) was retained by Caivan (Stittsville South) Inc. and Caivan (Stittsville West) Ltd. to complete a hydrogeological study for the proposed residential development to be located at 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road, in the City of Ottawa, Ontario (hereinafter referred to as the "subject site").

The purpose of this report is to characterize the hydrogeological setting of the subject site, with respect to bedrock and surficial geology, aquifers, aquitards, horizontal and vertical flow patterns, existing groundwater use, and aquifer vulnerability, in support of the 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road Community Urban Expansion.

1.1 Scope of Work

Paterson has completed this report in accordance with Sub-section 4.2 of the finalized Geotechnical and Hydrogeological Investigation Terms of Reference (GHI TOR), prepared for the City of Ottawa and the Rideau Valley conservation Authority (RVCA). As per the GHI TOR, the purpose of the hydrogeological study is to assist in maintaining the current hydrogeologic function of the subject site. As per the GHI TOR, the study will provide a summary of existing hydrogeological conditions and identify the following:

- ❒ Hydraulic conductivities and aquifer characteristics
- ❒ Groundwater levels and seasonal fluctuations
- ❒ Hydraulic gradients
- ❒ Delineation of the aquifer
- ❒ Vulnerability of aquifers encountered
- ❒ Zones of influence for potential dewatering
- ❒ Water supply wells and the potential risk of impacts to these wells from the proposed development
- ❒ Sites identified by environmental site assessments as potential sources of groundwater contamination
- ❒ Key locations to conduct sampling and monitoring of baseline groundwater quality (i.e. Subdivision Packages, PHC's, BTEX and VOC's)
- ❒ Recharge/potential infiltration areas and mitigation measures

2.0 Previous Reports

In addition to a review of the general literature in the following sections and in the 'References' section of this report (MECP water well database, available geological and physiographic mapping, City of Ottawa Official Plan), Paterson reviewed the following reports:

- The Jock River - Reach Two Subwatershed - Phase 1 Report (Marshall Macklin Monaghan Limited and WESA, 2009)
- Paterson Geotechnical Report PG5570-2 Revision 4 - Flewellyn Road - (August 7, 2024)
- Paterson Geotechnical Report PG2802-1 - Maguire Lands - Hartsmere Drive (November 2012) - As part of D07-16-13-0033.
- Paterson Geotechnical Report PG2853-1 - Proposed Residential Development - Stittsville Main Street (January 2013) - As part of D07-16-13-0033.
- Paterson Geotechnical Report PG2983-1 - Faulkner Lands - Fernbank Road at Main Street (July 2013) - As part of D07-16-13-0033.
- Houle Chevrier Engineering - Technical Memorandum - Hydrogeological Study - (D007-16-13-0033) - Area 6, Stittsville South (April 2015) - As part of D07-16-13-0033.
- Houle Chevrier Engineering - Report on Private Well Monitoring Program Stittsville South Residential Development and Stormwater Management Pond - (November 2015) - As part of D07-16-15-0008.

3.0 Method of Investigation

3.1 Records Review

A review of available physiographic, geological, and hydrogeological data was completed as a part of this assessment. As discussed above, the literature review and previous reports provided a regional overview regarding the overburden and bedrock aquifers that included the subject site. Further detail is provided in following sections.

3.2 Field Program

A field program was developed to assess geology, groundwater conditions, and hydraulic gradients in the overburden and bedrock at the subject site. The test holes were advanced to various depths at the subject site to assess hydrogeological conditions at the approximate depth of the proposed construction activities at the site. A supplemental field program was performed to provide additional hydraulic properties of the surficial soils and bedrock at the subject site.

The initial field programs were carried out between November 2020 and January 2022. At that time, a total of thirty-eight (38) boreholes and eighteen (18) test pits were advanced to a maximum depth of 10.2 m below ground surface (bgs).

A supplemental field program was completed between September to October 2022 consisted of advancing seven (7) boreholes and one (1) hand auger hole to a maximum depth of 9.1 m bgs, completing permeameter tests at twelve (12) locations across the subject site, installing data loggers and slug testing the monitoring well installations. A total of twenty-four (24) Pask Permeameter tests were conducted at 12 testing locations across the subject site at depths between 0.3 to 0.6 m bgs.

The test holes for both field investigations were distributed in a manner to provide general coverage of the subject site.

Of the test holes completed on site, fourteen (14) were instrumented with monitoring wells. The test hole locations are shown on Drawing PG5570-1 - Test Hole Location Plan, located in Appendix 2.

The initial field program was completed between November 2020 to January 2022 and the supplemental program was completed between September to October 2022. The boreholes were advanced using a low clearance drill rig operated by a two-person crew while the test pits were advanced using a hydraulic shovel excavator. Both drilling and excavating occurred under full-time supervision of Paterson personnel. Soil samples were obtained from test holes by means of grab sampling, split spoon or the sampling of shallow soils directly from auger flights. Split spoon samples were taken at approximate 0.76 m intervals. In addition to soil

sampling, rock core samples were obtained with the use of a standard diamond drill bit. The depths at which grab, split spoon, auger flight and rock core samples were obtained from the test holes are shown as "**G**", "**SS**", "**AU**" and **"RC"** respectively on the Soil Profile and Test Data Sheets, appended to this report in Appendix 2.

The Standard Penetration Test (SPT) was conducted in conjunction with the recovery of the split-spoon samples. The SPT results are recorded as "N" values on the Soil Profile and Test Data sheets. The "N" value is the number of blows required to drive the split-spoon sampler 300 mm into the soil after a 150 mm initial penetration using a 63.5 kg hammer falling from a height of 760 mm.

All soil samples were classified on site, placed in sealed plastic bags and were transported to our laboratory for further review and testing. Transportation of the samples was completed in accordance with ASTM D4220-95 (2007) - Standard Practice for Preserving and Transporting Soil Samples.

Rock core samples were recovered from select boreholes (BH1-21, BH2-21, BH3-21, BH22A-21, BH24-21, BH33-21, BH34-21, BH1-22, BH2-22, BH3-22, BH4-22 and BH5-22) drilled during the geotechnical investigations using a core barrel and diamond drilling techniques. The bedrock samples were classified on site, placed in hard cardboard core boxes and transported to Paterson's laboratory.

The recovery value and a Rock Quality Designation (RQD) value were calculated for each drilled section of bedrock and are presented on the borehole logs. The recovery value is the length of the bedrock sample recovered over the length of the drilled section. The RQD value is the total length of intact rock pieces longer than 100 mm over the length of the core run. The values indicate the bedrock quality.

Subsurface conditions observed in the test holes were recorded in detail in the field. Reference should be made to the Soil Profile and Test Data sheets presented in Appendix 2 for specific details of the soil profile encountered at the test hole locations.

3.3 Laboratory Testing

All soil samples were retained for laboratory review following the field portion of the subsurface investigation. The soils were classified in general accordance with ASTM D2488-09a, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).

A total of 8 split spoon samples were submitted for grain size analyses from the initial investigation. A total of 2 split spoon samples and 2 grab samples were submitted for resistivity, pH, sulphate and chloride analyses. The supplemental investigation included an additional 4 aggregated surficial soil samples that were

submitted for grain size analyses. The testing was performed in general accordance with ASTM C117 Test Method for Materials Finer Than 75-m (No. 200) Sieve in Mineral Aggregates and Washing and ASTM C136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates. Grain size analysis results are appended to this report. Based on the soil descriptions encountered across the subject site during the various geotechnical and hydrogeological investigations and based on the spatial distribution of the above-noted samples, these samples are considered to be sufficiently representative of the subject site. Grain size, resistivity, pH, sulphate and chloride analyses can be found in Appendix 2.

3.4 Monitoring Well Installation

A total of 13 groundwater monitoring wells were installed by George Downing Estate Drilling of Hawkesbury, Ontario under the full-time supervision of Paterson personnel. The monitoring wells consisted of 51 mm diameter Schedule 40 threaded PVC risers and screens. A sand pack consisting of silica sand was placed around the screen, and a bentonite seal was placed above the screen and extended to ground surface to minimize cross-contamination.

An additional shallow groundwater monitor was installed using a hand auger to measure shallow overburden water levels at the west side of the subject site.

Monitoring well construction details are provided on the Soil Profile and Test Data Sheets appended to this report.

3.5 Piezometer Installation

Flexible polyethylene standpipes were installed in select boreholes to permit the monitoring of groundwater levels subsequent to the completion of the initial field program.

3.6 Groundwater Level Measurement

Groundwater levels were measured at the piezometer installations after the initial field investigation and at the monitoring well installations as part of both field investigations using an electronic water level meter. Groundwater levels were measured relative to the ground surface elevation at each monitoring installation. Groundwater levels at all locations are summarized in Table 1 appended in the Tables section of this report.

Multiple groundwater level measurement events have been completed to date with measurements occurring between January 2022 to May 2023. Groundwater levels in piezometers and the monitoring wells varied between 0.6 to 2.8 m below ground surface (bgs) and 0.0 to 3.7 m bgs, respectively.

Long term groundwater monitoring was undertaken using the VanEssen TD-Diver Water Level Datalogger (10 m) at the fourteen monitoring well locations between October 2022 and May 2023. The monitoring data is presented in Figures 1-12 appended in the Figures section of this report.

3.7 Hydraulic Conductivity Testing

Hydraulic conductivity testing was completed in select monitoring wells installed during both subsurface investigations. Falling head and rising head tests ("slug tests") were completed in accordance with ASTM Standard Test Method D 4404 - Field Procedure for Instantaneous Change in Head (Slug) Tests for Determining Hydraulic Properties of Aquifers.

Slug testing was completed in October 2022 by Paterson personnel. The general test method consisted of the measurement of the static water level in the well, followed by inducing a near-instantaneous change of head in the monitoring well and subsequent monitoring of water level recovery with an electronic water level tape and a Mini Diver water level logger. The change in head was induced by the introduction of either an acetal slug, 0.9 m in length and 38 mm in diameter, or a metal slug, 1.0 m in length and 19 mm in diameter, depending on the well diameter. The slug was introduced to raise the groundwater level in the monitoring well, following which the decrease in water level over time was monitored (falling head test). Once the water level had stabilized (or nearly stabilized), the slug was then removed to lower the groundwater level, following which the increase in water level over time was monitored (rising head test).

Following the completion of the slug tests, the test data was analyzed as per the method set out by Hvorslev (1951). Assumptions inherent in the Hvorslev method include a homogeneous and isotropic aquifer of infinite extent, zero-storage assumption, and a screen length significantly greater than the monitoring well diameter. The assumption regarding aquifer storage is considered to be appropriate for groundwater flow through the overburden and bedrock aquifer. The assumption regarding screen length and well diameter is considered to be met based upon a typical length of 1.52 m and a diameter of 0.03 to 0.05 m.

While the idealized assumptions regarding aquifer extent, homogeneity, and isotropy are not strictly met in this case (or in any real-world situation), it has been our experience that the Hvorslev method produces effective point estimates of hydraulic conductivity in conditions similar to those encountered at the subject site. Hvorslev analysis is based on the line of best fit through the field data (hydraulic head recovery vs. time), plotted on a semi-logarithmic scale.

Based on the above test methods, the overburden and bedrock monitoring wells displayed hydraulic conductivity values ranging from 4.2×10^{-6} to 2.2×10^{-5} m/sec and 4.3×10^{-7} to 1.6×10^{-4} m/sec, respectively. The hydraulic conductivity test

results can be found in Appendix 4 as well as in a summary table (Table 2) appended in the Tables section of this report.

3.8 Pask Permeameter Testing

Permeameter testing was conducted using a Pask (Constant Head Well) Permeameter in September 2022. An 83 mm diameter hole was excavated using a Riverside/Bucket auger to a depth of 0.3 m bgs and a separate hole was excavated to a depth of 0.6 m bgs at 12 locations. All soil from the auger flights were visually inspected and initially classified on site. The permeameter reservoir was filled with water and inverted into the hole, ensuring it was relatively vertical and rests on the bottom of the hole. The water level of the reservoir was monitored at 1-minute intervals until the rate of fall out of the permeameter reached equilibrium, known as quasi “steady state” flow rate. Quasi steady state flow can be considered to have been obtained after measuring 3 to 5 consecutive rate of fall readings with identical values. The values for the steady state rate of fall were recorded for each location.

Preparation and testing of this investigation are in accordance with the Canadian Standards Association (CSA) B65-12 - Annex E. The hydraulic conductivity (K_{fs}) values for each test hole location are presented in Table 2.

Hydraulic conductivity values were determined using Engineering Technologies Canada (ETC) Ltd. reference tables provided in the most recent ETC Pask Permeameter User Guide dated March 2016.

Based on the above testing, field saturated hydraulic conductivity values (K_{fs}) in the test holes ranged from 1.1×10^{-7} to 6.4×10^{-6} m/sec at a depth of 0.3 m and $\leq 8.3 \times 10^{-9}$ to 5.9×10^{-6} m/sec at a depth of 0.6 m. A summary of field saturated hydraulic conductivity results can be found in Table 3 appended in the Tables section of this report.

The field saturated hydraulic conductivity test results have been shown to be lower than the saturated hydraulic conductivity values typically measured. Reynolds (1993) has shown that the K_{fs} value can be less than or equal to half of K_s due to partial blocking of soil pores by air bubbles.

3.9 Stable Isotope Investigation

Stable isotopes, specifically deuterium (^{2}H) and oxygen-18 (^{18}O), are a useful tool to trace the water cycle and identify potential groundwater recharge and/or discharge zones. The ^{2}H and ^{18}O signature of local meteoric water will vary seasonally, apposed to the ^{2}H and ^{18}O signature of groundwater which remains constant (an average of local meteoric water). By comparing site specific isotope results to local meteoric water results, we can determine if surface water features are primarily impacted by groundwater or precipitation derived discharge.

A select number of monitoring wells were sampled for stable isotopes, specifically, deuterium (^{2}H) and oxygen-18 (^{18}O), to provide insight on groundwater recharge and discharge at the subject site. Prior to collecting each sample, a minimum of three well volumes were purged from the well to ensure that the sample was representative of the groundwater system. Once the well was developed and deemed to contain a representative sample, a 500 mL polyethylene sample bottle was filled with minimal to no headspace and refrigerated until it was submitted to the lab for isotopic analyses.

4.0 Review and Evaluation

4.1 Physical Setting

The subject site is a mix of agricultural land, forested areas, and a hydro corridor. The western portion of the proposed residential development consists of forested areas. There is a Stormwater Management Pond (SWMP) located adjacent to the northwestern boundary of the proposed residential development with the outlet extending southeast between the subject site parcels. The hydro corridor extends in a northerly direction across the site with a second SWMP located centrally on property owned by others. The eastern portion of the study area consists of a cleared area that has been converted into agricultural land. Northwest of the subject site has municipal services with existing and proposed residential developments. An existing, privately serviced residential development with country estate lots is located to the west of the proposed residential development. Shea Road is located to the east of the proposed residential development while Flewellyn Road is located to the south.

The subject site has topographical relief extending from the west corner of the site that ranges from approximatly109 m asl down to 102 m asl in the east corner. The ground surface exhibits a greater slope in the west portion of the site with a reduced slope extending eastward.

The Faulkner Drain transects the subject site from the northwest to the southeast. The west corner of the site contains a small shallow man-made excavation that was likely used for private aggregates. The excavation has been observed to be filled with water with a connection noted to extend to a man-made drainage ditch leading to the Faulkner Drain.

According to available mapping, the region is generally characterized by non-cohesive material with glaciomarine deposits which is generally consistent with field observations at the subject site. To the north, a small portion of the region is characterized by glacial till deposits which is generally consistent with field observations at the subject site.

4.2 Geology

4.2.1 Surficial Geology

The surficial geology mapping of the National Capital Region provided by the Ontario Geologic Survey was reviewed as a part of this assessment. Available mapping indicates that overburden soils at the subject site consist primarily of glaciomarine deposits with fine grained material to the east and coarse-grained material to the west. To the north, a small portion of the subject site consists of glacial till. Overburden soils mapping is shown on Drawing PH4625-1 - Surficial Geology Plan in Appendix 3.

Overburden soils identified by the geotechnical investigations by Paterson were generally consistent with the available mapping. Overburden thickness was observed to extend from 0.3 to 6.1 m bgs across the subject site, with available mapping indicating between 0 to 10 m of soil generally present which is shown on Drawing PH4625-2 - Overburden Drift Thickness Plan in Appendix 3. The overburden generally consisted of topsoil over silty sand to a sandy silt deposit underlain by glacial till. Clay was observed interbedded with the sandy silt layer on the eastern portion of the subject site. All layers were not observed in all test holes.

Specific details are provided on the Soil Profile and Test Data Sheets appended to this report in Appendix 2.

4.2.2 Bedrock Geology

Bedrock mapping, provided by Ontario Geologic Survey of the National Capital Region was reviewed as a part of this assessment. Available mapping indicates that bedrock across the subject site consists of limestone, dolostone, shale and sandstone of the Gull River Formation (Middle Ordovician). The Gull River Formation is a member of the Simcoe Group. Bedrock Geology mapping is shown on Drawing PH4625-3 - Bedrock Geology Plan in Appendix 3.

Bedrock was encountered and cored during the geotechnical investigations and was generally consistent with available mapping. Bedrock was encountered between 0.8 to 6.0 m bgs across the subject site and cored to a maximum depth of 10.2 m bgs. Shallower bedrock was encountered within the western portion of the subject site and deeper bedrock within the eastern portion. Generally, bedrock was characterized as excellent quality dolostone interbedded with limestone across the subject site. Bedrock depths are identified on the appended Drawing PG5570-2 - Bedrock Contour Plan.

4.2.3 Karst Features

The term ‘karst’ refers to a geologic formation characterized by the dissolution of carbonate bedrock, such as limestone. Based on a review of Ontario Geological Survey available mapping, a small area within the western portion of the subject site is inferred to contain karst, while the remainder of the site falls within an area that can potentially contain karst. It should be noted that no evidence of karstification was observed at the time of the field investigations completed at the subject site. Site specific testing provides better resolution than high level mapping as well as our experience at other sites in the area, it is our opinion that the subject site does not contain karst.

4.3 Hydrogeological Setting

4.3.1 Existing Aquifer Systems

Aquifer systems may be defined as geological media, either overburden soils or fractured bedrock, which permit the movement of groundwater under hydraulic gradients. In general, aquifer systems may be present in overburden soils or bedrock. The overburden soils at the subject site are relatively shallow and consist of moderate hydraulic conductivities with lower value materials on the east side of the subject site. Given the limited thickness and available quantity of groundwater within the overburden aquifer, it is not considered an adequate source for water supply wells. The domestic water wells surrounding the subject site are accessing the bedrock aquifers.

Based on a review of the MECP water well record database, Paterson has identified one aquifer system in the vicinity of the study area which consists of the underlying bedrock aquifer. The Gull River Formation aquifer system is located over the entirety of the study area. The majority of water wells are completed at greater depths within the bedrock unit.

This assessment will address the overburden aquifer and maintaining the existing water balance in order to protect existing water users/uses and the quantity/quality. The existing man-made excavation, as previously noted, allows a mixture of precipitation and limited volumes of shallow groundwater to daylight to surface. It currently allows for localized surficial flows to be directed to an unnamed man-made drainage ditch that connects to the Faulkner Drain. Isotope testing results, which are presented in Section 4.3.6.1, and the high RQD values observed in the bedrock aquifer support the interpretation that this man-made surface water feature is primarily impacted by surficial flows and surface water runoff. Construction of servicing and building excavations are expected to contribute to altering the existing flow paths and would limit the ability of the man-made water feature to function in the same manner. However, limiting the surficial contributions to this man-made surface water feature will not have an impact to the overall hydrogeological function of the site given that shallow groundwater will continue to flow laterally at the bedrock interface until it is discharged at the Faulkner Drain or roadside ditch.

4.3.2 Groundwater Levels

Piezometers and monitoring wells were placed across the study area for the purpose of monitoring groundwater levels. The piezometers were installed in the overburden and the monitoring wells were installed in the bedrock. Groundwater levels were observed to be between 0.6 to 2.8 m bgs in the piezometers and between 0.0 to 3.7 m bgs in the monitoring wells. The initial groundwater levels are shown on the Soil Profile and Test Data Sheets appended to this report in Appendix 2. Groundwater elevations that were collected on October 11, 2022,

were used to determine hydraulic gradients which are displayed in Table 4, Table 4b and Table 5 appended in the Tables section of this report, and to determine a general groundwater flow direction at the subject site which is shown on Paterson Drawing PH4625-5 - Groundwater Contour Plan within Appendix 3.

The water level monitoring program provides an overview of the variations in the monitoring well water levels based upon seasonal fluctuations. The manual measurements from the monitoring program are summarized in Table 1 at the end of this report.

The monitoring program extended from October 2022 to May 2023. The monitoring data was compared with Environment and Natural Resources Canada precipitation data from the Ottawa International Airport over the same timeframe as part of the monitoring program. The monitoring data is presented in Figures 1-12 appended in the Figures section of this report.

It is our interpretation that saturated conditions in the permeable overburden soils represent the existing water table at the subject site with the potential for minor groundwater lowering due to servicing installation and a typical minor water budget deficit after development. Groundwater levels in overburden soils are expected to vary seasonally and provide insignificant recharge to the underlying bedrock aquifer. Localized perched water conditions should lower during periods of low precipitation and increase during greater precipitation events. It should be noted that groundwater within the shallow overburden aquifer is expected to flow laterally at the bedrock interface until it is discharged at the Faulkner Drain or roadside ditch.

4.3.3 Horizontal Hydraulic Gradients

The direction of hydraulic gradients shows that groundwater flow travels predominantly from west to east towards the eastern corner of the subject site. The study area is located within the Flowing Creek subwatershed where local groundwater flow is generally in an eastward direction towards the Faulkner Drain. Regional groundwater flow is also in an eastward direction towards the Jock River.

The overburden and bedrock groundwater flow in the vicinity of the study area is considered to partially reflect local topography and subwatershed regional boundaries. The horizontal hydraulic gradient in the bedrock was observed to be in a general eastward direction with increased values within the western portion of the subject site. The bedrock horizontal gradients ranged from approximately 0.001 to 0.026 m/m. As for the horizontal hydraulic gradient in the overburden material, it was interpreted to have a similar magnitude and direction as the bedrock given the similarities in groundwater levels at the nested well locations. The overburden horizontal gradient was measured to be approximately 0.006 m/m east. A summary of the site values can be found in Table-4 - Horizontal Hydraulic Gradient Summary appended in the Tables section of this report.

4.3.4 Vertical Hydraulic Gradients

Vertical hydraulic gradients were calculated within two nested well installations across the study area. BH 1-22 and BH 1A-22 (west area of the study area) had a vertical upward gradient of approximately 0.011 to 0.015 m/m while BH 3-22 and BH 3A-22 (east area of the study area) had a vertical downward gradient of 0.004 to 0.035 m/m. It is anticipated that the vertical gradient observed in the west portion of the site is due to the higher topography to the west of the subject site providing additional head where groundwater may daylight in areas such as the man-made excavation observed in the west portion of the site. The eastern portion of the site is showing a slight downward gradient which is indicative of the overburden providing insignificant recharge to the underlying bedrock aquifer. A summary of the vertical gradients is displayed in Table 5 - Vertical Hydraulic Gradient Summary appended in the Tables section of this report.

4.3.5 Hydraulic Conductivity

Based on the field hydraulic conductivity testing undertaken as part of this assessment, the hydraulic conductivity of the overburden materials were observed to range between 4.2×10^{-6} m/sec to 2.2×10^{-5} m/sec while the hydraulic conductivity of the bedrock were observed to range between 4.3×10^{-7} to 1.6×10^{4} m/sec. These values are consistent with tabulated values from Freeze and Cherry (1979) and field values encountered at similar sites. A summary of the hydraulic conductivity results can be found in Table 2 in appended in the Tables section of this report.

To determine the field hydraulic conductivity of the unsaturated soils at the subject site, Pask Permeameter testing was conducted at depths of 0.3 and 0.6 m bgs. Twelve test locations were identified across the subject site to provide general coverage of surficial K_{fs} values.

The test results showed the surficial field saturated hydraulic conductivity ranged from 1.1×10^{-7} to 6.4×10^{-6} m/sec at a depth of 0.3 m and $\leq 8.3 \times 10^{-9}$ to 5.9×10^{-6} m/sec at a depth of 0.6 m. The values observed at 0.6 m depth were generally lower than the values at 0.3 m depth. Highest surficial field saturated values were observed within the western portion of the subject site indicating that the western portion of the site will exhibit more permeable characteristics than the eastern portion of the subject site. A summary of the surficial field saturated hydraulic conductivity results can be found in Table 3 appended in the Tables section of this report.

The hydraulic conductivity testing results suggest that the overburden materials act as a permeable layer to predominantly transmit groundwater in a horizontal direction with insignificant recharge to the bedrock layer below. Due to the higher RQD values noted, the recharge to the bedrock aquifer is anticipated to be

negligible. Based on the available information, the overburden soils will generally behave as an unconfined aquifer.

4.3.6 Groundwater Recharge and Discharge

In general, groundwater will follow the path of least resistance from areas of higher hydraulic head to areas of lower hydraulic head. Upward and downward hydraulic gradients are typically indicative of areas of discharge and recharge, respectively.

Based on field saturated hydraulic conductivity testing in the overburden soils, the overburden soils are considered to have a moderate hydraulic conductivity, which are mapped as a significant groundwater recharge area (SGRA). The Mississippi-Rideau Source Protection Region (MRSPR) SGRA mapping shows that the site area mapped as a recharge area is negligible compared to the overall SGRA zones. Site specific testing shows that subject site is underlain by high RQD bedrock which supports the interpretation that the significance of the recharge to the bedrock aquifer is insignificant given most of the surficial groundwater flow occurs laterally at the bedrock interface until it is discharged at the Faulkner Drain. It should be noted that site specific testing provides better resolution than the high level SGRA mapping provided by the MRSPR.

It is our interpretation that precipitation will intercept the soil surface where it will flow vertically downward through the unsaturated surficial soils to the groundwater table before travelling laterally through the overburden aquifer at the bedrock interface. There is inferred minor groundwater discharge to a man-made surface water feature in the western portion of the subject site due to topographic variations, however, is expected to be limited in nature due to the isotope results discussed in Section 4.3.6.1. This man-made surface water feature has a negligible impact to the overall hydrogeologic function of the subject site.

The vertical gradients observed at the site support the general assertion that the site provides recharge to the shallow overburden aquifer and insignificant recharge to the bedrock aquifer with a limited area of groundwater discharge to the west. This limited area of groundwater discharge is considered to be insignificant with respect to the overall hydrogeologic system.

The study area intersects one subwatershed as previously mentioned and will have flow generally travelling in an eastward direction within the western portion of the subject site, and in a southeastern direction within the eastern portion of the subject site, towards the Faulkner Drain which is tributary to the Jock River.

The presence of overburden soils with moderate hydraulic conductivity overlying the bedrock aquifer units are considered to provide the potential for insignificant groundwater recharge in these areas. It should be noted that the subject site is not identified by the MRSPR as a drinking water protection zone.

Based on the foregoing, groundwater recharge from ground surface to the bedrock aquifer units are considered to extend well beyond the boundary of the study area.

Additional measures to maintain post-development recharge should be reviewed by the Civil Consultant based on the soil properties and water budget information. The shallow bedrock, perched groundwater in the shallow overburden, and high RQD values may make it impractical to use infiltrating Low Impact Development (LID) measures on the site. The use of best management practices (BMP) should be used for stormwater quality and quantity control to assist in infiltrating clean water, treating salt impacted water where possible or redirecting salt impacted water away from the SGRA during seasonal periods with expected elevated salt levels.

4.3.6.1 Isotopes - Deuterium and ^{18}O

Isotope testing was conducted to provide further review of the groundwater flow regime. By comparing the isotopic sample results to the Local Meteoric Water Line (LMWL), interpretations about potential groundwater recharge and discharge zones can be made. A LMWL shows the relationship between ^{2}H and ^{18}O in precipitation for a specific geographic region, in this case Ottawa. Water features that are largely impacted by precipitation events will generally consist of a ^{2}H and ^{18}O signature that is similar to the ^{2}H and ^{18}O isotopes associated with that specific event. However, groundwater will generally have a ^{2}H and ^{18}O signature similar to the average ^{2}H and ^{18}O value of the LMWL. Therefore, it is expected that precipitation derived water ^{2}H and ^{18}O values will show seasonal variability where groundwater will not. Assessing temporal trends in the isotopic data will provide insight on potential discharge and recharge zones at the subject site.

To date, samples were collected from the man-made surface water feature and adjacent monitoring wells on October 28, 2022, December 5, 2022, February 1, 2023, April 4, 2023 and May 30, 2023. The results show that the bedrock water well samples collected during the sampling events all have similar ^{2}H and ^{18}O signatures. Therefore, it is apparent that the bedrock monitoring well samples are representative of the local bedrock groundwater system given the lack of seasonal variability in the isotope results. The samples collected from the man-made surface water feature had different ^{2}H and ^{18}O signatures between the sampling events, showing a more depleted isotopic signature in the winter than the fall and spring. The evolution in the surface water feature's isotopic signature follows the same trend as local meteoric waters, therefore, indicating that the man-made surface water feature is likely impacted by precipitation derived water within the overburden soil with minimal influence from bedrock aquifer discharge. Stable isotope results can be found in Figures 13-16: $\delta^{2}H/\delta^{18}O$ Results, appended to this report.

4.3.7 Gravity Driven Flow Paths

The potential for large-scale gravity driven flow pathways was assessed as part of this investigation. The majority of the study area consists of moderately permeable

material characterized by coarse to fine-grained non-cohesive glaciomarine deposits. The site-specific geological data and hydraulic conductivity testing confirmed the properties of the permeable subsoils across the site. However, localized conditions within the overburden material show variations in the hydraulic conductivity values at the subject site. Regions with more cohesive soils and higher percentages of fine-grained soils have lower hydraulic conductivity values than areas with non-cohesive soils.

The groundwater flow over the study area is considered to be predominantly lateral and with some influence due to topography. Infiltration of groundwater from the overburden material to the underlying bedrock aquifer is considered to be negligible.

4.3.8 Impact of Proposed Development on Surrounding Wells

As a component of this investigation, a review of water well records in the vicinity of the subject site was conducted, using the Ministry of the Environment, Conservation and Parks (MECP) online water well record search tool. Water well records within 500 m of the subject site can be found in Appendix 5, and the locations of the water wells provided by MECP's mapping tool are shown on the attached Drawing PH4625-4 - MECP Water Well Location Plan in Appendix 3.

If service trench dewatering is necessary, the radius of influence of the dewatering of service trench excavations can be estimated by using the Sichardt (1992) formula for unconfined aquifers:

$$R_0 = 3000[H - h_w]\sqrt{k}$$

Where R_0 (m) is the steady state radius of influence, H (m) is the thickness of the saturated aquifer, h_w (m) is the thickness of the dewatered aquifer and k (m/sec) is the hydraulic conductivity of the aquifer unit. The Sichardt formula assumes predominantly horizontal equipotential lines within the unconfined aquifer. This leads to increased accuracy for radius of influence approximations for the excavation being analyzed with increased distance from the dewatering source.

The hydraulic conductivity of the overburden materials was observed to range between 4.2×10^{-6} m/sec to 2.1×10^{-5} m/sec while the hydraulic conductivity of the bedrock was observed to range between 4.3×10^{-7} m/sec to 1.6×10^{-4}, respectively. The groundwater levels used for analysis purposes ranged from 0.6 to 4.4 m bgs with groundwater elevations varying seasonally. Groundwater varies seasonally and may be below the anticipated servicing and housing excavation depths at the time of development.

A steady state condition was used as the point of analysis; however, this condition may not be reached due to the typically short duration that servicing excavations are open prior to backfilling. Based on the above-noted assumed parameter values, radius of influence values for service trenches (maximum depth of 2 to 5

m below existing ground surface) within the development were estimated to be between 5 to 50 m.

A search of the Ontario Water Well Records online mapping database indicates there are several wells within 500 m of the site as depicted on Drawing PH4625-4 - MECP Water Well Location Plan included in Appendix 3. The development to the northwest is municipally serviced and any wells in that area would be erroneously located. The development to the west of the subject site is privately serviced and is considered to be upgradient. A number of WWR for the adjacent subdivision have been placed at the previous centroid of the Lot/Concession where they were drilled with multiple well records mapped on top of one another. However, due to the estate lot sizing, the majority of the wells would be expected to be outside of the theoretical radius of influence and extend well below any proposed excavation depth.

A groundwater impact assessment completed at the detailed design stage will inform the baseline sampling program area. Typically, wells accessing deeper aquifers are at lower risk of impacts by construction dewatering activities due to the greater vertical separation between the dewatering zone and the zone(s) at which water was encountered in these wells. Existing developments have been constructed in the area and Paterson is unaware of negative impacts on private wells related to the previous dewatering / bedrock removal for pre or post development conditions.

The water wells shown on Drawing PH4625-4 - MECP Water Well Location Plan in Appendix 3 should be reviewed based upon available MECP mapping and well installation logs to determine potential monitoring locations.

4.3.9 Environmental Concerns

A review of environmental concerns was performed based upon known and potential concerns related to the subject site.

Brownfield Environmental Site Registry

A review of the MECP's Brownfield Environmental Site Registry did not identify any environmental concerns within a search radius of greater than 500 m of the subject site. Based on observations of Paterson staff during field work, no potential environmental concerns were identified with respect to the subject site. No visual or olfactory evidence of contamination was observed in the soil, groundwater, or bedrock at the subject site.

Agricultural Practices

There are active agricultural sites in the downgradient direction of the subject site; however, given the typical nature of agricultural activities in the Ottawa area,

agricultural practices are considered to have a low potential to impact groundwater quality at the subject site.

Existing Permits to Take Water

There are two Permits to Take Water (PTTW) within 500 m of the subject site. Two of these permits (MECP Reference Numbers - 2630-AUPJNY and 3353-A8KQF) are construction dewatering permits that are used on an intermittent basis during the construction of site servicing and storm ponds related to residential developments in the area. The closest developments are anticipated to have completed the majority of the servicing requirements. The approved daily water taking volumes for all sources is 16,491,000 L/day for Permit 2630-AUPJNY and 5,165,000 L/day for permit number.

Groundwater

The overburden aquifer consists of coarser grained non-cohesive soils to the west and fine grained more cohesive soils to the east and is considered a significant groundwater recharge area (SGRA) under the Clean Water Act (2006). As an SGRA, it is important to protect the aquifer from contaminating activities. In order to maintain the pre-development water balance, it is recommended that a restriction on land uses be considered and alternative winter road maintenance within the SGRA to reduce the potential road salting impacts.

Land Use Restrictions

The majority of the development is expected to consist of residential low-density construction and parks. The proposed land uses are not typically potentially contaminating activities. It is recommended that all potentially contaminating activities, as described within O. Reg. 153/04: Records of Site Condition - Part XV.1 of the Act as set out in Schedule D - Table 2, be restricted. These restrictions would prevent the placement of land uses such as storage of gasoline and related products in fixed tanks, commercial autobody shops, dry cleaning operations and salt manufacturing, processing and bulk storage.

Winter Road Maintenance

As the maintenance of safe roadways is required by law, a comprehensive system must be in place to clear roadways in a timely manner and using cost effective methods. Rock salt has been one of the most cost-effective approaches to maintaining safe and clear roadways, however, a balance must be struck that also minimizes the negative effects of road salt entering the surface water and aquifers. Source Water Protection (SWP) encourages that in areas where road salt application and snow storage would be a drinking water threat to a highly vulnerable aquifer. A Road Salt Management Plan should be prepared and

implemented in accordance with Environment Canada's Code of Practice for the Environmental Management of Road Salts (ECC PEMRS) dated 2004.

The ECC PEMRS provides recommendations to prevent and/or control actions related to the protection of the environment from road salts. The Transportation Association of Canada (TAC) produced a guideline called "Syntheses of Best Practices - Road Salt Management" (SBPRSM) dated April 2013. The ECC PEMRS recommends that existing salt management plans be compared with the SBPRSM and the most current recommended practices. As the City of Ottawa was one of the many proponents providing funding for the SBPRSM study, they may have ongoing implementation of recommended salt best management practices within the guidelines.

Best management practices are not considered as a requirement under the ECC PEMRS, however, consideration should be given to following the SBPRSM when in an SGRA in order to facilitate the infiltration of clean precipitation to meet the pre-development water balance. Additional benefits to the road authority for following the recommended practices include more efficient operations, improved roadway safety and savings in material usage.

There are many recommended practices listed within the SBPRSM to facilitate the protection of the environment and while all are applicable, some of the practices will yield better results. These include:

- ❑ Salt Management Plans
- ❑ Training
- ❑ Infrastructure Design
- ❑ Drainage
- ❑ Pavements and Salt Management
- ❑ Vegetation Management
- ❑ Design and Operation of Maintenance Yards
- ❑ Snow Storage and Disposal
- ❑ Winter Maintenance Equipment and Technologies
- ❑ Salt Use on Private Roads, Parking Lots and Walkways

A salt management plan is recommended to identify the optimum quantity of salt to apply to maintain road safety and minimize environmental impacts. The best method to reducing road salt entering the environment is to reduce the quantity of the salt application. Many technologies exist to facilitate salt reduction and should be considered for all areas in proximity to SGRA's.

Drainage design is important to control road salt entering the environment through overland drainage/storm sewer systems, infiltration into the ground and salt spray caused by traffic. Various management options can be found within the SBPRSM to be evaluated against the local conditions. Snow and ice control management

should be based upon pavement temperatures as they can fluctuate greatly depending on many conditions (i.e. time of day, cloud cover, sub-surface conditions etc.).

Snow removal over the winter occurs to increase safety and allow for future snow clearing storage adjacent to roadways. The snow that is removed can be impacted by ice control chemicals, oil/grease, heavy metals, litter, dirt and other pollutants. The SBPRSM notes that chlorides found in snow leave the snow soon after it is stockpiled along the roadside. The report does not specify the length of time before the chlorides leave the stockpiled snow. It is recommended that methods be reviewed that would reduce road salt application and provide removal of snow prior to chlorides leaving the roadway stockpiles unless the timeframe is unreasonable. In addition, snow removal should be deposited at an off-site location where meltwater would not be at risk of infiltrating into the SGRA.

Education of private contractors may also reduce potential salt effects due to the number of parking areas associated with institutional developments. It is recommended that a Smart About Salt certification be required for contractors operating within salt vulnerable areas.

The preceding recommendations are a brief summary of TAC's best practices for road salt management. Any design of a salt management plan should be done in accordance with the ECC PEMRS and SBPRSM guidelines.

The City of Ottawa Material Application Policy dated October 2011 is appended within Appendix 7. The application policy states that some minor collector and all residential roads will undergo the standard treatment for snow packed roadways. A snow packed roadway requires snow and ice be cleared after completion of the storm and abrasives applied at areas of concern.

The City of Ottawa policy provides a treatment standard for the majority of the roadways in the proposed development that fall under snow packed. The snow packed treatment will minimize the road salt potential and allow the capture of clean precipitation for infiltration without requiring treatment.

5.0 Assessment and Recommendations

Existing Wells

Existing water supply wells in the vicinity of the subject site are completed at depths well below the anticipated municipal servicing depths with WWRs noting that water-bearing zones were encountered below the anticipated servicing depths at the subject site. As such, these wells are considered to have a relatively low potential to be impacted by construction dewatering activities at the subject site. The majority of the wells are located upgradient of the subject site with potential impacts related to historical developments that are existing. It is expected that a baseline monitoring program will provide information on the existing water supply wells. The baseline sampling program would be completed as a due diligence measure during the detailed design stage with pre-consultation with the City hydrogeologist.

The proposed development of the subject site will be serviced by municipally supplied services. The assessment of the suitability of groundwater resources for the proposed development of the subject site was not considered.

The proposed development contains one water well believed to be erroneously located as per the MECP mapping available online. As such, decommissioning of existing on-site water wells may be required. These wells should be decommissioned by licensed water well contractors as per Ontario Regulation 903 (Wells) under the Ontario Water Resources Act. Based on the MECP database, the locations of existing water wells within the subject site are shown on Drawing PH4625-4 - MECP Water Well Location Plan Located in Appendix 3. There are additional residences in proximity to the subject site boundary that could be included in the overall development. If these properties are acquired and incorporated into the development area, the wells will be required to be decommissioned. The decommissioning of the wells can be completed at the development construction stage.

Existing Private Sewage Systems

It is recommended that existing private sewage systems, if encountered, within the subject site be properly decommissioned by a qualified contractor prior to the redevelopment of the subject site. No systems are anticipated to be encountered.

Existing Tile Drains

The presence of tile drains was not confirmed on the subject site. A typical design for agricultural fields includes tile drains, however, the current agricultural field is not anticipated to have tile drains due to its age. It is recommended that tile drains be removed and/or capped on an as-encountered basis.

Sources of Contamination

Road salt mitigation is expected as an ongoing concern for the SGRA. It is recommended to follow the guidelines presented by ECC PEMRS and the TAC. The mitigation of future road salt contamination must be a joint venture between on site design (i.e. BMP and stormwater design) and City of Ottawa road maintenance programs. Recommendations were provided in Section 4.3.9.5 - Groundwater to provide a maintenance program to minimize exposure of the SGRA to potential contaminants.

Bedrock was encountered at depths between 0.8 to 6.0 m bgs during the geotechnical investigations. Bedrock mapping indicates that bedrock is at a depth of 0 to 10 m bgs. It is anticipated that bedrock removal will be required during development of the proposed site. As such, a groundwater impact assessment and baseline sampling program will be required for adjacent water supply wells. Previous reporting by others for the adjacent subdivision recommended a sampling radius of 200 m. The City will be consulted on the proposed sampling program and parameters.

Services

The subject site is to be developed with municipal sewer and water services. General recommendations regarding site servicing are provided under separate cover in our geotechnical investigation report. Specific hydrogeological and geotechnical recommendations will be provided during the detailed design phase. Although specific details regarding site servicing are not currently available, it is our expectation that servicing depths within the subject site will be in the range of 2 to 5 m below existing ground surface based upon existing servicing depths in the surrounding area and the preliminary grade raises proposed.

Permit To Take Water

For any water taking of greater than 50,000 L/day, a Permit To Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) is required from the MECP. A permit may be required for construction dewatering or works below the water table. The requirement for a PTTW at the subject site will be determined during the detailed design phase dependent upon proposed servicing depths and potential to intercept the groundwater table. The information contained in this report may be used as supporting documentation for a PTTW or EASR application for the subject site. Depending on the nature of the proposed water taking, additional hydrogeological investigation may be required.

Areas of Recharge Potential

Based on geological and hydrogeological conditions at the subject site, as discussed in previous sections, the potential for groundwater recharge through

overburden soils to the underlying bedrock aquifer is mapped over the majority of the subject site. However, based on the bedrock quality, it is inferred that the recharge to the bedrock aquifer will be insignificant within the boundaries of the subject site. Given that the MRSPR SGRA mapping shows that the site area mapped as a recharge area is minimal compared to the overall SGRA zones in the area, the majority of recharge to bedrock aquifers is interpreted to occur in areas off-site to the west/southwest where bedrock quality may be lower within the SGRA, however, specific areas are not known. It is expected that groundwater recharge from the overburden soils to the bedrock aquifer will be negligible on site with specific information available within the site-specific water budget.

Opportunities and Constraints

Based on geological and hydrogeological conditions at the subject site, as discussed in previous sections, the potential for shallow overburden groundwater recharge exists over portions of the site that are characterized by glaciofluvial or coarse-textured glaciomarine deposits. The groundwater provides recharge to the shallow overburden aquifer in addition to discharge to the Faulkner Drain which is tributary to the Jock River. It is expected there is limited contribution to the bedrock aquifer due to the high RQD values.

Based on isotope testing results, the existing man-made surface water feature collects localized surface water runoff and limited groundwater discharge, allowing for surficial flows to be directed to an unnamed man-made drainage ditch that connects to the Faulkner Drain. Therefore, the man-made surface water feature is prominently recharged by surface water runoff and isolated groundwater discharge from shallow overburden materials, not the bedrock aquifer. During the construction of the proposed development (i.e. Site servicing and building excavations), it is expected that the shallow overburden will be disturbed with the existing flow paths being altered and would limit the ability for the man-made surface water feature to function in the same manner subsequent to development. However, this will have a negligible impact to the overall water balance at the subject site given that the man-made surface water feature has negligible impacts to the hydrogeological function of the subject site. The opportunity exists for BMPs to maintain recharge to the shallow overburden aquifer at various locations across the subject site.

6.0 Closure

The client should be aware that any information pertaining to soils and all test hole logs are furnished as a matter of general information only, and test hole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those of the test holes.

This report has been prepared for Caivan (Stittsville South) Inc. and Caivan (Stittsville West) Ltd. in support of the proposed residential development to be located at 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road. It is hereby acknowledged that Caivan (Stittsville South) Inc. and Caivan (Stittsville West) Ltd. may rely upon and utilize this report for the purpose of obtaining approval of the proposed development.

Paterson Group Inc.

Michael Killam, P.Eng.

Oliver Blume, P.Geo.

TABLES

Table 1 - Monitoring Well Water Level Measurement Summary															
Well ID		**BH1-21**	**BH2-21**	**BH3-21**	**BH22A-21**	**BH24-21**	**BH33-21**	**HA1-22**	**BH1-22**	**BH1A-22**	**BH2-22**	**BH3-22**	**BH3A-22**	**BH4-22**	**BH5-22**
Ground Surface Elevation (m asl)		104.29	107.19	108.41	102.98	103.07	104.7	106.78	107.31	107.31	103.58	102.25	102.25	105.71	105.7
Groundwater (GW) Measurements															
11-Jan-22	**GW Level (m bgs)**	1.22	0.82	0.89	2.49	0.67	1.84	Wells Were Not Installed At This Time							
	GW Elevation (m asl)	103.07	106.37	107.52	100.49	102.40	102.86								
11-Oct-22	**GW Level (m bgs)**	1.12	1.16	0.90	2.61	0.60	2.12	0.31	1.33	1.44	1.52	0.84	0.81	3.62	1.62
	GW Elevation (m asl)	103.17	106.03	107.51	100.37	102.47	102.59	106.48	105.99	105.87	102.06	101.42	101.44	102.10	104.09
28-Oct-22	**GW Level (m bgs)**	1.01	0.95	0.92	N/A	0.46	1.98	0.28	1.35	1.43	1.52	0.61	0.40	3.65	1.64
	GW Elevation (m asl)	103.28	106.25	107.49	N/A	102.61	102.72	106.51	105.97	105.88	102.06	101.64	101.85	102.07	104.06
04-Apr-23	**GW Level (m bgs)**	0.09	0.33	0.52	1.77	-0.03	1.20	0.14	0.83	0.94	0.59	0.11	0.00	3.08	0.90
	GW Elevation (m asl)	104.21	106.87	107.89	101.21	103.10	103.51	106.64	106.48	106.38	102.99	102.15	102.25	102.64	104.80
31-May-23	**GW Level (m bgs)**	0.97	0.87	0.84	2.72	0.74	2.22	0.29	1.35	1.46	1.31	0.93	0.99	3.48	1.56
	GW Elevation (m asl)	103.33	106.32	107.57	100.26	102.34	102.49	106.49	105.96	105.86	102.27	101.32	101.26	102.23	104.14

Table 2 - Single Well Response Test Results Summary

Test Hole ID	Ground Surface Elevation (m asl)	Screened Interval (m bgs)	Hydraulic Conductivity (m/s)	Test Type	Screened Media
BH1-22	107.31	7.5 - 9.0	$1.2x10^{-5}$	Falling Head	Bedrock
			$1.5x10^{-5}$	Falling Head	
			$1.6x10^{-5}$	Falling Head	
			$1.9x10^{-5}$	Rising Head	
			$1.5x10^{-5}$	Rising Head	
BH2-22	103.58	7.5 - 9.0	$8.9x10^{-6}$	Falling Head	Bedrock
			$9.1x10^{-6}$	Rising Head	
BH3-22	102.25	7.5 - 9.0	$6.0x10^{-5}$	Falling Head	Bedrock
			$6.6x10^{-5}$	Rising Head	
BH3A-22	102.25	1.7 - 3.2	$4.2x10^{-6}$	Falling Head	Silty Sand to Sandy Silt & Glacial Till
			$4.8x10^{-6}$	Rising Head	
BH4-22	105.71	7.5 - 9.0	$8.7x10^{-7}$	Falling Head	Bedrock
			$9.1x10^{-7}$	Rising Head	
BH5-22	105.70	7.5 - 9.0	$1.2x10^{-5}$	Falling Head	Bedrock
			$2.0x10^{-5}$	Falling Head	
			$1.4x10^{-5}$	Rising Head	Bedrock
			$1.5x10^{-5}$	Rising Head	
HA1-22	106.78	0.4 – 0.7	$2.2x10^{-5}$	Falling Head	Silty Sand
			$8.8x10^{-6}$	Rising Head	
BH1-21	104.29	2.8 - 5.8	$1.4x10^{-4}$	Falling Head	Bedrock
			$1.1x10^{-4}$	Rising Head	
BH2-21	107.19	2.6 - 5.6	$4.0x10^{-5}$	Falling Head	Bedrock
			$4.0x10^{-5}$	Falling Head	
			$3.9x10^{-5}$	Rising Head	
			$4.1x10^{-5}$	Rising Head	
BH3-21	108.41	2.7 - 5.7	$3.0x10^{-6}$	Falling Head	Bedrock
BH22A-21	102.98	7.2 - 10.2	$4.3x10^{-7}$	Falling Head	Bedrock
BH24-21	103.07	4.9 - 7.9	$6.0x10^{-5}$	Falling Head	Bedrock
			$7.3x10^{-5}$	Falling Head	
			$5.8x10^{-5}$	Rising Head	
			$5.7x10^{-5}$	Rising Head	
BH33-21	104.70	3.3 - 6.3	$1.6x10^{-4}$	Rising Head	Bedrock

Table 3 - Overburden Field Saturated Hydraulic Conductivity Results and Estimated Infiltration Rates

Test Completed Adjacent to Borehole ID	Infiltration Testing Elevation (m asl)	Material	K_{fs} (m/s)*	Unfactored Infiltration Rate (mm/hr)**
BH1-21	103.90	Brown Silty Sand	$2.1x10^{-6}$	56
	103.63	Brown Silty Sand	$1.9x10^{-6}$	56
BH2-21	106.95	Brown Silty Sand	$6.4x10^{-6}$	76
	106.65	Brown Silty Sand	$5.3x10^{-7}$	39
BH7-21	106.74	Brown Silty Sand	$1.1x10^{-6}$	47
	106.44	Brown Silty Sand	$1.6x10^{-6}$	52
BH11-21	104.68	Brown Silty Sand	$2.7x10^{-6}$	60
	104.38	Brown Silty Sand to Sandy Silt	$1.6x10^{-6}$	52
BH15-21	102.70	Brown Silty Sand to Sandy Silt	$2.1x10^{-7}$	31
	102.48	Brown Silty Sand to Sandy Silt	$< 8.1x10^{-9}$	≤ 13
BH17-21	106.74	Brown Silty Sand to Sandy Silt	$5.9x10^{-6}$	74
	106.44	Brown Silty Sand to Sandy Silt	$4.1x10^{-6}$	67
BH22-21	102.58	Brown Silty Sand	$1.1x10^{-6}$	47
	102.28	Brown Silty Sand	$1.6x10^{-6}$	52
BH23-21	102.33	Brown Silty Clay w/ Sand	$5.3x10^{-7}$	39
	101.70	Brown Silty Clay	$< 8.1x10^{-9}$	≤ 13
BH26-21	102.74	Brown Silty Clay w/ Sand	$1.1x10^{-7}$	26
	102.44	Brown Silty Clay w/ Sand	$1.1x10^{-7}$	26
BH29-21	101.87	Brown Silty Sand to Sandy Silt	$5.3x10^{-7}$	39
	101.57	Brown Silty Sand to Sandy Silt	$2.7x10^{-7}$	33
BH31-21	103.19	Brown Silty Sand to Sandy Silt	$1.1x10^{-6}$	47
	102.89	Brown Silty Sand to Sandy Silt	$1.4x10^{-7}$	27
BH37-21	103.21	Brown Silty Sand to Sandy Silt	$5.3x10^{-6}$	72
	102.91	Brown Silty Sand to Sandy Silt	$5.9x10^{-6}$	74

*Field hydraulic conductivity (Kfs)

**The infiltration rates do not include a safety correction factor. Based on our testing results, a safety correction factor can range between 2.5 to ≥ 3.5.

Table 4 - Horizontal Hydraulic Gradient Summary

Well 'A'		Well 'B'				
Well ID	**GW Elevation (m asl)**	**Well ID**	**GW Elevation (m asl)**	**Distance (m)**	**Hydraulic Gradient (m/m)***	**Date**
BH3-21	107.515	BH1-22	105.985	73	0.0208	October 11, 2022
BH3-21	107.515	BH5-22	104.085	131	0.0263	October 11, 2022
BH3-21	107.515	BH4-22	102.095	206	0.0263	October 11, 2022
BH1-22	105.985	BH2-21	106.03	197	-0.0002	October 11, 2022
BH1-22	105.985	BH1-21	103.17	442	0.0064	October 11, 2022
BH1-22	105.985	BH5-22	104.085	148	0.0128	October 11, 2022
BH1-22	105.985	BH2-22	102.06	447	0.0088	October 11, 2022
BH1A-22	105.87	BH3A-22	101.44	708	0.0063	October 11, 2022
BH2-21	106.03	BH1-21	103.17	296	0.0097	October 11, 2022
BH2-21	106.03	BH2-22	102.06	358	0.0111	October 11, 2022
BH5-22	104.085	BH4-22	102.095	137	0.0145	October 11, 2022
BH5-22	104.085	BH2-22	102.06	330	0.0061	October 11, 2022
BH2-22	102.06	BH3-22	101.415	397	0.0016	October 11, 2022
BH33-21	102.585	BH3-22	101.415	485	0.0024	October 11, 2022
BH33-21	102.585	BH22A-21	100.37	549	0.0040	October 11, 2022
BH33-21	102.585	BH24-21	102.47	307	0.0004	October 11, 2022
BH3-22	101.415	BH22A-21	100.37	296	0.0035	October 11, 2022
BH24-21	102.47	BH22A-21	100.37	524	0.0040	October 11, 2022
BH4-22	102.095	BH3-22	101.415	584	0.0012	October 11, 2022
BH4-22	102.095	BH33-21	102.585	404	-0.0012	October 11, 2022

*Hydraulic Gradient = (GW Elevation Well 'A' - GW Elevation Well 'B') / Distance

Table 4b - Horizontal Hydraulic Gradient Summary

Well 'A'		Well 'B'				
Well ID	**GW Elevation (m asl)**	**Well ID**	**GW Elevation (m asl)**	**Distance (m)**	**Hydraulic Gradient (m/m)***	**Date**
BH3-21	107.57	BH1-22	105.96	73	0.0219	May 30, 2023
BH3-21	107.57	BH5-22	104.14	131	0.0263	May 30, 2023
BH3-21	107.57	BH4-22	102.23	206	0.0259	May 30, 2023
BH1-22	105.96	BH2-21	106.32	197	-0.0018	May 30, 2023
BH1-22	105.96	BH1-21	103.325	442	0.0060	May 30, 2023
BH1-22	105.96	BH5-22	104.14	148	0.0123	May 30, 2023
BH1-22	105.96	BH2-22	102.27	447	0.0082	May 30, 2023
BH1A-22	105.855	BH3A-22	101.26	708	0.0065	May 30, 2023
BH2-21	106.32	BH1-21	103.325	296	0.0101	May 30, 2023
BH2-21	106.32	BH2-22	102.27	358	0.0113	May 30, 2023
BH5-22	104.14	BH4-22	102.23	137	0.0139	May 30, 2023
BH5-22	104.14	BH2-22	102.27	330	0.0057	May 30, 2023
BH2-22	102.27	BH3-22	101.32	397	0.0024	May 30, 2023
BH33-21	102.485	BH3-22	101.32	485	0.0024	May 30, 2023
BH33-21	102.485	BH22A-21	100.26	549	0.0041	May 30, 2023
BH33-21	102.485	BH24-21	102.335	307	0.0005	May 30, 2023
BH3-22	101.32	BH22A-21	100.26	296	0.0036	May 30, 2023
BH24-21	102.335	BH22A-21	100.26	524	0.0040	May 30, 2023
BH4-22	102.23	BH3-22	101.32	584	0.0016	May 30, 2023
BH4-22	102.23	BH33-21	102.485	404	-0.0006	May 30, 2023

*Hydraulic Gradient = (GW Elevation Well 'A' - GW Elevation Well 'B') / Distance

Table 5 - Vertical Hydraulic Gradient Summary

Well 'A'			Well 'B'				
Well ID	**GW Elevation (m asl)**	**Well Depth (m)**	**Well ID**	**GW Elevation (m asl)**	**Well Depth (m)**	**Hydraulic Gradient (m/m)***	**Date**
BH1-22	105.985	98.29	BH1A-22	105.87	105.69	-0.0155	October 11, 2022
BH3-22	101.415	93.13	BH3A-22	101.44	99.1	0.0042	October 11, 2022
BH1-22	105.965	98.29	BH1A-22	105.88	105.69	-0.0115	October 28, 2022
BH3-22	101.64	93.13	BH3A-22	101.85	99.1	0.0352	October 28, 2022
BH1-22	105.96	98.29	BH1A-22	105.855	105.69	-0.0142	May 30, 2023
BH3-22	101.32	93.13	BH3A-22	101.26	99.1	-0.0101	May 30, 2023

*Hydraulic Gradient = (GW Elevation Well 'A' - GW Elevation Well 'B') / (Well Depth Well 'A' - Well Depth Well 'B')

FIGURES

Figure 1: BH1-21 - Monitoring Well Water Elevations

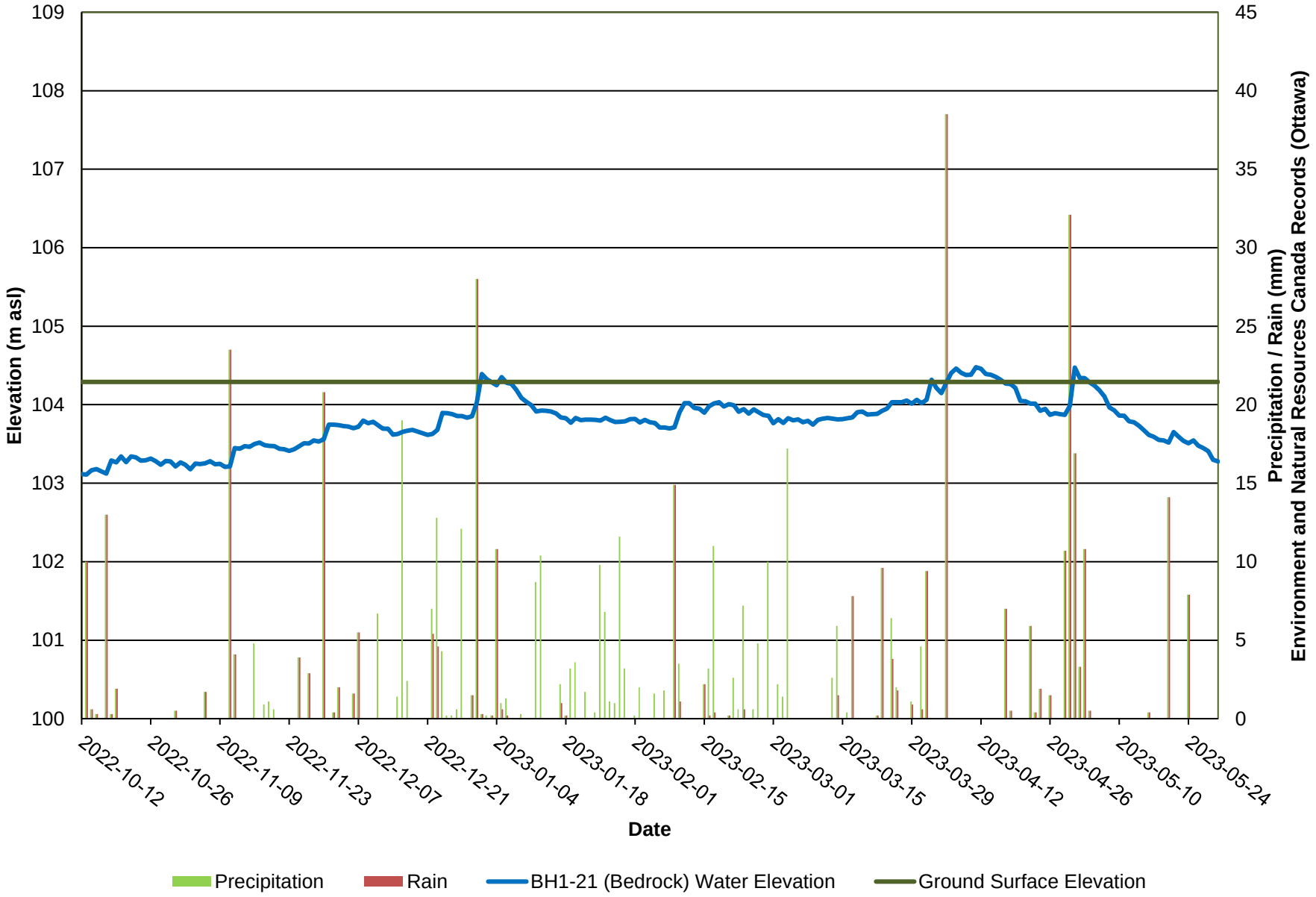

Figure 2: BH2-21 - Monitoring Well Water Elevations

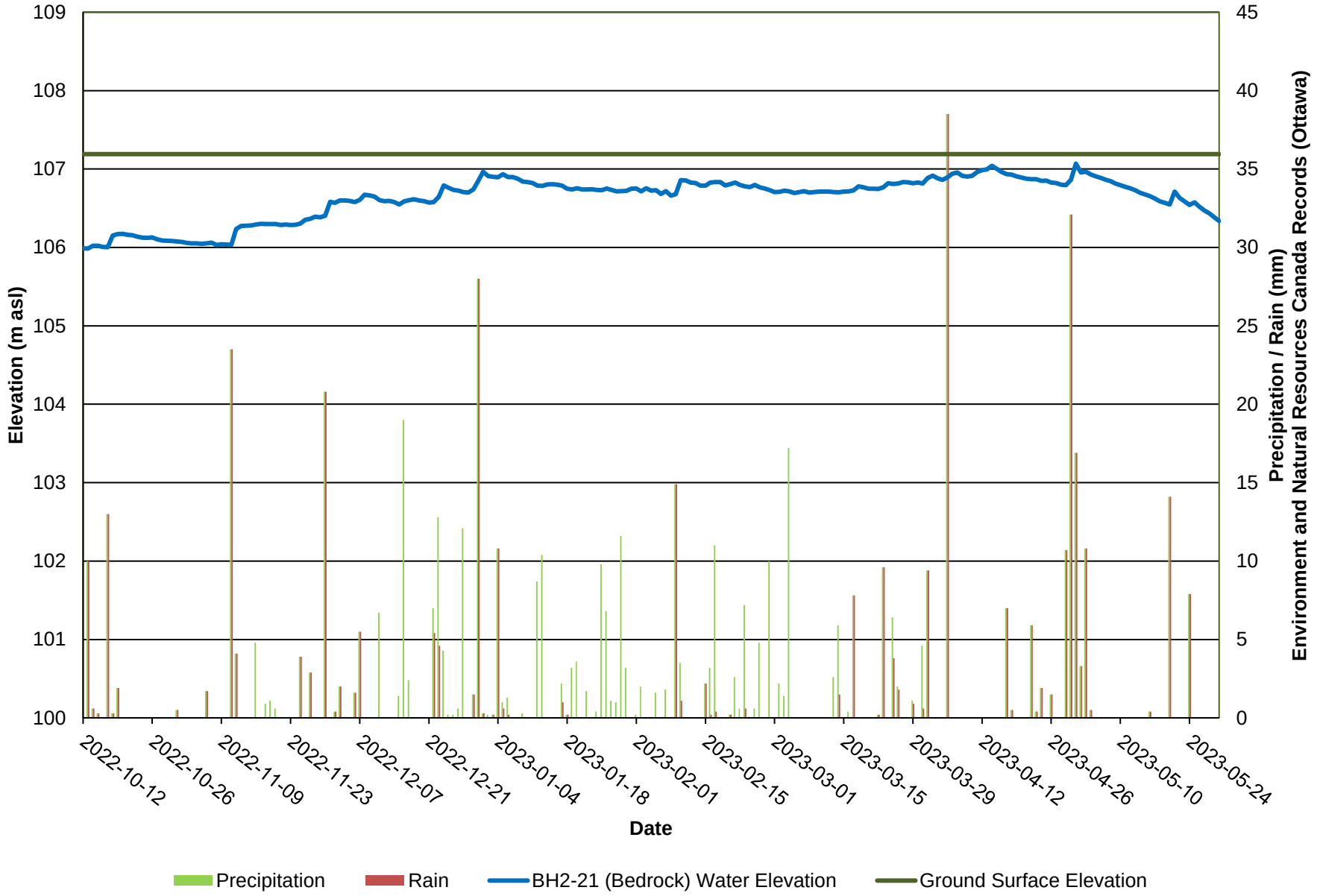

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Figure 3: BH3-21 - Monitoring Well Water Elevations

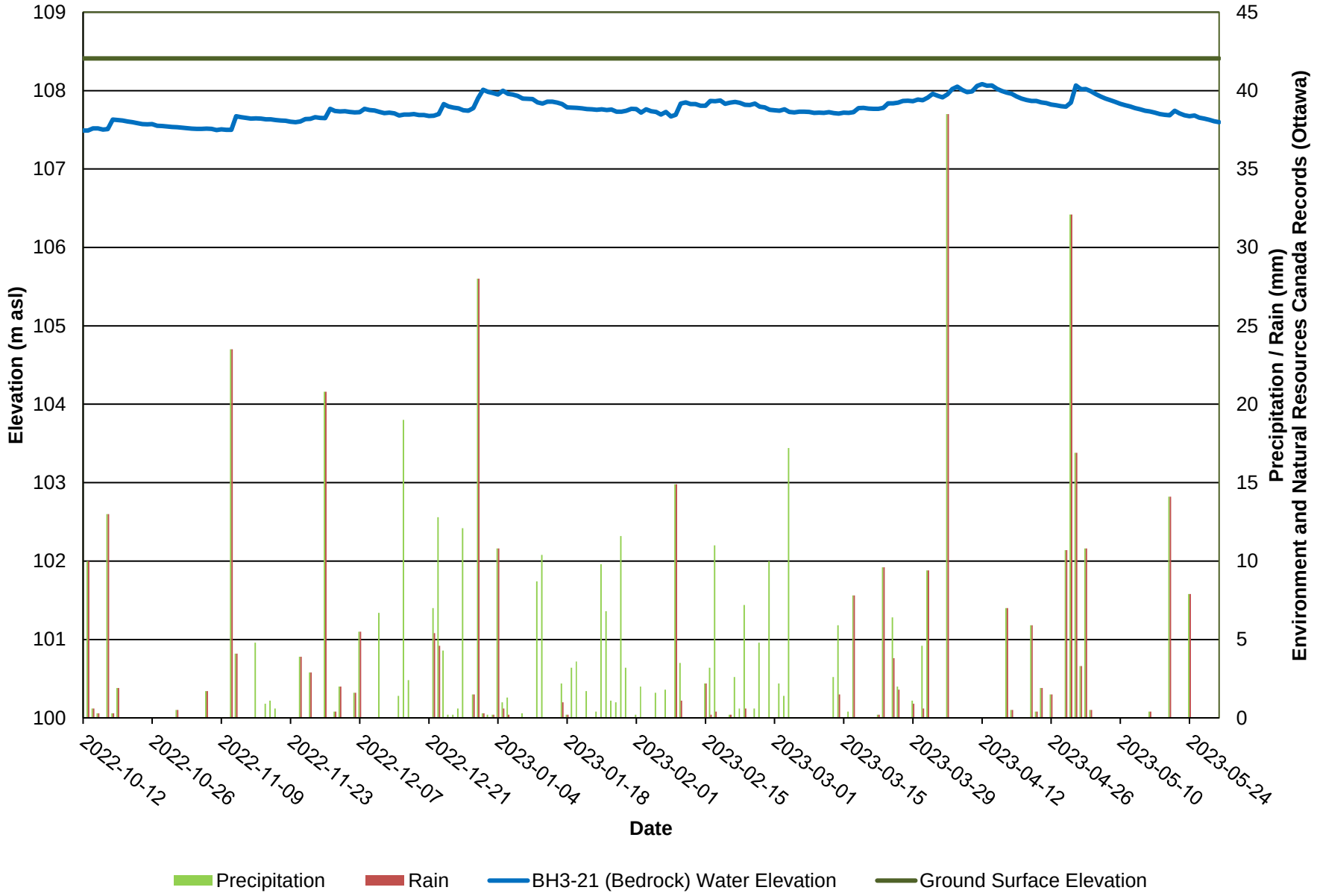

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Figure 4: BH22A-21 - Monitoring Well Water Elevations

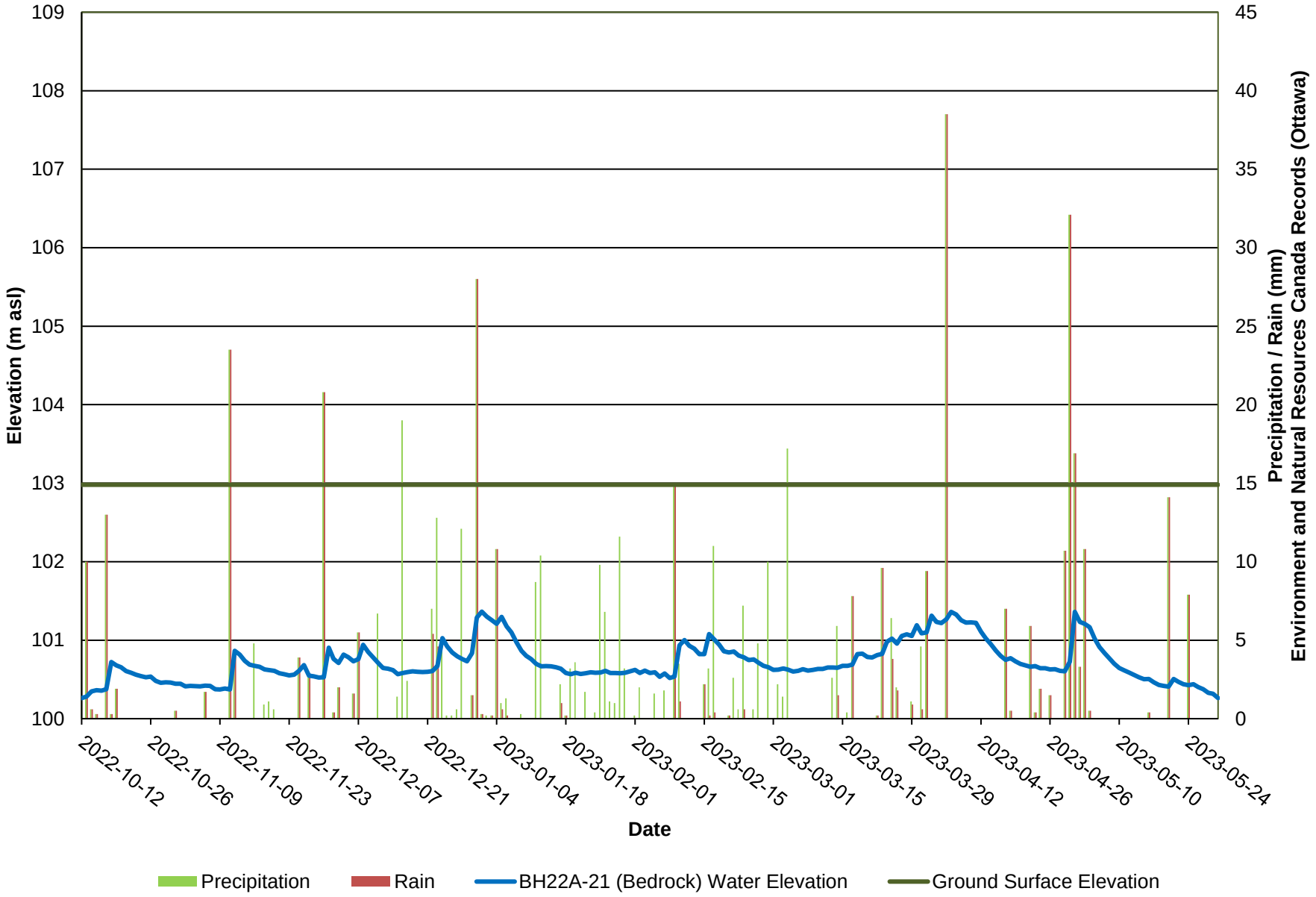

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Figure 5: BH24-21 - Monitoring Well Water Elevations

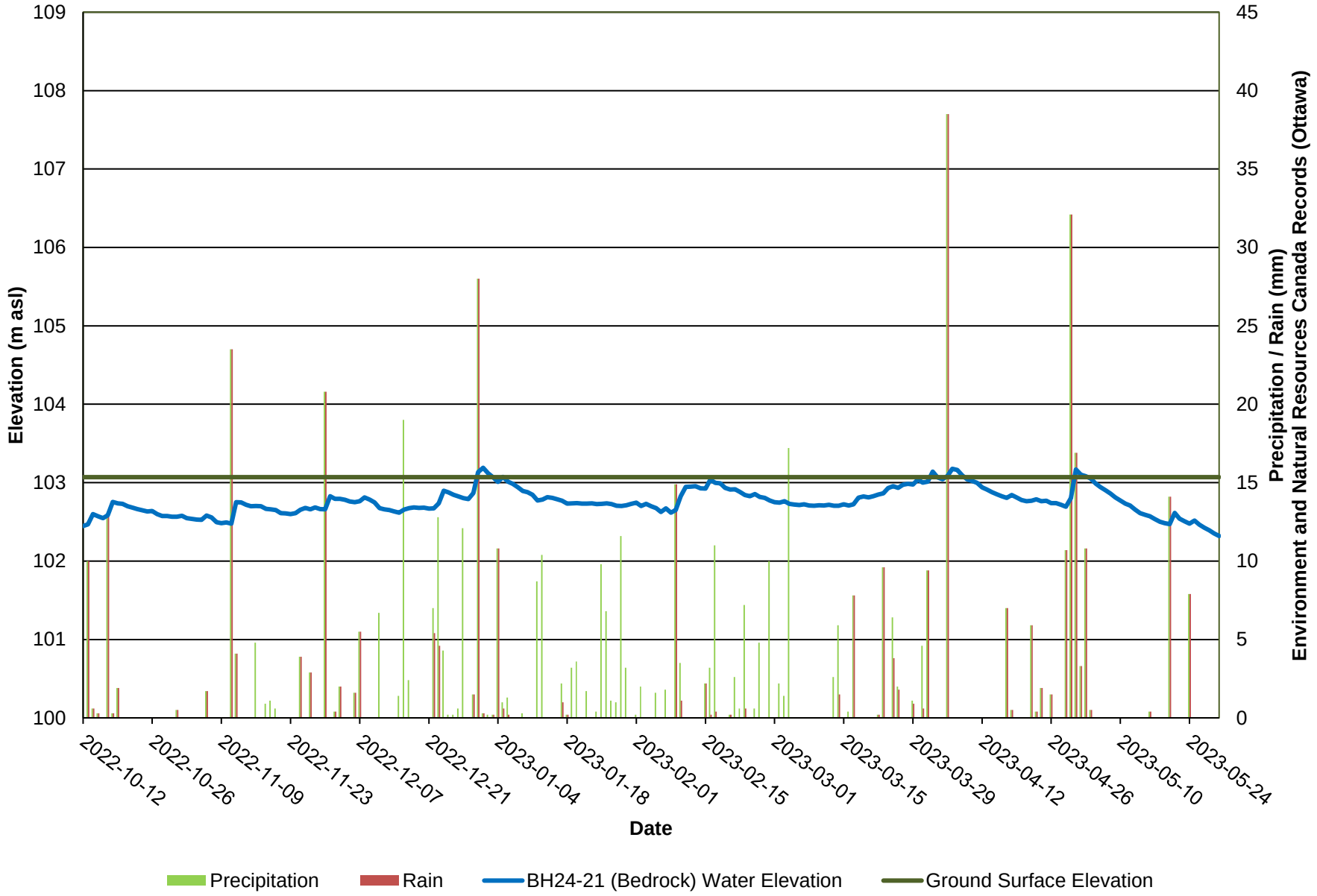

Figure 6: BH33-21 - Monitoring Well Water Elevations

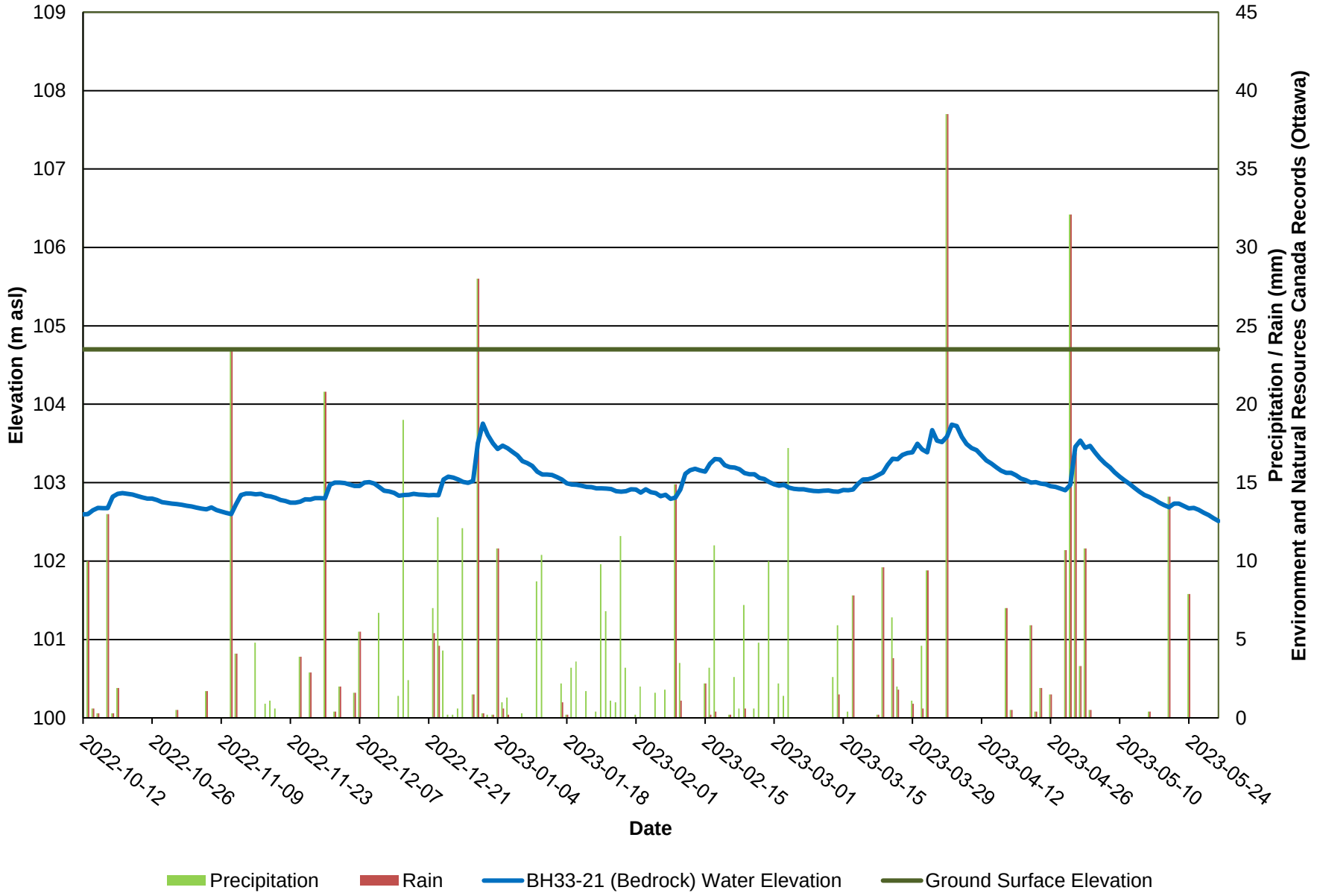

Figure 7: BH1-22 & BH1A-22 - Monitoring Well Water Elevations

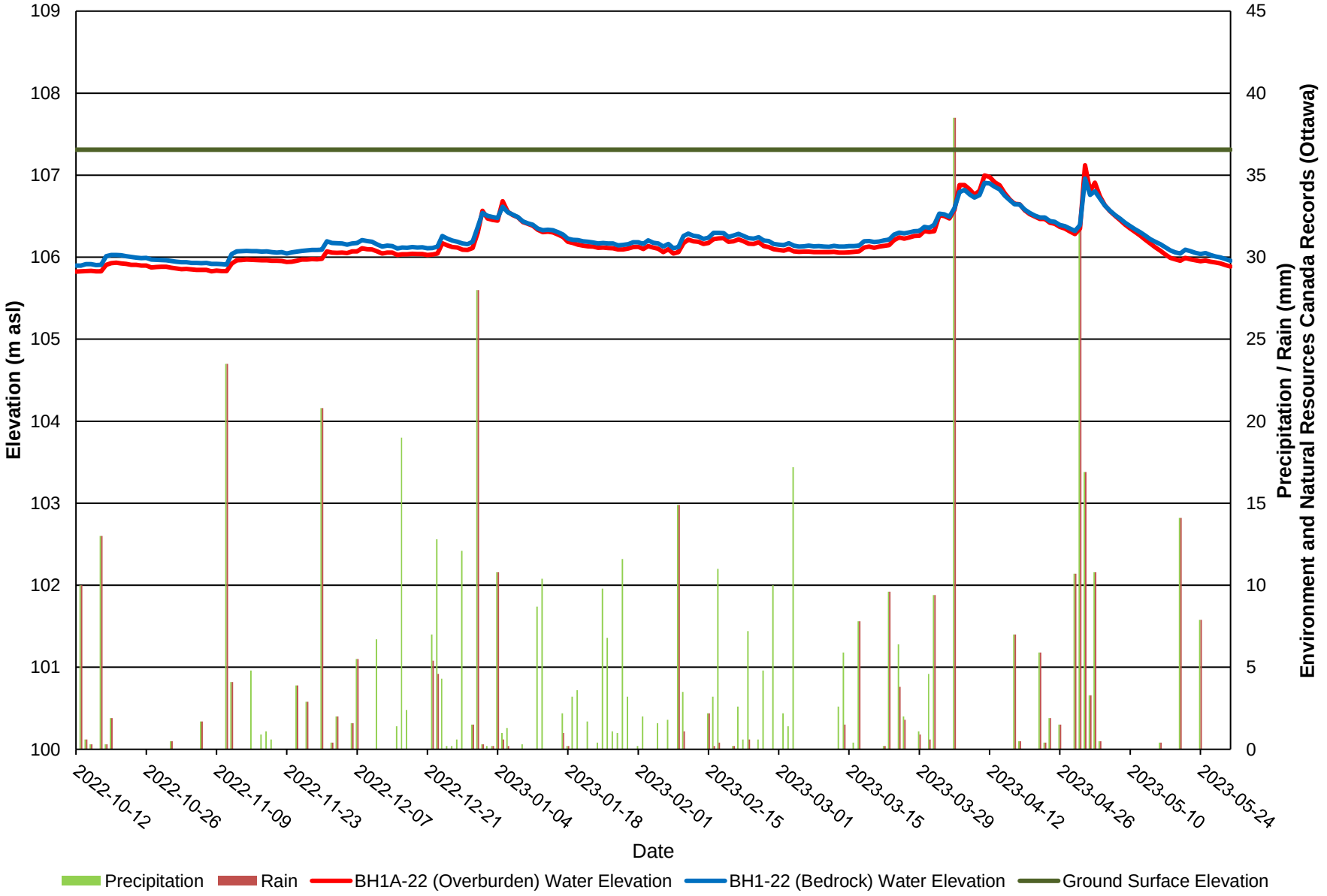

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Figure 8: BH2-22 - Monitoring Well Water Elevations

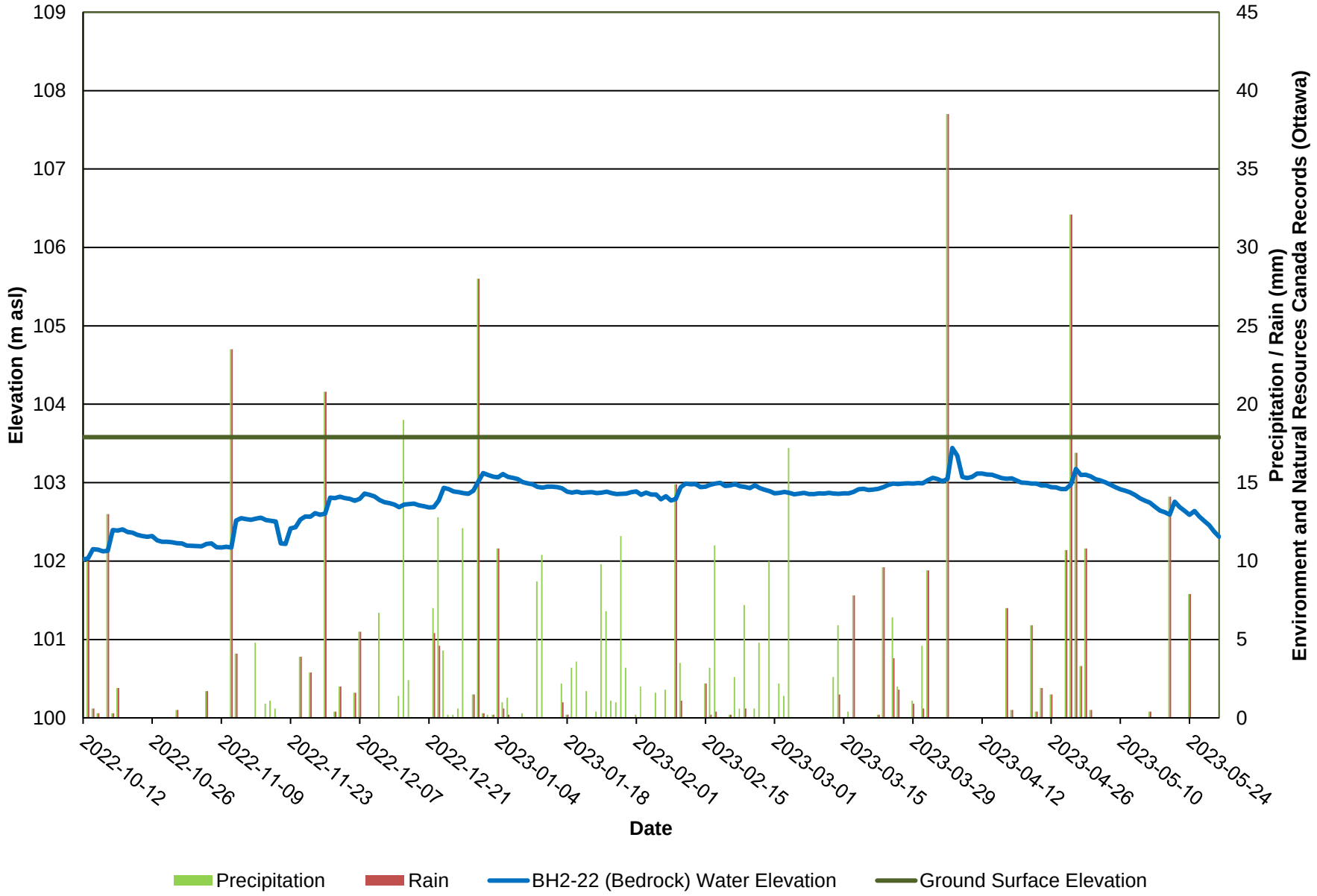

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Figure 9: BH3-22 & BH3A-22 - Monitoring Well Water Elevations

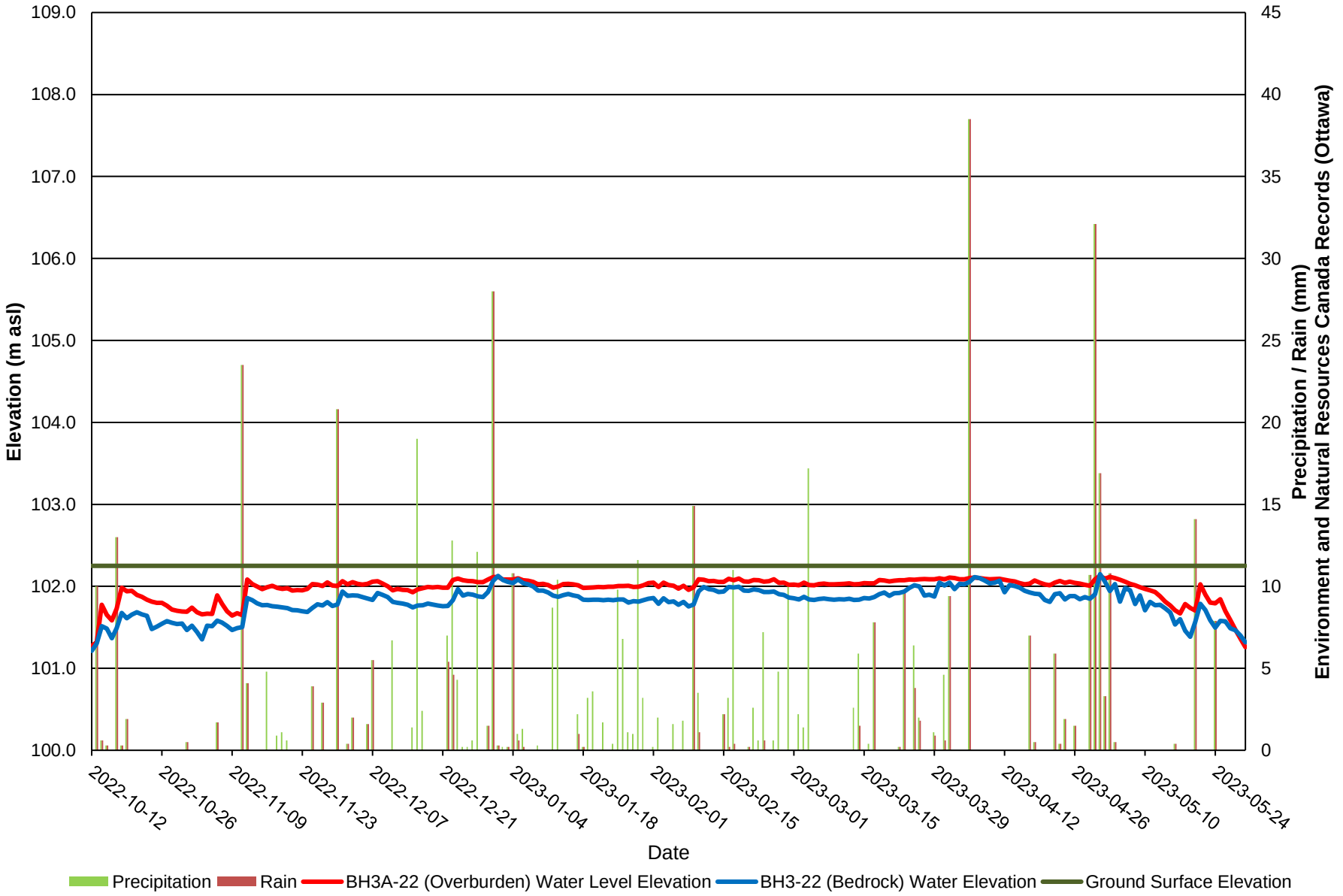

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Figure 10: BH4-22 - Monitoring Well Water Elevations

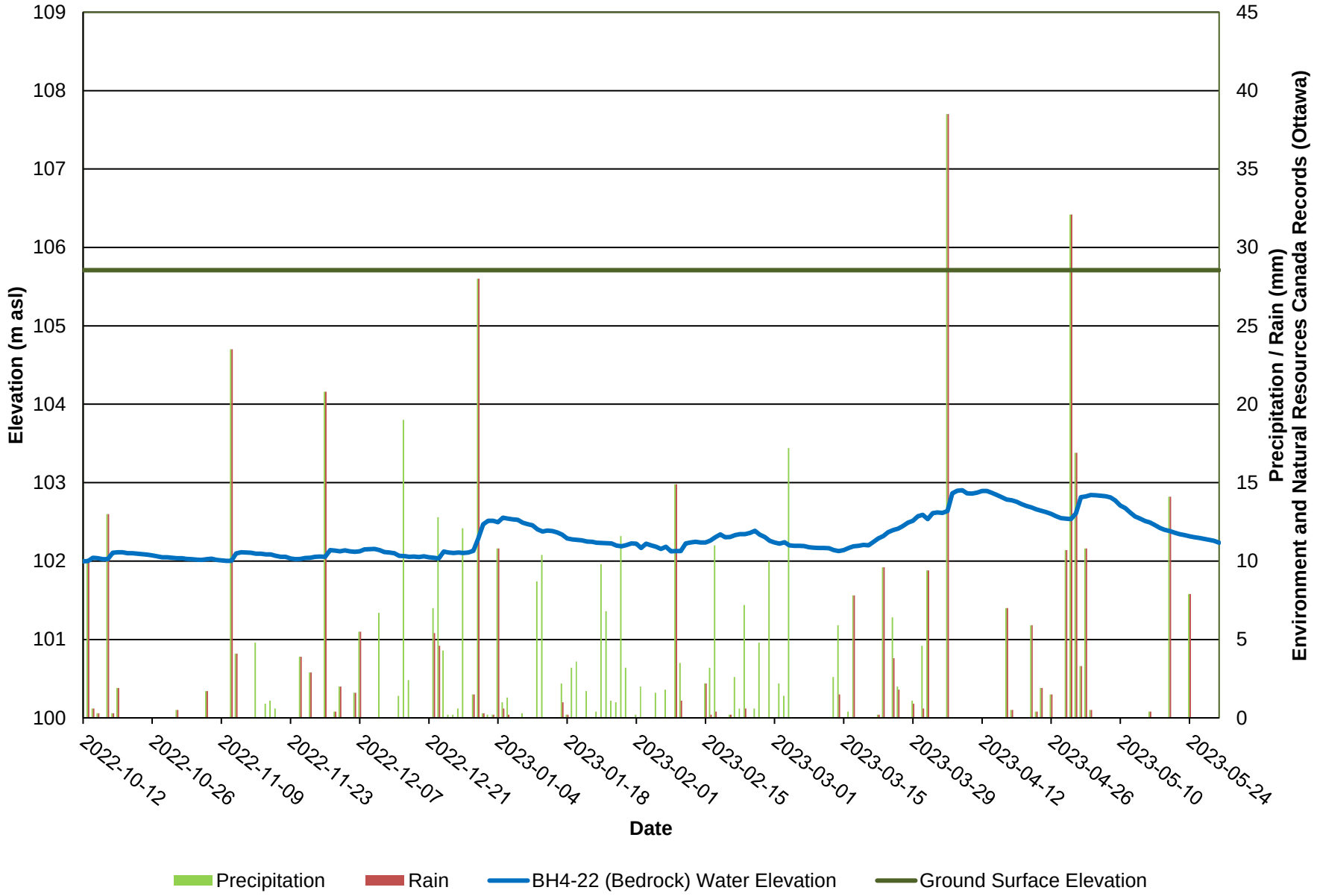

Figure 11: BH5-22 - Monitoring Well Water Elevations

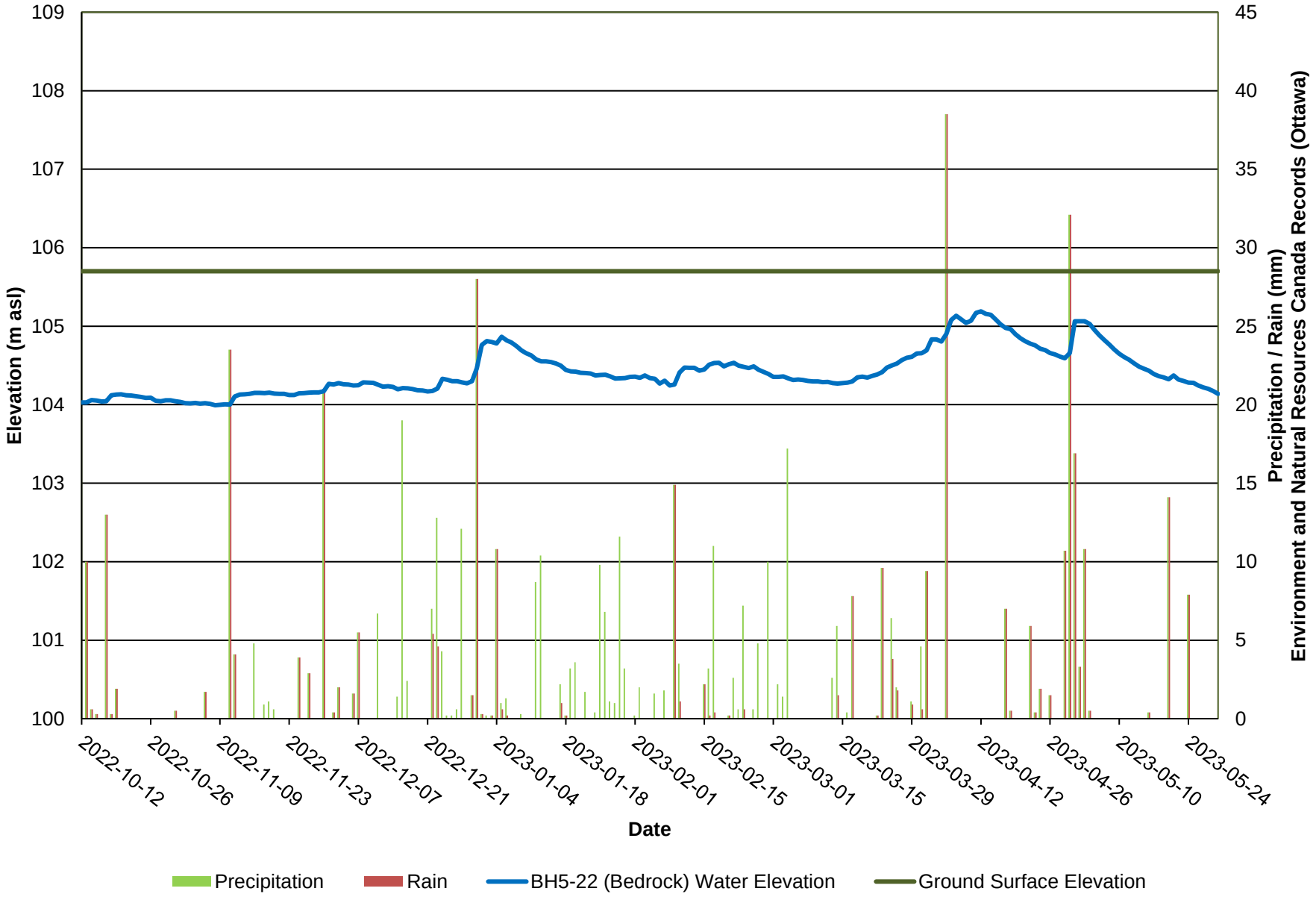

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Figure 12: HA1-22 - Monitoring Well Water Elevations

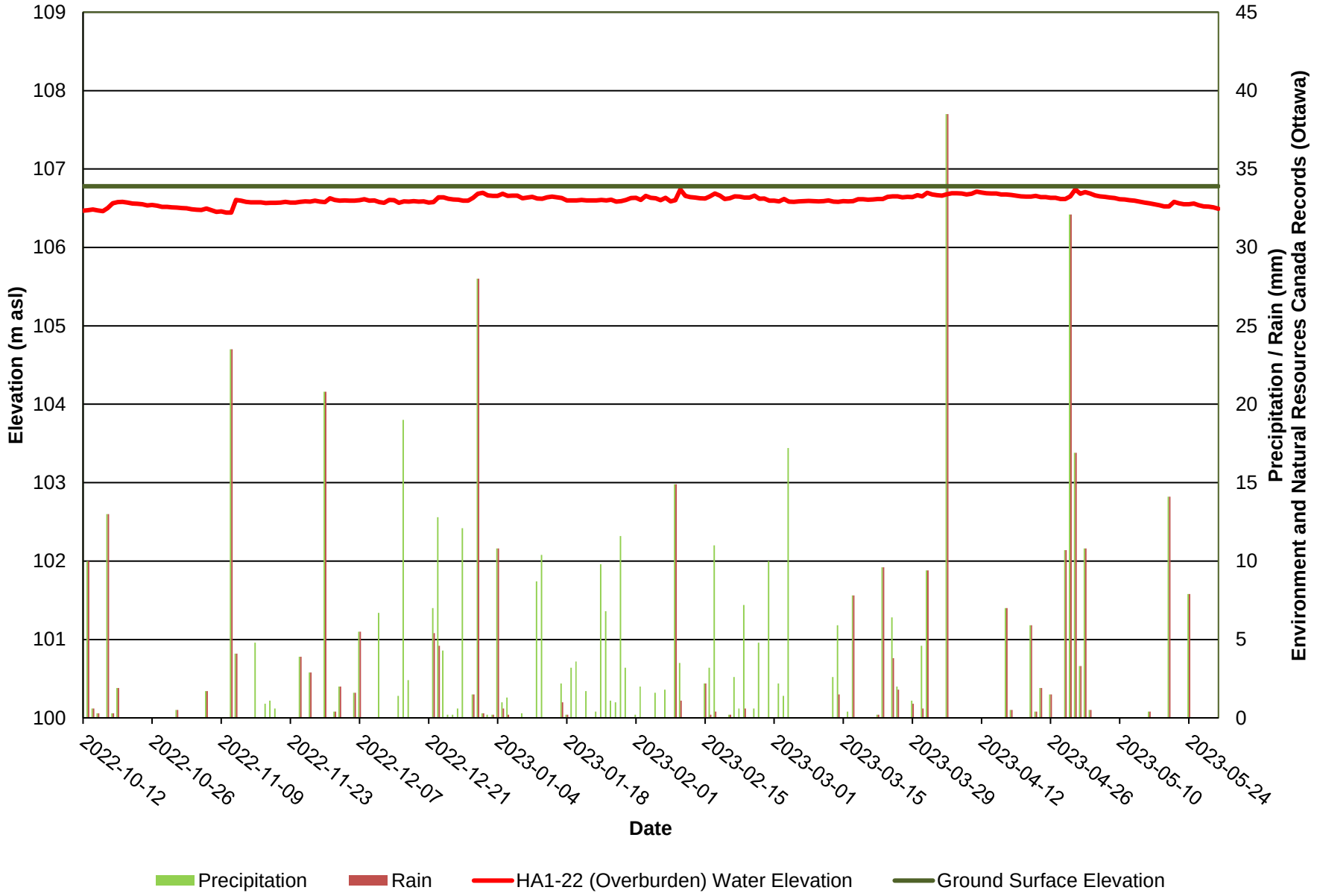


Figure 13: BH1-22 $\delta^2H/\delta^{18}O$ Results

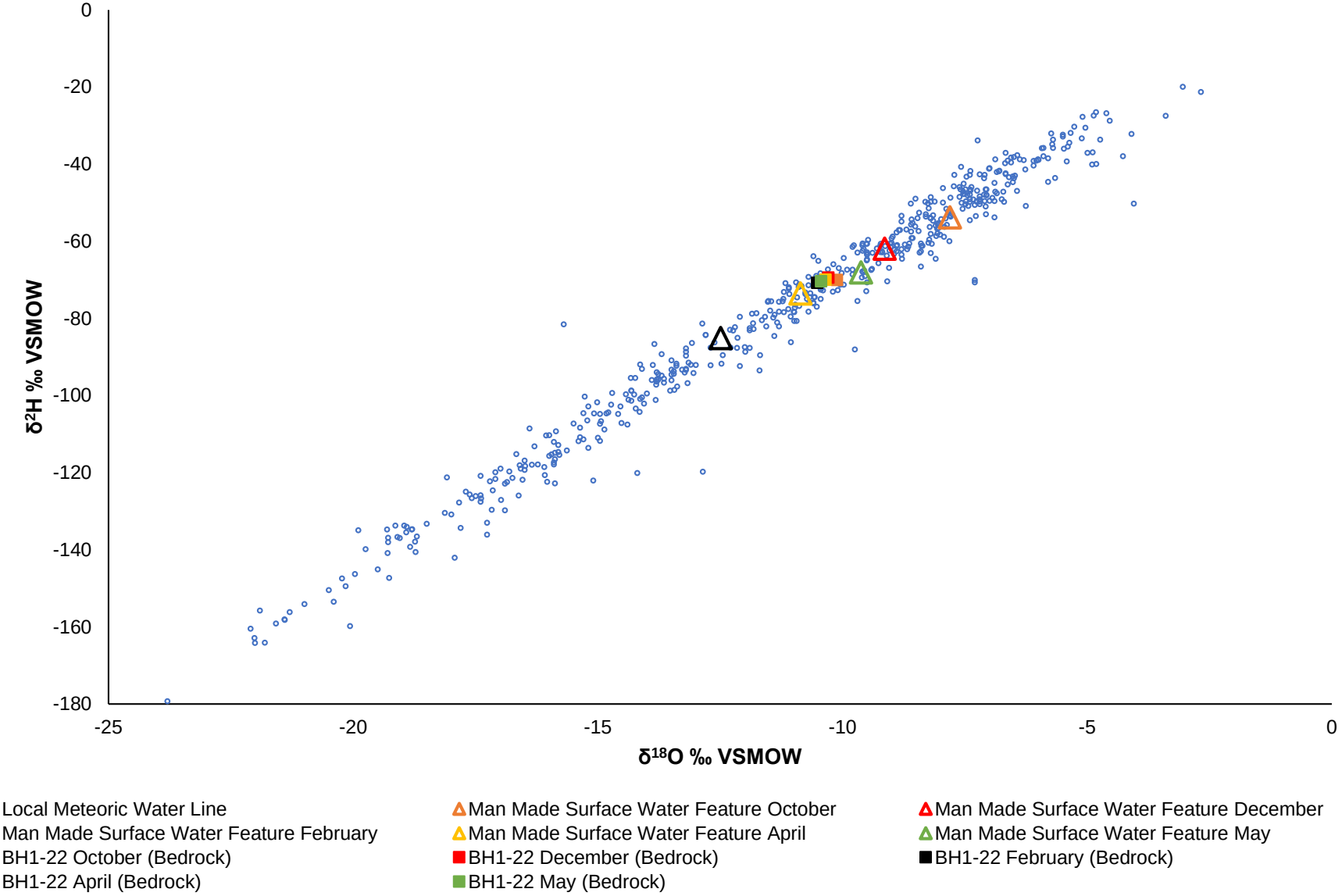


Figure 14: BH2-21 $\delta^2H/\delta^{18}O$ Results

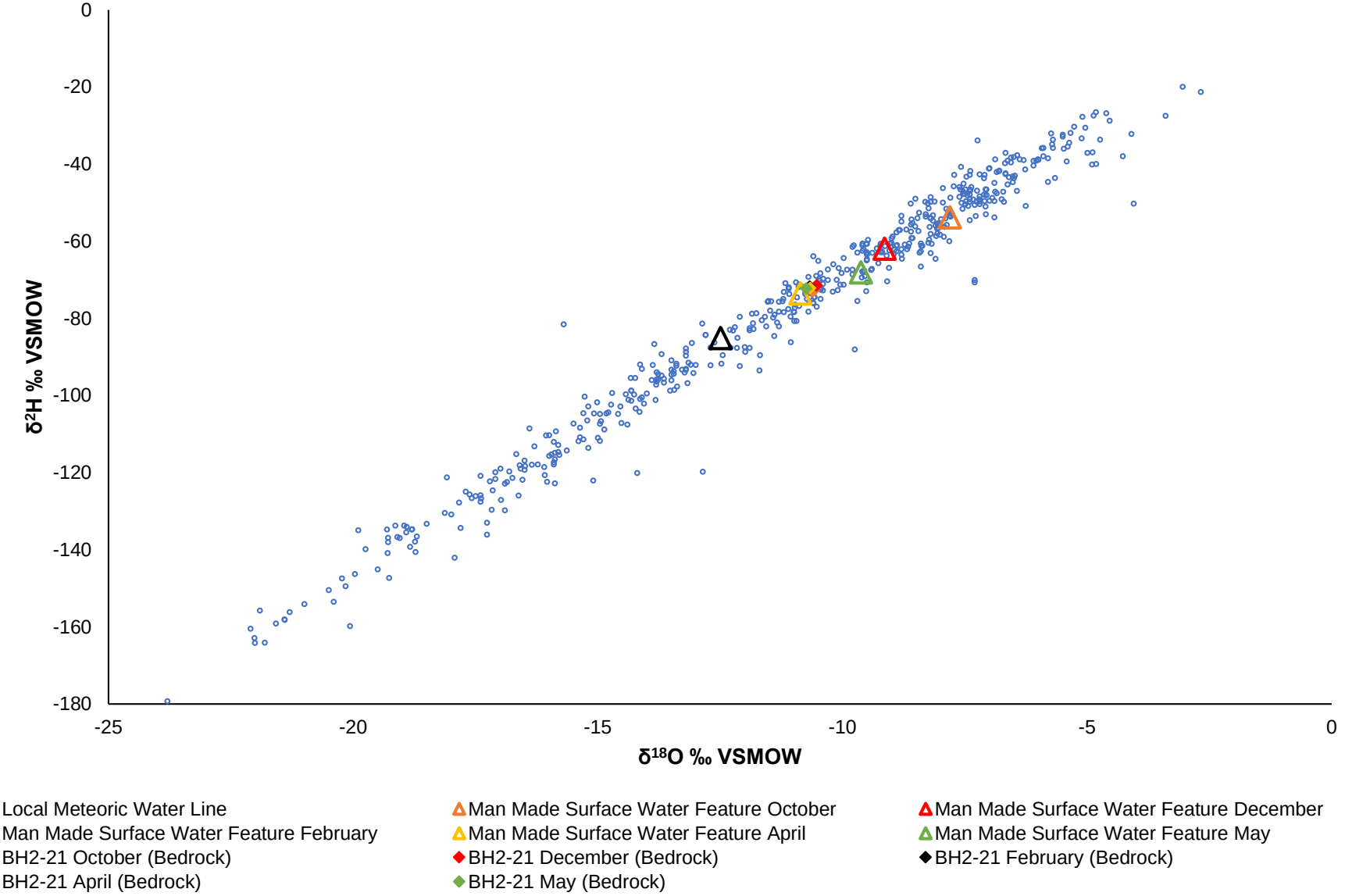


Figure 15: BH5-22 $\delta^2H/\delta^{18}O$ Results

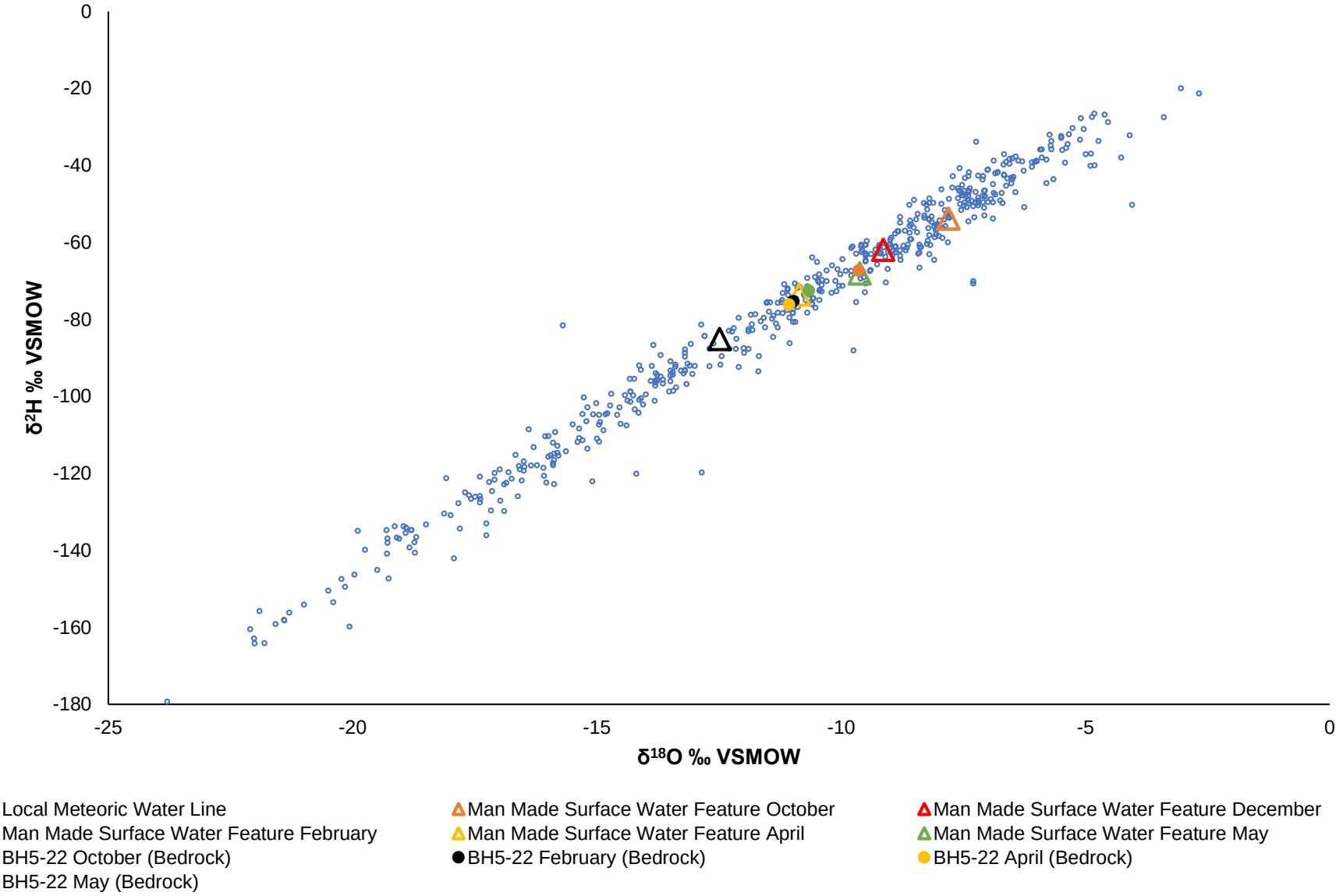
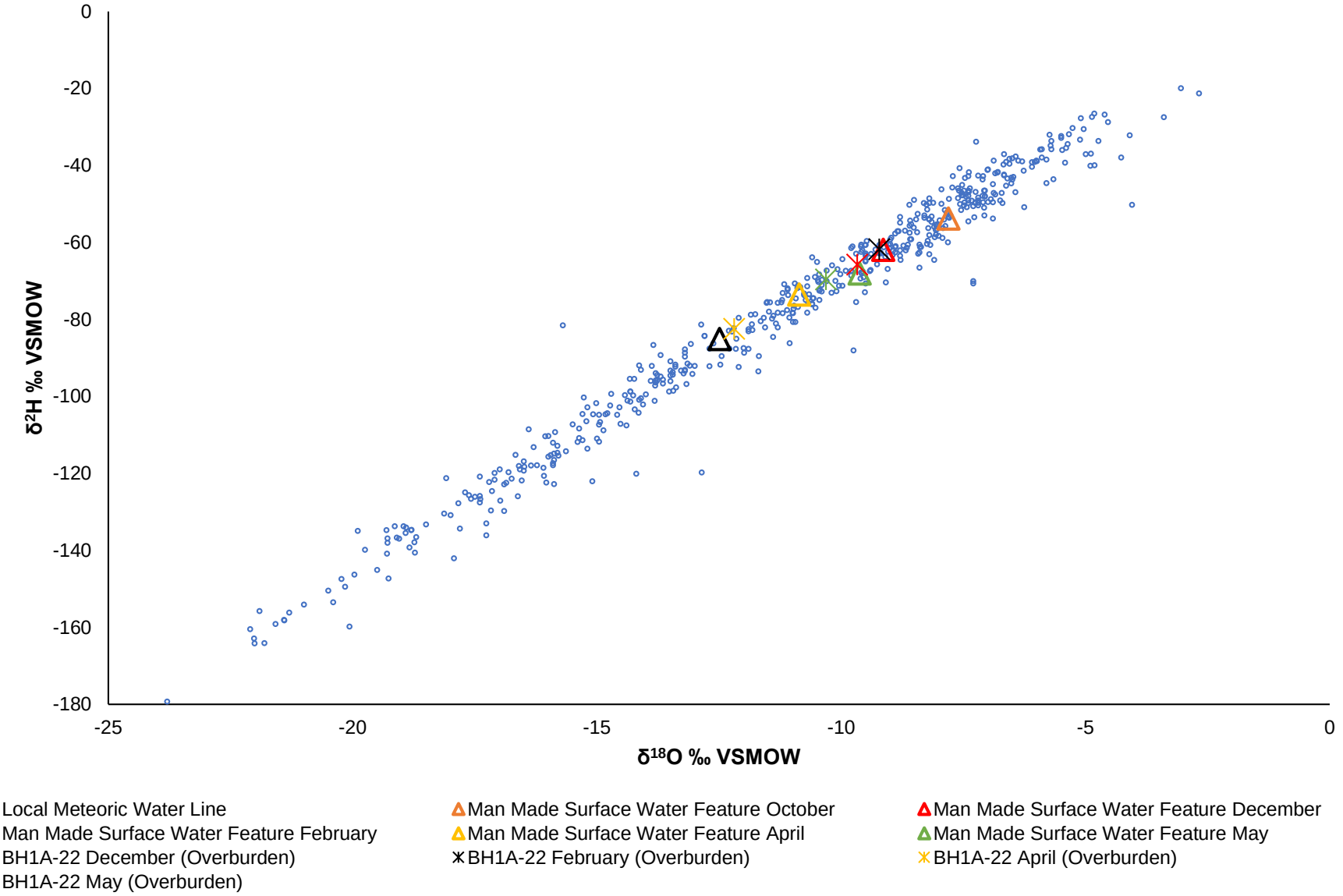


Figure 16: BH1A-22 $\delta^2H/\delta^{18}O$ Results



APPENDIX 1

PATERSON - TERMS OF REFERENCE

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Noise and Vibration Studies

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Terms of Reference – Geotechnical and Hydrogeological Investigation

Proposed Residential Development
5993, 6030 & 6115 Flewellyn Road
& 6070 Fernbank Road - Ottawa

Prepared For

Caivan Communities

March 15, 2022

Report: PG5570-3 – REV.02

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Table of Contents

Appendices

1.0 Background

Paterson Group (Paterson) was commissioned by Caivan Communities to prepare a Terms of Reference document for the geotechnical and hydrogeological investigations for the proposed residential development to be located at 5993, 6030, 6115 Flewellyn Road and 6070 Fernbank Road in the City of Ottawa (refer to Figure 1 - Key Plan in Appendix 1 of this report).

1.1 Study Area

The proposed limits of the study area presented in Figure 1 are contained within the Flowing Creek catchment of the Jock River Subwatershed. This area falls under the purview of the Rideau Valley Conservation Authority (RVCA).

The Faulkner Drain extends southeast along the east bounds of 6070 Fernbank Road and 6035 Flewellyn Road until it reaches Flewellyn Road. The Drain continues northeast along Flewellyn Road until it turns southeast to follow Shea Road.

2.0 Objectives

The current objective of the existing and proposed reports are to provide reviewing agencies with the available information pertaining to the proposed study area to allow review of planning recommendations that are consistent with their objectives and policies.

The proposed development will be reviewed in the context of Official Plan Policy 4.9.4 and will consider the protection of natural resources.

3.0 Existing Studies

Previous studies that are relevant to the proposed study area consist of the following:

- The Jock River – Reach Two Subwatershed – Phase 1 Report (Marshall Macklin Monaghan Limited and WESA, 2009)
- Paterson Geotechnical Report PG5570-2 – Flewellyn Road – (January 2022)
- Paterson Geotechnical Report PG2802-1 – Maguire Lands – Hartsmere Drive (November 2012) – As part of D07-16-13-0033.
- Paterson Geotechnical Report PG2853-1 – Proposed Residential Development – Stittsville Main Street (January 2013) - As part of D07-16-13-0033.

- ❒ Paterson Geotechnical Report PG2983-1 – Faulkner Lands – Fernbank Road at Main Street (July 2013) - As part of D07-16-13-0033.
- ❒ Houle Chevrier Engineering – Technical Memorandum - Hydrogeological Study – (D007-16-13-0033) – Area 6, Stittsville South (April 2015) – As part of D07-16-13-0033.
- ❒ Houle Chevrier Engineering – Report on Private Well Monitoring Program Stittsville South Residential Development and Stormwater Management Pond – (November 2015) – As part of D07-16-15-0008.

Further studies may be identified that are relevant to the proposed development.

4.0 Work Plan

The work plan for the hydrogeological investigation will be based on the requirements of the Policy Development and Urban Design Branch at the City of Ottawa and the RVCA. Fotenn Planning has completed the memo on New Urban Expansion Development for Caivan Communities at the subject site and dated January 27, 2022. The memo provides an outline for the Concept Plan and development approvals process for the subject site. Through the development process there will be Concept Plan options produced that will be evaluated internally within the team of consultants based on current guidelines. Through the various iterations and review, an ultimate development plan will be created through the proposed planning and approval process per the Official Plan policies and objectives.

4.1 Geotechnical Existing Information

The existing geotechnical study (PG5570-2 – Geotechnical Investigation dated January 20, 2022) provides a characterization of the local physiography and geology of the subject area. The study results will be used to provide design recommendations for the proposed development.

The geotechnical field program consisted of the following:

- ❒ Test pits to delineate the surficial overburden material in three dimensions through multiple samples of the various strata retained for laboratory analyses.
- ❒ Boreholes were augered to the bedrock surface, where required, to provide the overburden soil profile and soil characterization.
- ❒ Boreholes were cored into the bedrock at select locations.

The geotechnical reporting consists of the following:

- ❒ The geotechnical report addresses geotechnical conditions for the proposed study area and construction recommendations relevant to the site conditions.
- ❒ Detailed test hole logs for all exploratory holes.

Test holes were distributed in compliance with the "Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa" (latest revision). See attached PG5570-1 – Proposed Monitoring Well Mark-up of Testhole Location Plan for the existing testhole coverage completed with supplemental work noted.

4.2 Hydrogeological Investigation

The hydrogeological investigation will collect and analyze general information to support the water balance, infrastructure design and constraints, and potential effects on nearby wells due to the proposed development.

The hydrogeological field program will be carried out to provide supplemental information to the geotechnical program.

- ❒ Additional monitoring wells will be installed during the field program for hydrogeological testing as shown on the attached PG5570-1 plan mark-up.
- ❒ Slug testing to determine hydraulic conductivities and aquifer characteristics within the formations/horizons deemed necessary and sieve analyses completed under the existing geotechnical report.
- ❒ Groundwater level measurement and recording of seasonal fluctuations.
- ❒ Permeameter testing will be completed at locations across the subject site within the overburden accessible from the existing ground surface as per best practices.

Evaluation of the hydrogeological conditions will consist of an evaluation of the groundwater resources encountered. The following will be provided:

- ❒ Delineation and characterization of the encountered aquifers.
- ❒ Assess the vulnerability of the aquifers.
- ❒ Calculation of the zone of influence for potential dewatering.
- ❒ Water supply wells will be located using MECP well record mapping and in the field, where required. Assess the potential risk of impacts to the water wells from the proposed development.
- ❒ Review requirements of a monitoring program for existing drinking water wells.

The analysis and recommendations for all aspects of the development will be performed in conjunction with the experts within the other disciplines to ensure an integrated approach to the development of the site. As previously mentioned, the results will be used in support of the water budget analysis. The report will include the preceding information documented, in addition to a description of the groundwater flow systems and connections.

5.0 Recommendations and Deliverables

Recommendations will be provided based upon the available information and in conjunction with the experts within other disciplines to ensure an integrated and cohesive approach to the development of the site.

The deliverables for the project will consist of the hydrogeological reporting, supplemental to the existing geotechnical information, to detail the existing site conditions and the information as set out in Section 4.1 and 4.2.

Paterson Group Inc.

Michael S. Killam, P.Eng.

David J. Gilbert, P.Eng

Report Distribution:

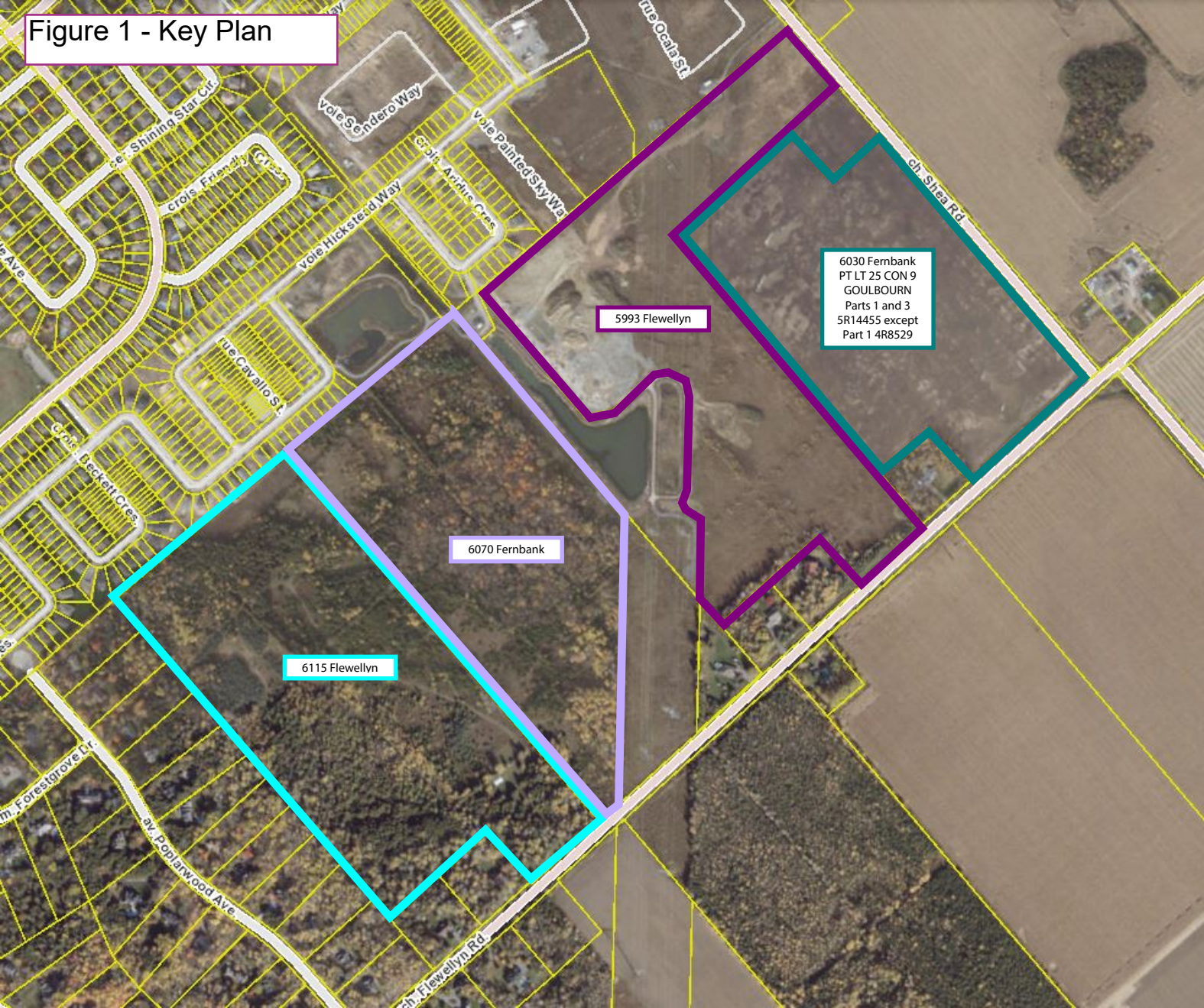
- ❑ Caivan Communities (Digital copy)
- ❑ Paterson Group (Digital copy)

APPENDIX 1

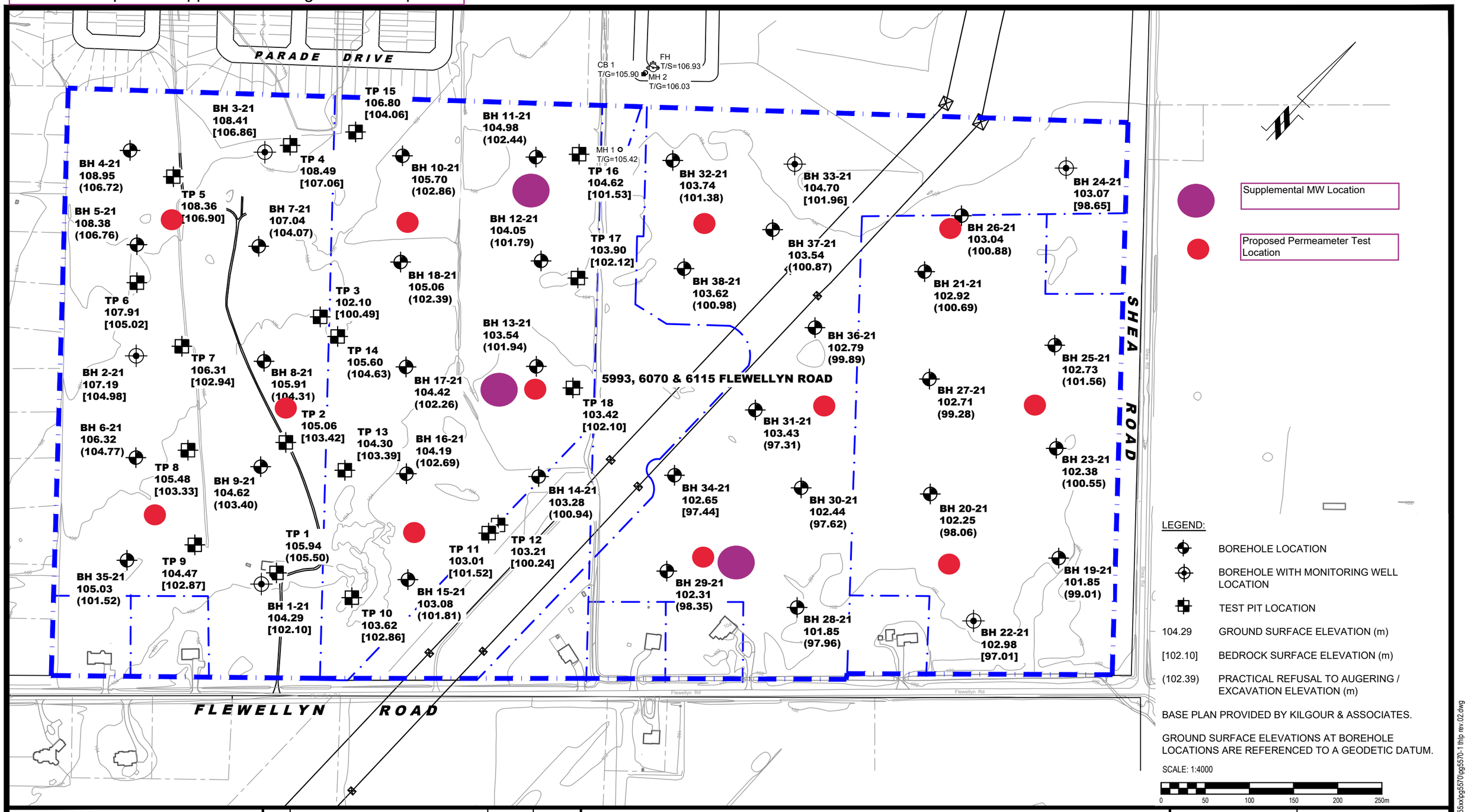
FIGURE 1 – KEY PLAN

PG5570-1 – PROPOSED SUPPLEMENTAL PROGRAM MARK-UP - TESTHOLE LOCATION PLAN

Figure 1 - Key Plan



Paterson Proposed Supplemental Program Mark-Up



LEGEND:

- BOREHOLE LOCATION
- BOREHOLE WITH MONITORING WELL LOCATION
- TEST PIT LOCATION
- 104.29 GROUND SURFACE ELEVATION (m)
- [102.10] BEDROCK SURFACE ELEVATION (m)
- (102.39) PRACTICAL REFUSAL TO AUGERING / EXCAVATION ELEVATION (m)

BASE PLAN PROVIDED BY KILGOUR & ASSOCIATES.

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:4000

0 50 100 150 200 250m

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NO.	REVISIONS	DATE	INITIAL
1	BH 1-21 - BH 38-21 ADDED TO PLAN	01/20/2022	OC

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
5993, 6070 & 6115 FLEWELLYN ROAD
OTTAWA, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:4000	Date: 01/2022
Drawn by: JM	Report No.: PG5570-2
Checked by: OC	Dwg. No.: PG5570-1
Approved by: DJG	Revision No.: 1

p:\autocad drawings\geotechnical\pg55xx\pg5570\pg5570-1 thlp rev.02.dwg

11x17

APPENDIX 2

PATERSON - SOIL AND TEST DATA SHEETS

PG5570-1 - TEST HOLE LOCATION PLAN

PATERSON - GRAIN SIZE ANALYSIS RESULTS

PATERSON - SOIL ANALYTICAL RESULTS

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

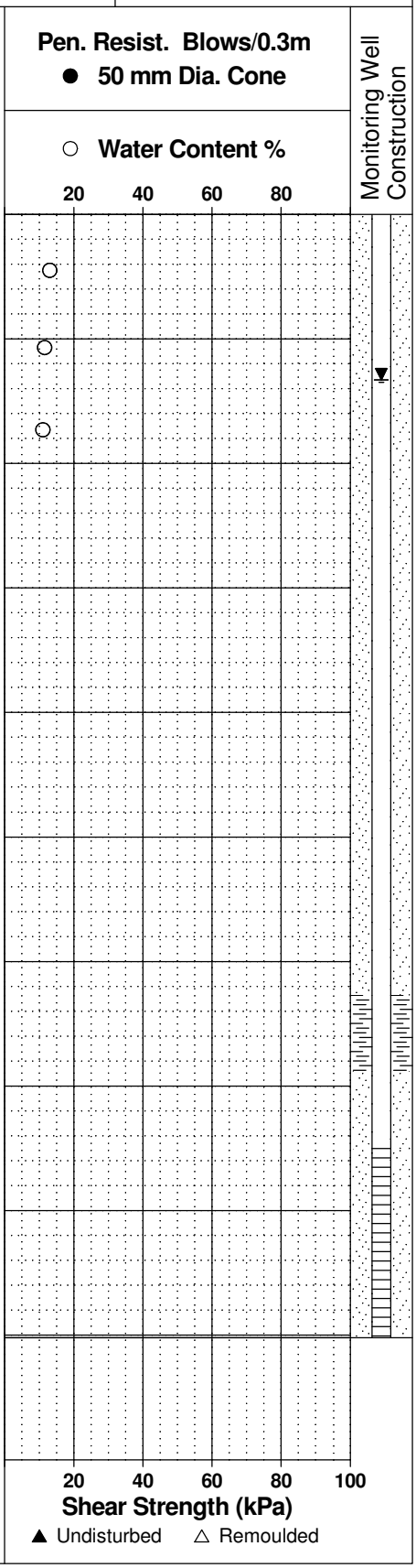
REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 28, 2022

FILE NO. PG5570

HOLE NO. BH 1-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	107.31
TOPSOIL 0.30							
Loose to compact, brown **SILTY SAND,** trace gravel 0.60		AU	1				
		SS	2	45	17	1	106.31
GLACIAL TILL: Compact to dense, brown silty sand to sandy silt with gravel, cobbles and boulders		SS	3	14	65	2	105.31
2.34		RC	1	100	89	3	104.31
		RC	2	100	100	4	103.31
		RC	3	100	100	5	102.31
BEDROCK: Excellent quality, grey limestone interbedded with dolostone						6	101.31
		RC	4	98	98	7	100.31
		RC	5	100	100	8	99.31
9.02						9	98.31
End of Borehole							
(GWL @ 1.33m - Oct. 11, 2022)							



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Geotechnical Investigation
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Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 28, 2022

FILE NO. PG5570

HOLE NO. BH 1A-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Monitoring Well Construction
GROUND SURFACE						0	107.31	20 40 60 80	
OVERBURDEN						1	106.31		
1.62									
End of Borehole Practical refusal to augering at 1.62m depth (GWL @ 1.44m - Oct. 11, 2022)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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Geotechnical Investigation
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Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 28, 2022

FILE NO. PG5570

HOLE NO. BH 2-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.58
TOPSOIL 0.30							
Compact, brown **SILTY SAND to SANDY SILT,** trace clay and gravel 0.76		AU	1				
		RC	1	100	77	1	102.58
		RC	2	100	97	2	101.58
		RC	3	100	100	3	100.58
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone						4	99.58
		RC	4	100	100	5	98.58
		RC	5	100	97	6	97.58
		RC	6	100	100	7	96.58
						8	95.58
9.02						9	94.58
End of Borehole							
(GWL @ 1.52m - Oct. 11, 2022)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 29, 2022

FILE NO. PG5570

HOLE NO. BH 3-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.25
TOPSOIL 0.28		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	58	19	1	101.25
		SS	3	58	17	2	100.25
2.21							
GLACIAL TILL: Grey silty sand to sandy silt with gravel, cobbles and boulders, trace clay		SS	4	67	3		
		SS	5	67	50+	3	99.25
3.43							
		RC	1	100	96	4	98.25
						5	97.25
		RC	2	100	98		
BEDROCK: Excellent quality, grey limestone interbedded with doloston						6	96.25
		RC	3	100	100	7	95.25
						8	94.25
		RC	4	100	100		
9.12						9	93.25
End of Borehole							
(GWL @ 0.84m - Oct. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**
20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 29, 2022

FILE NO. PG5570

HOLE NO. BH 3A-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Monitoring Well Construction
GROUND SURFACE						0	102.25		
TOPSOIL 0.28									
Compact, brown **SILTY SAND to SANDY SILT**		AU	1			1	101.25		
2.20						2	100.25		
GLACIAL TILL: Grey silty sand to sandy silt with gravel, cobbles and boulders, trace clay 3.15						3	99.25		
End of Borehole									
Practical refusal to augering at 3.15m depth.									
(GWL @ 0.81m - Oct. 11, 2022)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 29, 2022

FILE NO. PG5570

HOLE NO. BH 4-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.71
TOPSOIL 0.28		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	75	22	1	104.71
		SS	3	75	21	2	103.71
2.21							
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders, trace clay		SS	4	67	17	3	102.71
- grey by 3.0m depth		SS	5	57	45		
3.61						4	101.71
		RC	1	100	84		
						5	100.71
		RC	2	100	98		
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone						6	99.71
		RC	3	100	100	7	98.71
						8	97.71
		RC	4	100	100		
9.04						9	96.71
End of Borehole							
(GWL @ 3.62m - Oct. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**
20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

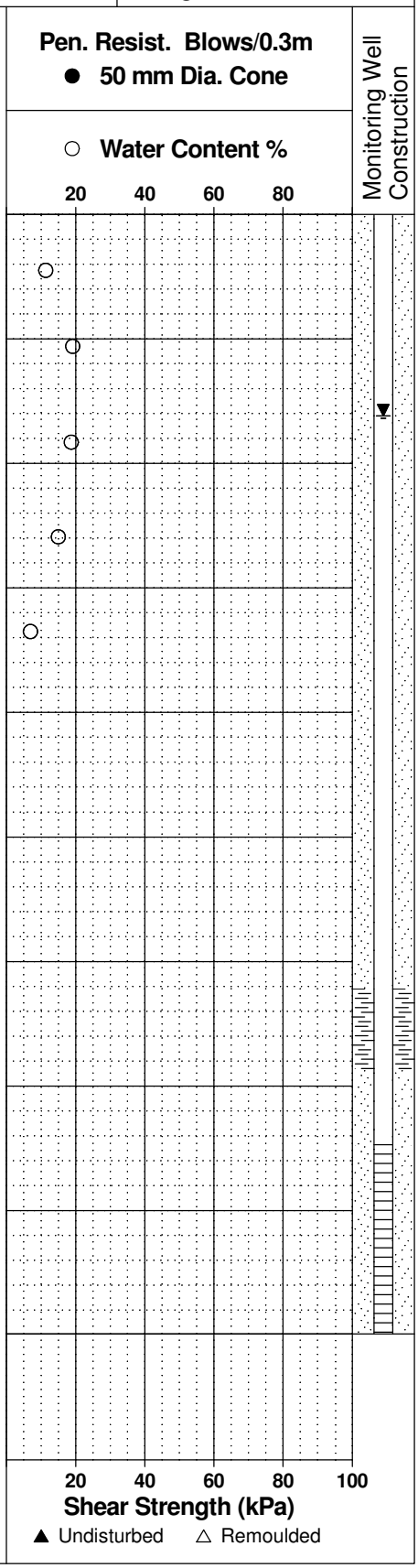
REMARKS

BORINGS BY CME-55 Low Clearance Drill **DATE** September 30, 2022

FILE NO. PG5570

HOLE NO. BH 5-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.70
TOPSOIL 0.28		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	79	21	1	104.70
1.96		SS	3	71	29	2	103.70
GLACIAL TILL: Compact to dense, brown silty sand to sandy silt, trace gravel 2.29		SS	4	100	50+		
		RC	1	100	100	3	102.70
		RC	2	100	100	4	101.70
BEDROCK: Excellent quality, grey limestone interbedded with dolostone		RC	3	100	100	5	100.70
		RC	4	100	100	6	99.70
		RC	5	100	100	7	98.70
8.99						8	97.70
End of Borehole							
(GWL @ 1.62m - Oct. 11, 2022)							



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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
5993, 6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

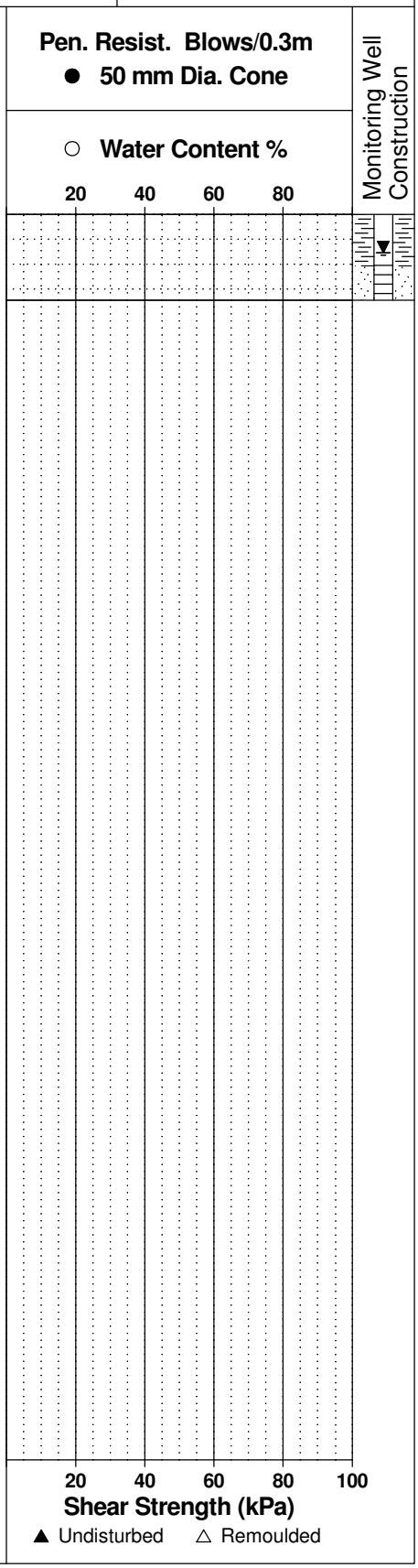
REMARKS

BORINGS BY Hand Auger **DATE** September 28, 2022

FILE NO. PG5570

HOLE NO. HA 1-22

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Monitoring Well Construction
GROUND SURFACE						0	106.78		
TOPSOIL 0.30									
Brown **SILTY SAND,** trace gravel 0.69									
End of Hand Auger Hole									
(GWL @ 0.31m - Oct. 11, 2022)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 14, 2021

FILE NO. PG5570

HOLE NO. BH 1-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	104.29
TOPSOIL 0.43							
Very loose, brown **SILTY SAND**		AU	1				
- some clay by 0.6m depth		SS	2	8	1	1	103.29
1.52							
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders, trace clay 2.19		SS	3	25	23	2	102.29
		SS	4	100	50+		
		RC	1	100	57		
BEDROCK: Fair to excellent quality, grey limestone interbedded with dolostone		RC	2	100	68	3	101.29
- 20mm thick mud seam at 3.4m depth						4	100.29
- 12mm thick mud at 3.7m depth		RC	3	100	98	5	99.29
5.77							
End of Borehole							
(GWL @ 1.22m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 14, 2021

FILE NO. PG5570

HOLE NO. BH 2-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	107.19
Mulch 0.10							
TOPSOIL 0.51							
Compact, brown **SILTY SAND**		AU	1				
0.91		SS	2	75	12	1	106.19
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	3	75	50		
2.21		SS	4	0	50+	2	105.19
		RC	1	100	80		
BEDROCK: Good to excellent quality, grey limestone		RC	2	100	100	3	104.19
- 12mm thick mud seam at 4.1m depth						4	103.19
		RC	3	100	95	5	102.19
5.61							
End of Borehole							
(GWL @ 0.82m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 3-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	108.41
Mulch 0.08							
TOPSOIL 0.43		AU	1				
Loose, brown **SILTY SAND** 0.63							
Loose to compact, brown **SILTY SAND to SANDY SILT**		SS	2	50	10	1	107.41
1.55		SS	3	0	50+		
		RC	1	100	100	2	106.41
BEDROCK: Good to excellent, grey limestone interbedded with dolostone		RC	2	100	72	3	105.41
						4	104.41
- 30mm thick mud seam at 4.3m depth		RC	3	100	100	5	103.41
5.72							
End of Borehole							
(GWL @ 0.89m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
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DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 4-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	108.95
Mulch 0.10							
TOPSOIL 0.30		AU	1				
Compact, brown **SILTY SAND,** trace shells 0.60		SS	2	50	12	1	107.95
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders		SS	3	42	21	2	106.95
2.23							
End of Borehole							
Practical refusal to augering at 2.23m depth							
(GWL @ 1.23m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 5-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	108.38
TOPSOIL 0.36		AU	1				
Loose, brown **SILTY SAND**		SS	2		4	1	107.38
1.22							
GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and boulders 1.62		SS	3	0	50+		
End of Borehole							
Practical refusal to augering at 1.62m depth							
(BH dry - January 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 6-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	106.32
TOPSOIL 0.41							
Loose, brown **SILTY SAND,** trace clay 0.60		AU	1				
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders 1.55		SS	2	83	17	1	105.32
End of Borehole							
Practical refusal to augering at 1.55m depth							
(BH dry - January 11, 2022)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 7-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
Mulch 0.10		AU	1			0	107.04
TOPSOIL 0.41							
Loose, brown **SILTY SAND** 0.60		SS	2	100	19	1	106.04
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	3	67	44	2	105.04
		SS	4		52		
2.97							
End of Borehole							
Practical refusal to augering at 2.97m depth							
(GWL @ 1.09m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 8-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.91
Mulch 0.05		AU	1				
TOPSOIL 0.38							
Loose, brown **SILTY SAND** 0.60							
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	2	67	20	1	104.91
1.60		SS	3	0	50+		
End of Borehole							
Practical refusal to augering at 1.60m depth							
(BH dry - January 11, 2022)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH 9-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	104.62
TOPSOIL 0.36							
Loose, brown **SILTY SAND,** trace clay 0.69		AU	1				
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders 1.22		SS	2		50+	1	103.62
End of Borehole							
Practical refusal to augering at 1.22m depth							
(Piezometer damaged - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

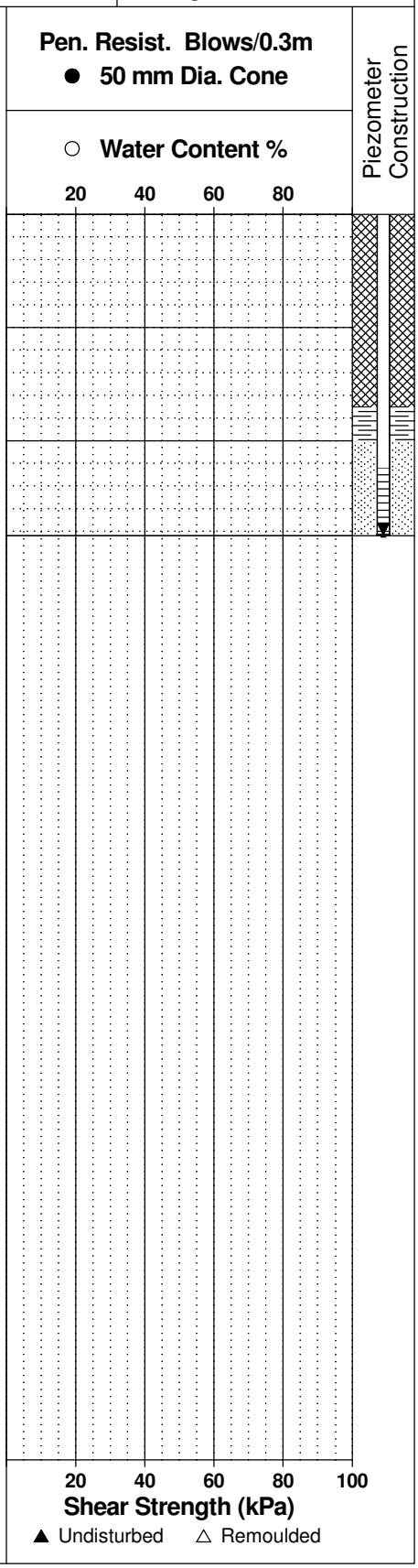
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 15, 2021

FILE NO. PG5570

HOLE NO. BH10-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.70
TOPSOIL 0.36		AU	1				
Compact, brown **SILTY SAND**		SS	2	67	23	1	104.70
		SS	3	67	16	2	103.70
		SS	4	64	25		
2.74							
GLACIAL TILL: Compact to dense, grey silty sand with gravel, cobbles and boulders 2.84							
End of Borehole							
Practical refusal to augering at 2.84m depth							
(GWL @ 2.83m - Jan. 11, 2022)							



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

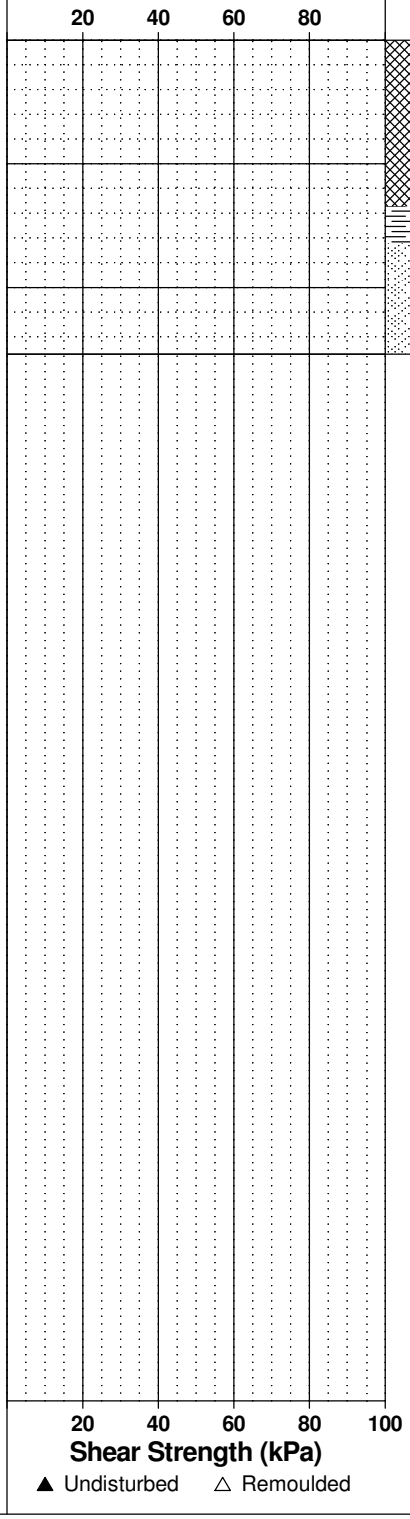
BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH11-21

SOIL DESCRIPTION		STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							0	104.98
TOPSOIL	0.33							
Compact, brown **SILTY SAND**	0.66		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**	1.12		SS	2	67	24	1	103.98
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders			SS	3	67	32		
	2.54		SS	4	80	50+	2	102.98
End of Borehole								
Practical refusal to augering at 2.54m depth								
(GWL @ 1.32m - Jan. 11, 2022)								

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %



Piezometer Construction

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH12-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	104.05		
TOPSOIL 0.36									
Compact, brown **SILTY SAND** 0.69		AU	1						
Compact, brown **SILTY SAND to SANDY SILT** 1.45		SS	2	67	13	1	103.05		
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders 2.26		SS	3	17	36	2	102.05		
End of Borehole									
Practical refusal to augering at 2.26m depth									
(GWL @ 1.58m - Jan. 11, 2022)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

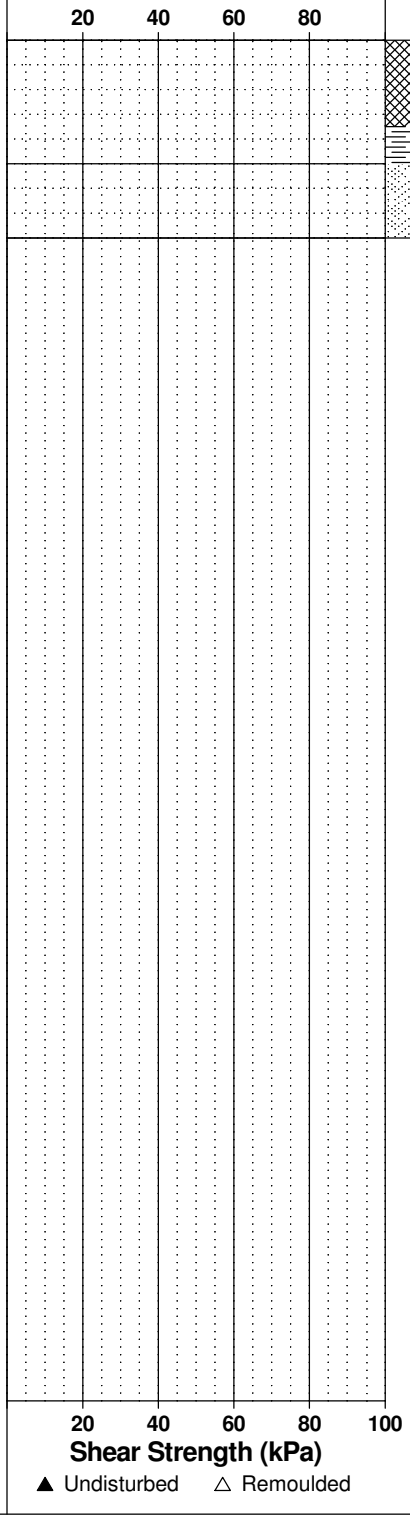
BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH13-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.54
TOPSOIL 0.36							
Loose, brown **SILTY SAND to SANDY SILT**		AU	1			1	102.54
		SS	2	25	6		
1.60		SS	3	0	50+		
End of Borehole							
Practical refusal to augering at 1.60m depth							
(GWL @ 1.44m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**



Piezometer Construction

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

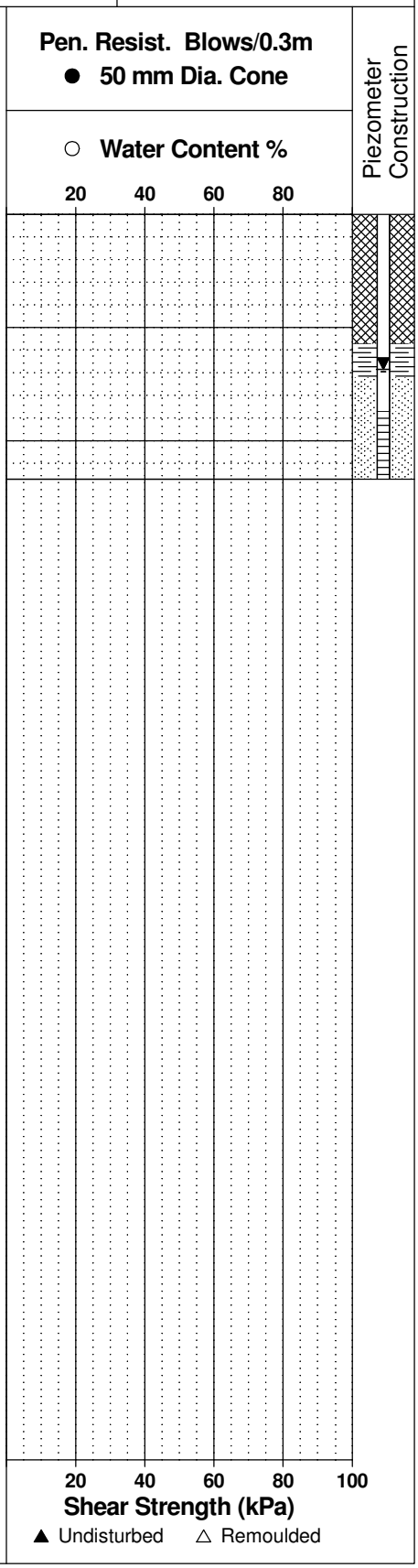
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH14-21

SOIL DESCRIPTION		STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							0	103.28
TOPSOIL	0.36							
Loose, brown **SILTY SAND**	0.69		AU	1				
Loose, brown **SILTY SAND to SANDY SILT**	1.45		SS	2	67	6	1	102.28
GLACIAL TILL: Loose to dense, brown silty sand with clay, gravel, cobbles and boulders	2.34		SS	3	25	7	2	101.28
			SS	4	0	50+		
End of Borehole								
Practical refusal to augering at 2.34m depth								
(GWL @ 1.37m - Jan. 11, 2022)								



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
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DATUM Geodetic

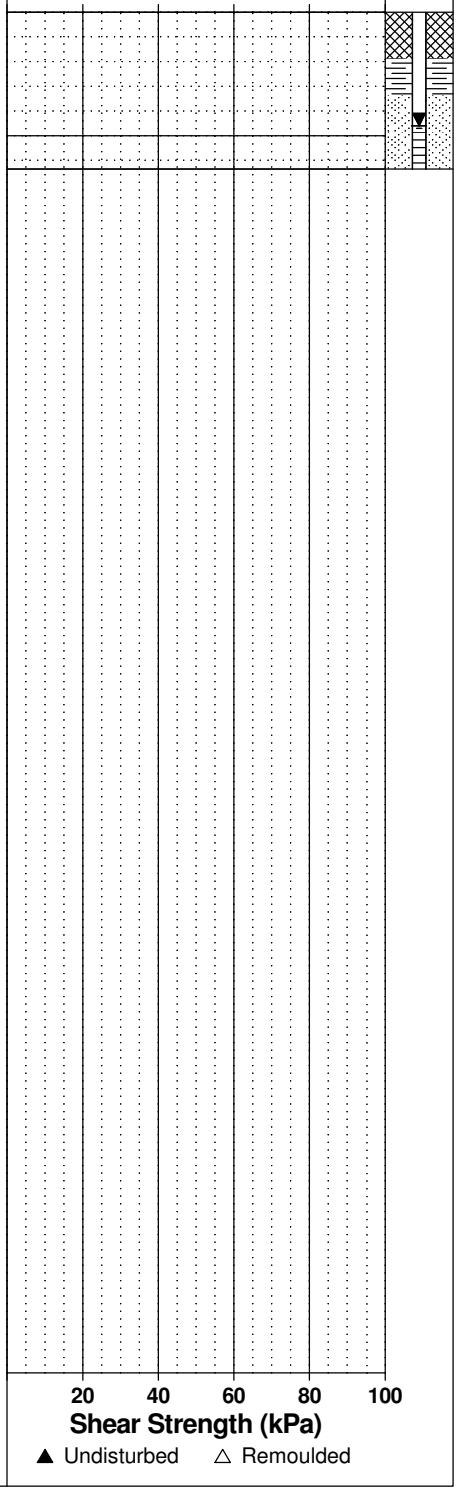
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH15-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.30						0	103.08		
Compact, brown **SILTY SAND to SANDY SILT** 0.91		AU	1						
GLACIAL TILT: Compact, brown silty sand with gravel, cobbles and boulders 1.27		SS	2	63	19	1	102.08		
End of Borehole									
Practical refusal to augering at 1.27m depth									
(GWL @ 0.92m - Jan. 11, 2022)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH16-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.25						0	104.19		
Compact, brown **SILTY SAND,** trace gravel 0.69		AU	1						
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders 1.50		SS	2		22	1	103.19		
End of Borehole									
Practical refusal to augering at 1.50m depth									
(GWL @ 1.32m - Jan. 11, 2022)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Water Content %: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

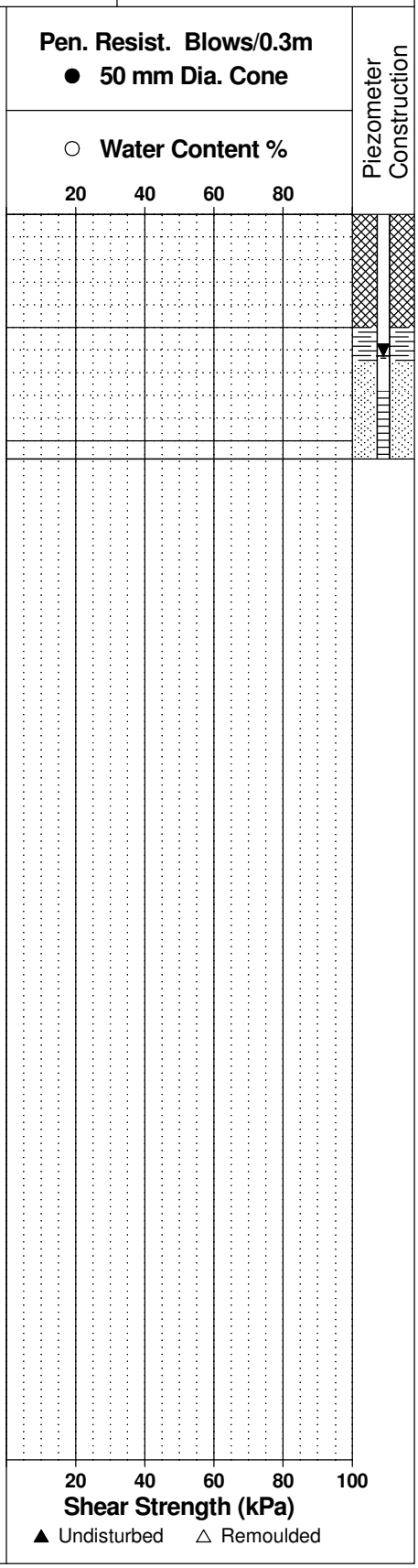
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH17-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	104.42
TOPSOIL 0.28		AU	1				
Loose, brown **SILTY SAND to SANDY SILT**		SS	2	75	5	1	103.42
		SS	3	91	11		
1.98						2	102.42
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders 2.16							
End of Borehole							
Practical refusal to augering at 2.16m depth							
(GWL @ 1.25m - Jan. 11, 2022)							



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DATUM Geodetic

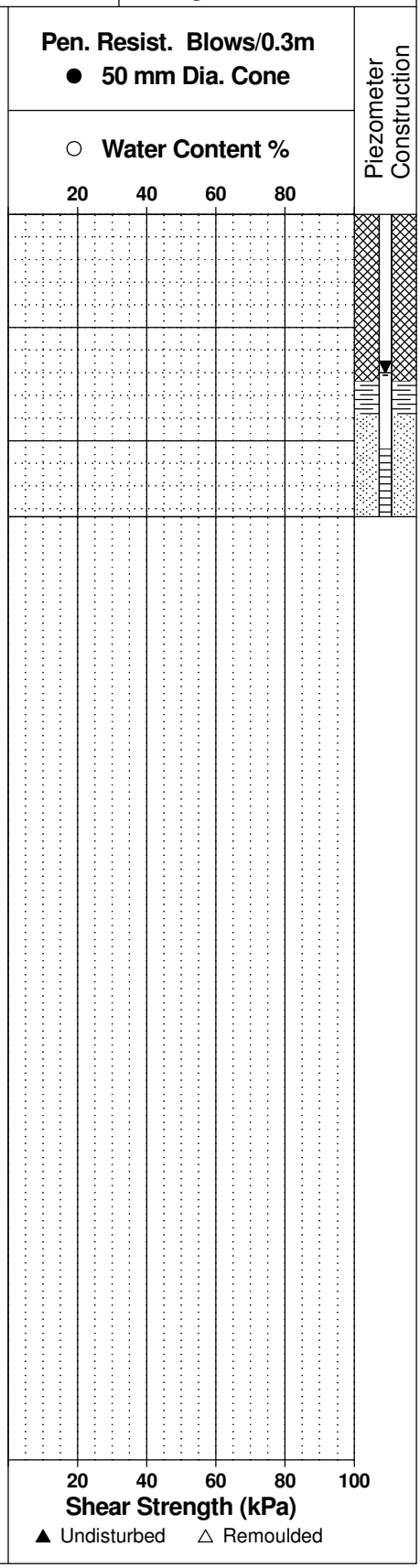
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH18-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.06
TOPSOIL 0.30		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	75	10	1	104.06
		SS	3	100	19	2	103.06
- grey by 2.0m depth							
2.67		SS	4		50+		
End of Borehole							
Practical refusal to augering at 2.67m depth							
(GWL @ 1.40m - Jan. 11, 2022)							



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DATUM Geodetic

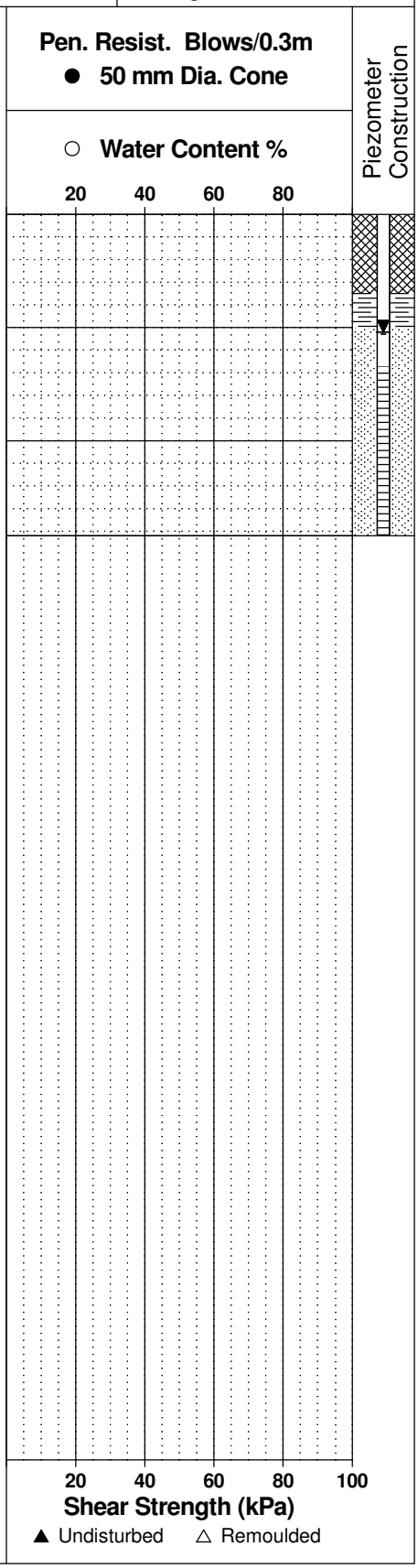
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 16, 2021

FILE NO. PG5570

HOLE NO. BH19-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	101.85
TOPSOIL 0.20		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	50	12	1	100.85
1.73		SS	3	75	8		
Loose, brown **SILTY SAND,** some clay						2	99.85
2.59		SS	4	100	12		
GLACIAL TILL: Compact, grey silty sand with gravel, cobbles and boulders 2.84							
End of Borehole							
Practical refusal to augering at 2.84m depth							
(GWL @ 1.04m - Jan. 11, 2022)							



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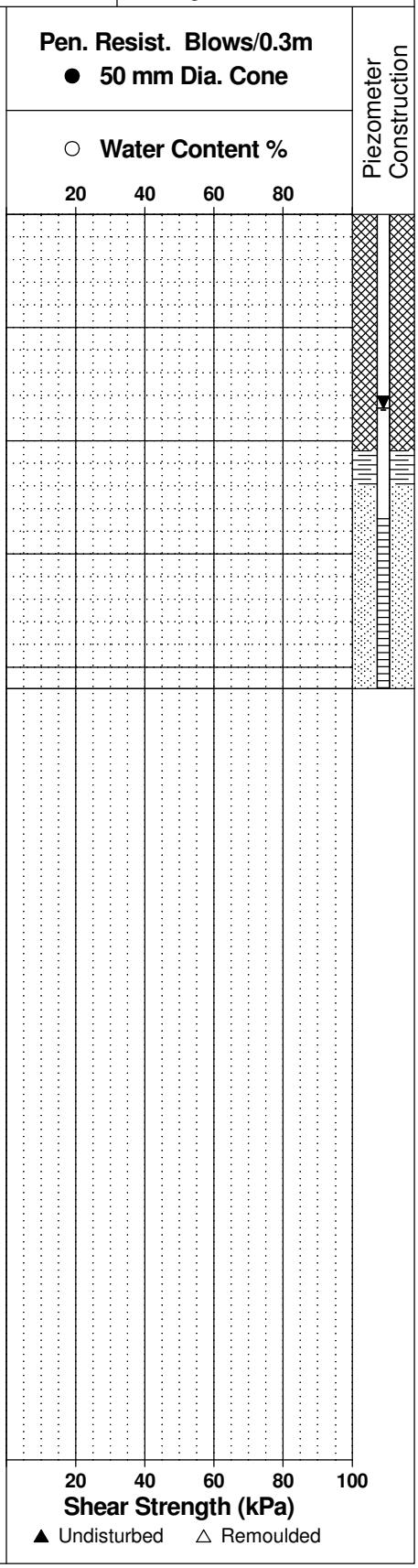
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 17, 2021

FILE NO. PG5570

HOLE NO. BH20-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.25
TOPSOIL 0.23		AU	1				
Compact to loose, brown **SILTY SAND to SANDY SILT**		SS	2	58	11	1	101.25
		SS	3	42	7	2	100.25
2.44							
Interlayered grey **SANDY SILT** and grey **SILTY CLAY**		SS	4	75	3	3	99.25
3.20							
GLACIAL TILL: Compact, grey silty sand with gravel, cobbles and boulders		SS	5	67	23		
4.19		SS	6		50+	4	98.25
End of Borehole							
Practical refusal to augering at 4.19m depth							
(GWL @ 1.71m - Jan. 11, 2022)							



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REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 17, 2021

FILE NO. PG5570

HOLE NO. BH21-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	102.92		
TOPSOIL 0.25									
Loose, brown **SILTY SAND to SANDY SILT**		AU	1						
1.07		SS	2	42	36	1	101.92		
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders		SS	3	50	71				
2.23						2	100.92		
End of Borehole									
Practical refusal to augering at 2.23m depth									
(Piezometer damaged - Jan. 11, 2022)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Water Content %: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 20, 2021

FILE NO. PG5570

HOLE NO. BH22-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.98
TOPSOIL 0.20							
Loose, brown **SILTY SAND,** trace gravel 0.69		AU	1				
		SS	2	100	22	1	101.98
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	3	92	29	2	100.98
		SS	4	83	46		
		SS	5	50	50+	3	99.98
3.48							
End of Borehole							
Practical refusal to augering at 3.48m depth.							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**
20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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REMARKS

BORINGS BY Track-Mount Power Auger **DATE** January 10, 2022

FILE NO. PG5570

HOLE NO. BH22A-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.98
TOPSOIL 0.20							
Loose, brown **SILTY SAND,** trace gravel 0.69		AU	1				
		SS	2	100	22	1	101.98
		SS	3	92	29	2	100.98
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders		SS	4	83	46		
		SS	5	50	50+	3	99.98
		RC	1	77		4	98.98
		RC	2	14		5	97.98
5.97						6	96.98
		RC	3	100	94	7	95.98
BEDROCK: Excellent quality, grey dolostone interbedded with grey limestone		RC	4	100	100	8	94.98
						9	93.98
		RC	5	100	100		
10.21						10	92.98
End of Borehole							
(GWL @ 2.49m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Monitoring Well Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

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REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 20, 2021

FILE NO. PG5570

HOLE NO. BH23-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	102.38		
TOPSOIL 0.28									
Stiff, brown **SILTY CLAY,** some sand		AU	1						
1.12		SS	2	25	32	1	101.38		
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders, trace clay 1.83		SS	3	55					
End of Borehole									
Practical refusal to augering at 1.83m depth									
(Piezometer damaged - Jan. 11, 2022)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

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Prop. Residential Development - 6115 Flewellyn Road
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DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 20, 2021

FILE NO. PG5570

HOLE NO. BH24-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.07
TOPSOIL 0.30		AU	1				
Loose to dense, brown **SILTY SAND to SANDY SILT**		SS	2	58	8	1	102.07
1.83		SS	3	75	32	2	101.07
		SS	4	50	50+		
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders		RC	1	100		3	100.07
- boulders cored from 2.46 to 4.42m depth		RC	2	19		4	99.07
4.42		RC	3	100	81	5	98.07
BEDROCK: Good to excellent quality, grey limestone interbedded with dolostone						6	97.07
- 15mm thick mud seam at 5.25m depth		RC	4	100	100	7	96.07
7.92		RC	5	100	100		
End of Borehole							
(GWL @ 0.67m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Monitoring Well Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH25-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.73
TOPSOIL 0.25		AU	1				
Loose, brown **SILTY SAND,** trace clay and gravel		SS	2	71	50+	1	101.73
1.17							
End of Borehole							
Practical refusal to augering at 1.17m depth							
(GWL @ 0.71m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH26-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.04
TOPSOIL 0.25							
Stiff, brown **SILTY CLAY,** some sand 0.69		AU	1				
		SS	2	40	50+	1	102.04
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders, trace clay		SS	3	61	33		
2.16						2	101.04
End of Borehole							
Practical refusal to augering at 2.16m depth							
(GWL @ 0.78m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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DATUM Geodetic

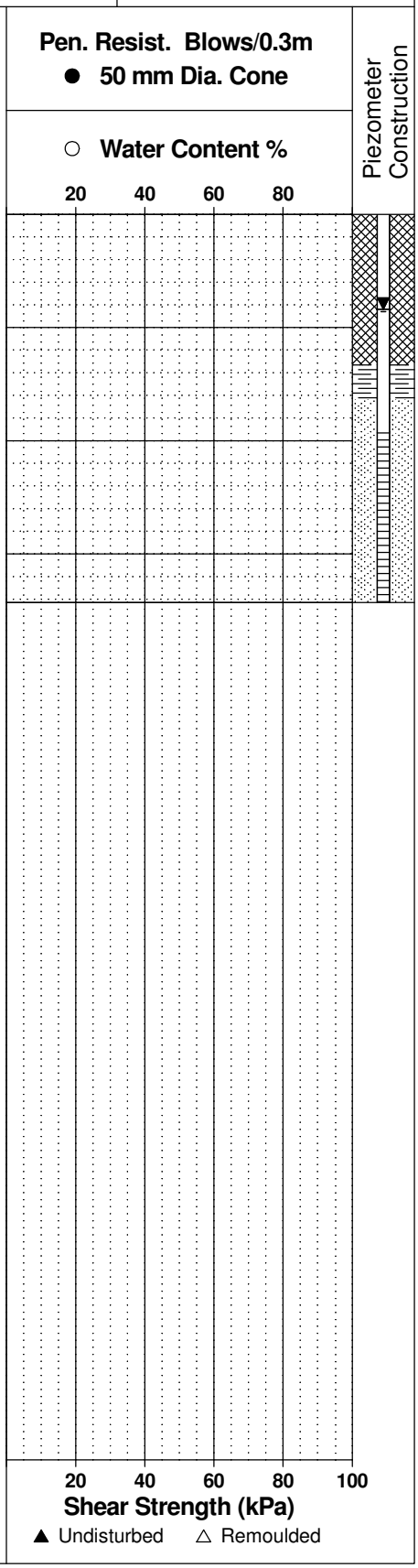
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH27-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.71
TOPSOIL 0.28		AU	1				
Compact to loose, brown **SILTY SAND to SANDY SILT,** trace clay		SS	2	67	19	1	101.71
		SS	3	83	21	2	100.71
- grey by 2.4m depth		SS	4	50	9		
3.12						3	99.71
GLACIAL TILL: Very loose, grey silty sand with gravel, cobbles and boulders 3.43		SS	5	86	3		
End of Borehole							
Practical refusal to augering at 3.43m depth							
(GWL @ 0.84m - Jan. 11, 2022)							



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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH28-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	101.85
TOPSOIL 0.30		AU	1				
Loose, brown **SILTY SAND to SANDY SILT,** trace clay		SS	2	42	7	1	100.85
		SS	3	58	8	2	99.85
2.21							
Interbedded layers of grey **SILTY SAND** and grey **SILTY CLAY**		SS	4	100	2	3	98.85
2.97							
GLACIAL TILL: Very loose, grey silty sand with clay, gravel and cobbles		SS	5	100	3		
3.89		SS	6		50+		
End of Borehole							
Practical refusal to augering at 3.89m depth							
(GWL @ 1.79m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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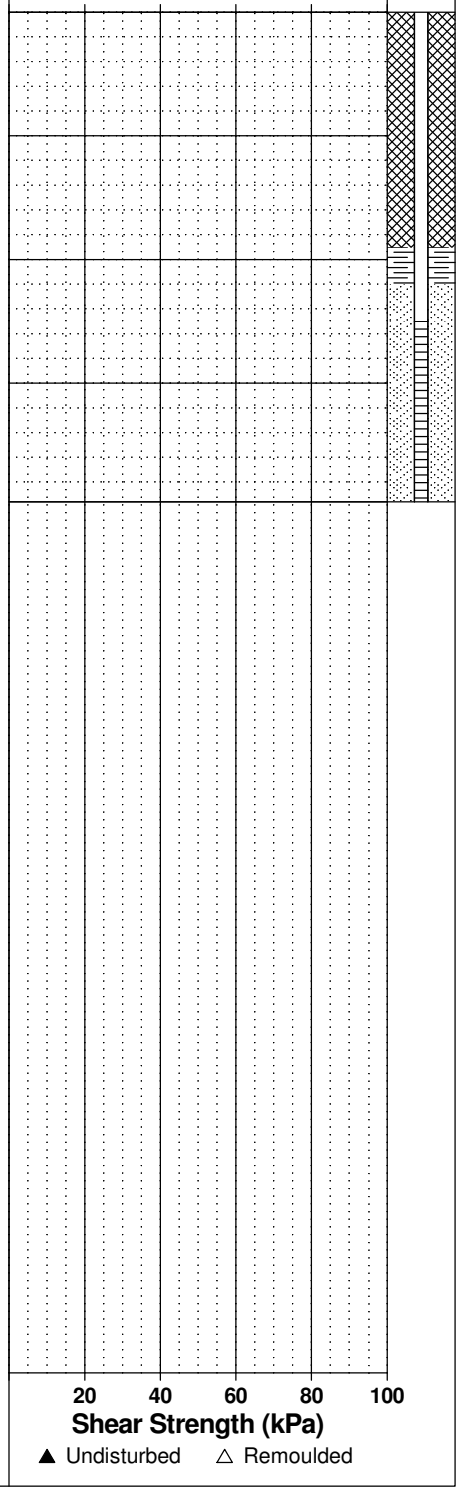
BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH29-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.28		AU	1			0	102.31		
Loose to very loose, brown **SILTY SAND to SANDY SILT,** trace clay		SS	2	50	9	1	101.31		
		SS	3	67	8	2	100.31		
- grey by 1.9m depth		SS	4	67	4				
- intermittent layers of grey silty clay by 3.0m depth		SS	5	58	2	3	99.31		
3.96		SS	6	67					
End of Borehole									
Practical refusal to augering at 3.96m depth									
(Piezometer damaged - Jan. 11, 2022)									



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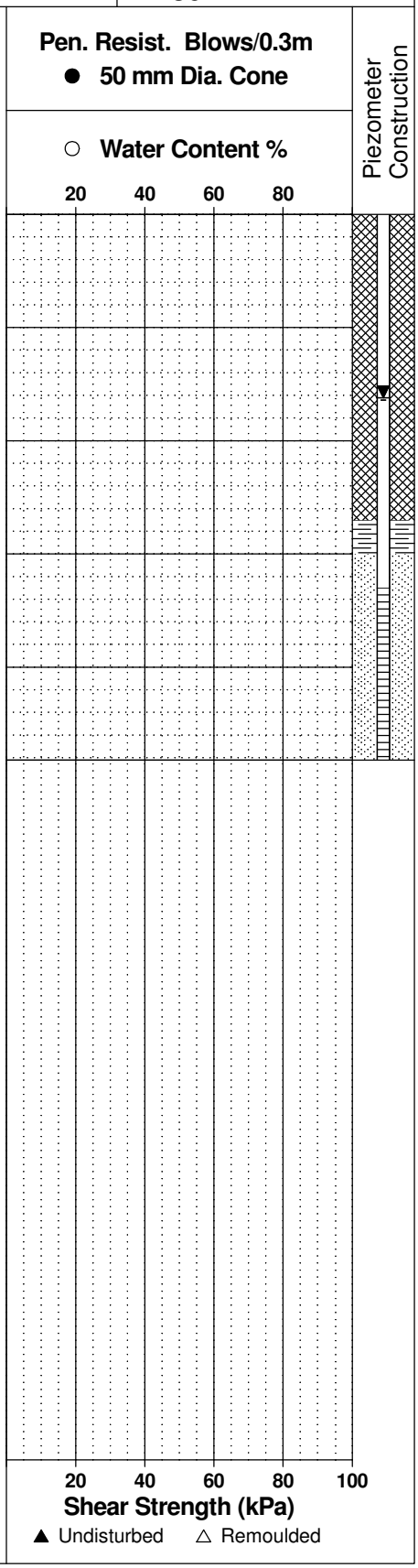
BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH30-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.44
TOPSOIL 0.25		AU	1				
		SS	2	50	12	1	101.44
Compact to very loose, brown **SILTY SAND to SANDY SILT,** trace clay		SS	3	33	10	2	100.44
- grey by 2.0m depth		SS	4	92	1		
3.45		SS	5	83	2	3	99.44
GLACIAL TILL: Very loose to compact, grey silty sand with gravel, cobbles and boulders, trace clay		SS	6	33	24	4	98.44
4.82		SS	7	50	50+		
End of Borehole							
Practical refusal to augering at 4.82m depth							
(GWL @ 1.62m - Jan. 11, 2022)							



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REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH31-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.43
TOPSOIL 0.36		AU	1				
		SS	2	50	14	1	102.43
		SS	3	50	22	2	101.43
Compact to loose, brown **SILTY SAND to SANDY SILT,** trace clay		SS	4	42	9		
- grey by 3.2m depth		SS	5	58	5	3	100.43
		SS	6	42	12	4	99.43
4.72		SS	7	58	37		
GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and boulders		SS	8		58	5	98.43
6.12		SS	9	0	50+	6	97.43
End of Borehole							
Practical refusal to augering at 6.12m depth							
(GWL @ 1.27m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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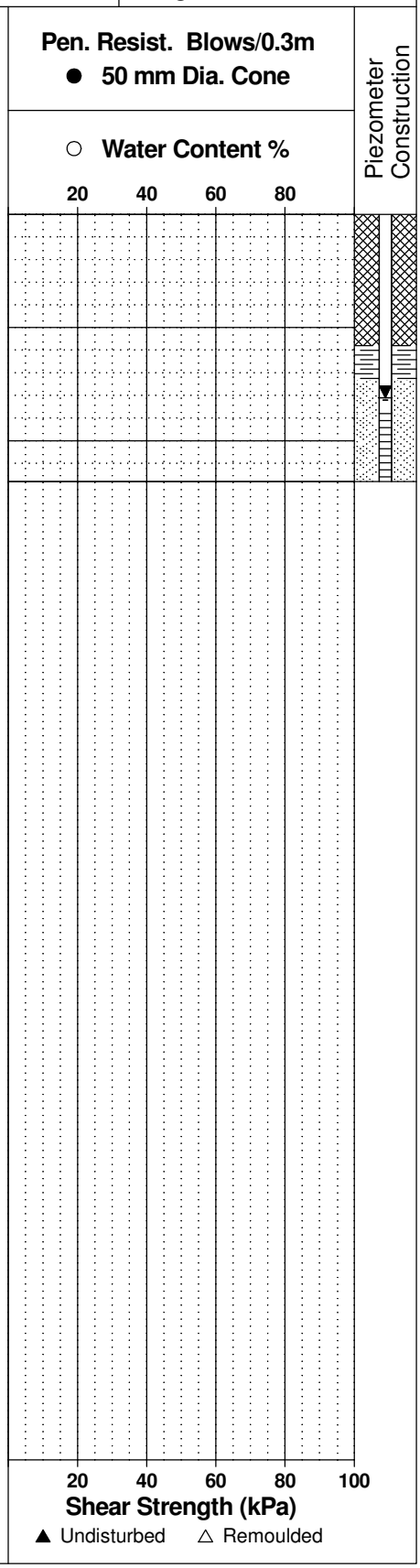
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 21, 2021

FILE NO. PG5570

HOLE NO. BH32-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.74
TOPSOIL 0.15		AU	1				
Compact to dense, brown **SILTY SAND to SANDY SILT**		SS	2	67	39	1	102.74
- grey 1.4m depth		SS	3	67	26		
2.21						2	101.74
GLACIAL TILL: Grey silty sand with gravel, cobbles and boulders 2.36		SS	4	50	50+		
End of Borehole							
Practical refusal to augering at 2.36m depth							
(GWL @ 1.62m - Jan. 11, 2022)							



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SOIL PROFILE AND TEST DATA

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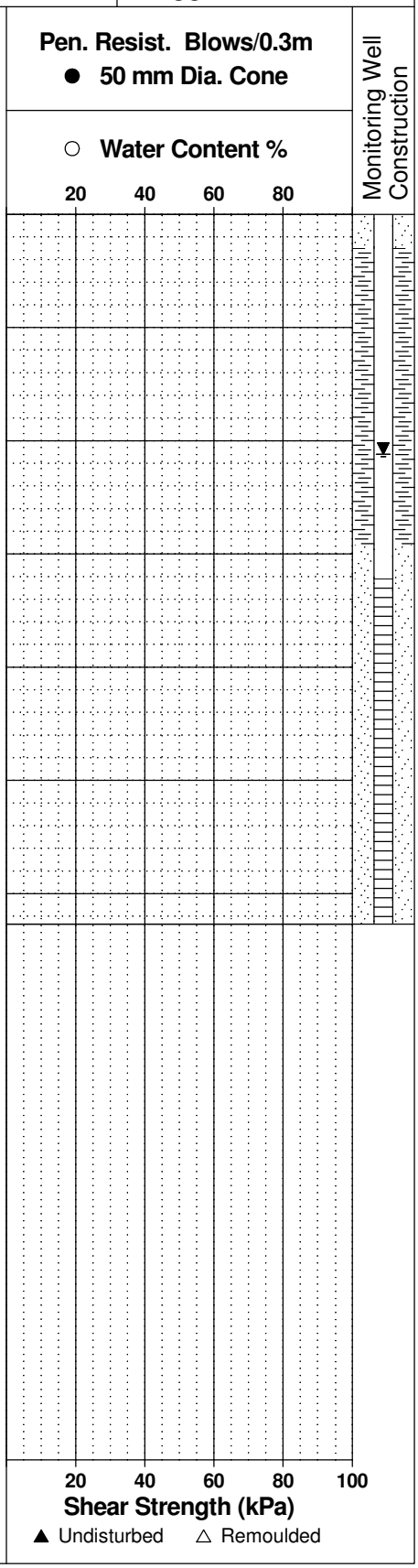
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 22, 2021

FILE NO. PG5570

HOLE NO. BH33-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	104.70
Compact, brown **SILTY SAND,** trace clay and organics		AU	1				
		SS	2	50	13	1	103.70
1.45							
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and boulders		SS	3	8	11	2	102.70
		RC	1	30			
2.74							
		RC	2	100	73	3	101.70
BEDROCK: Good to excellent quality, grey limestone						4	100.70
- 25mm thick mud seam at 3.7m depth		RC	3	95	85	5	99.70
- 30mm thick mud seam at 3.8m depth		RC	4	100	100	6	98.70
6.27							
End of Borehole							
(GWL @ 1.84m - Jan. 11, 2022)							



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** December 22, 2021

FILE NO. PG5570

HOLE NO. BH34-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.65
TOPSOIL 0.25		SS	5	17	8		
		AU	1				
Compact to loose, brown **SILTY SAND to SANDY SILT**		SS	2	42	10	1	101.65
		SS	3	25	9	2	100.65
2.21							
		SS	4	17	2	3	99.65
GLACIAL TILL: Very loose to loose, grey silty sand with gravel, cobbles and boulders, trace clay		RC	1	31		4	98.65
		RC	2	100	100	5	97.65
5.21							
BEDROCK: Excellent quality, grey limestone interbedded with dolostone		RC	3	100	100	6	96.65
6.61							
End of Borehole							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

Piezometer Construction

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** January 7, 2022

FILE NO. PG5570

HOLE NO. BH35-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.03
TOPSOIL 0.28		AU	1				
Loose to compact, brown **SILTY SAND to SANDY SILT**		SS	2	50	7	1	104.03
1.68		SS	3	50	25	2	103.03
GLACIAL TILL: Compact to very dense, grey silty sand with gravel, cobbles and boulders		SS	4	25	56		
		SS	5	67	50+	3	102.03
3.51							
End of Borehole							
Practical refusal to augering at 3.51m depth.							
(GWL @ 1.22m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
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DATUM Geodetic

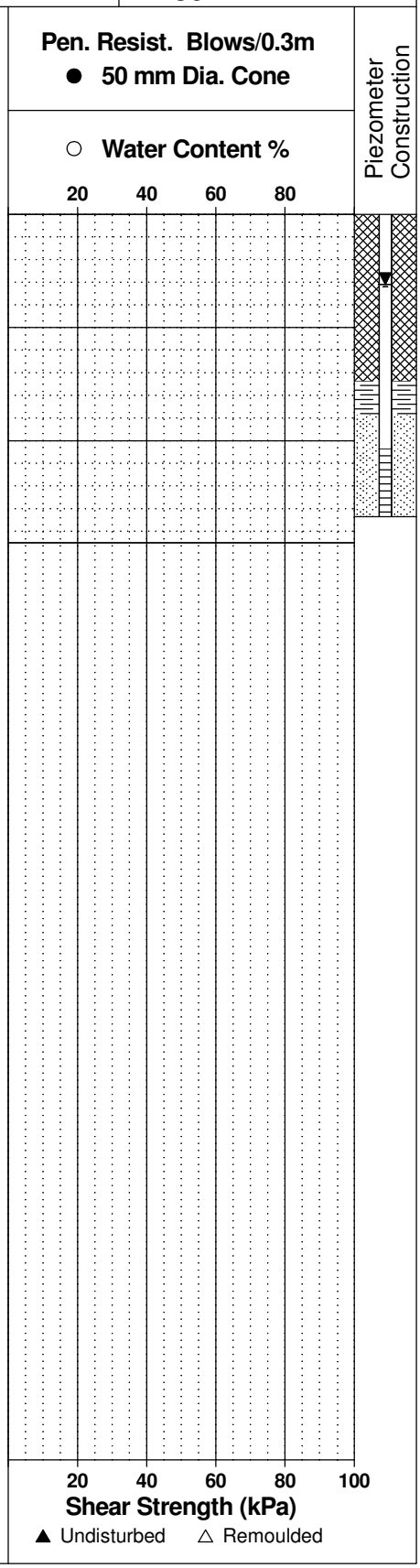
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** January 7, 2022

FILE NO. PG5570

HOLE NO. BH36-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.79
TOPSOIL 0.30		AU	1				
Compact, brown **SILTY SAND to SANDY SILT**		SS	2	42	15	1	101.79
1.45		SS	3	60	50+		
GLACIAL TILL: Very dense to compact, brown silty sand with gravel, cobbles and boulders		SS	4	8	15	2	100.79
2.90							
End of Borehole							
Practical refusal to augering at 2.90m depth.							
(GWL @ 0.62m - Jan. 11, 2022)							



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
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DATUM Geodetic

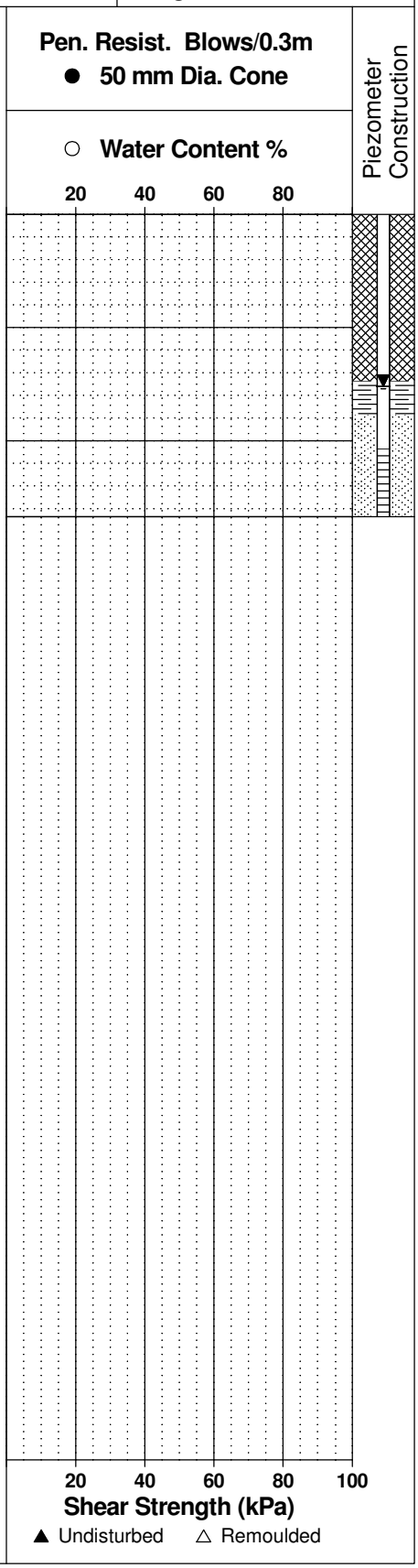
REMARKS

BORINGS BY Track-Mount Power Auger **DATE** January 7, 2022

FILE NO. PG5570

HOLE NO. BH37-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.54
TOPSOIL 0.36		AU	1				
Compact to dense, brown **SILTY SAND to SANDY SILT**		SS	2	42	22	1	102.54
		SS	3	58	34	2	101.54
2.21							
GLACIAL TILL: Very dense, grey silty sand with gravel, cobbles and boulders 2.67		SS	4	50	50+		
End of Borehole							
Practical refusal to augering at 2.67m depth.							
(GWL @ 1.52m - Jan. 11, 2022)							



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Geotechnical Investigation
Prop. Residential Development - 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger **DATE** January 7, 2022

FILE NO. PG5570

HOLE NO. BH38-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.62
FILL: Crushed stone and gravel 0.15		AU	1				
Dense to compact, brown **SILTY SAND to SANDY SILT**		SS	2		32	1	102.62
		SS	3		24		
- grey by 2.0m depth		SS	4	100	50+	2	101.62
2.64							
End of Borehole							
Practical refusal to augering at 2.64m depth.							
(GWL @ 1.94m - Jan. 11, 2022)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 1

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	105.94
TOPSOIL		G	1				
0.15							
GLACIAL TILL: Brown silty sand with gravel and some clay		G	2				
0.25							
BEDROCK Weathered interbedded limestone		G	3				
0.44							
End of Test Pit							
Practical refusal to excavation at 0.44m depth							
(TP dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

Piezometer Construction

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

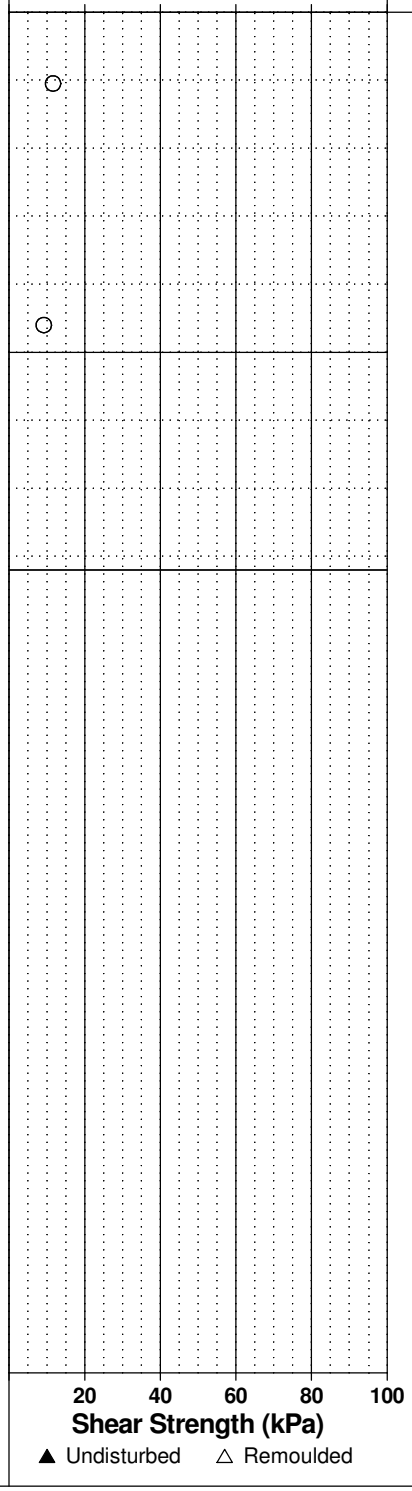
FILE NO. PG5570

REMARKS

HOLE NO. TP 2

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	105.06		
TOPSOIL 0.21		G	1						
Brown **SILTY SAND,** trace gravel 0.92		G	2			1	104.06		
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders 1.64		G	3						
End of Test Pit TP terminated on inferred bedrock surface at 1.64m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 3

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	102.10
TOPSOIL		G	1				
0.25							
Brown **SILTY SAND,** trace sea shells		G	2				
0.59							
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders		G	3			1	101.10
1.61							
End of Test Pit							
TP terminated on inferred bedrock surface at 1.61m depth							
(TP dry upon completion)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)
▲ Undisturbed △ Remoulded

Piezometer Construction

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

FILE NO. PG5570

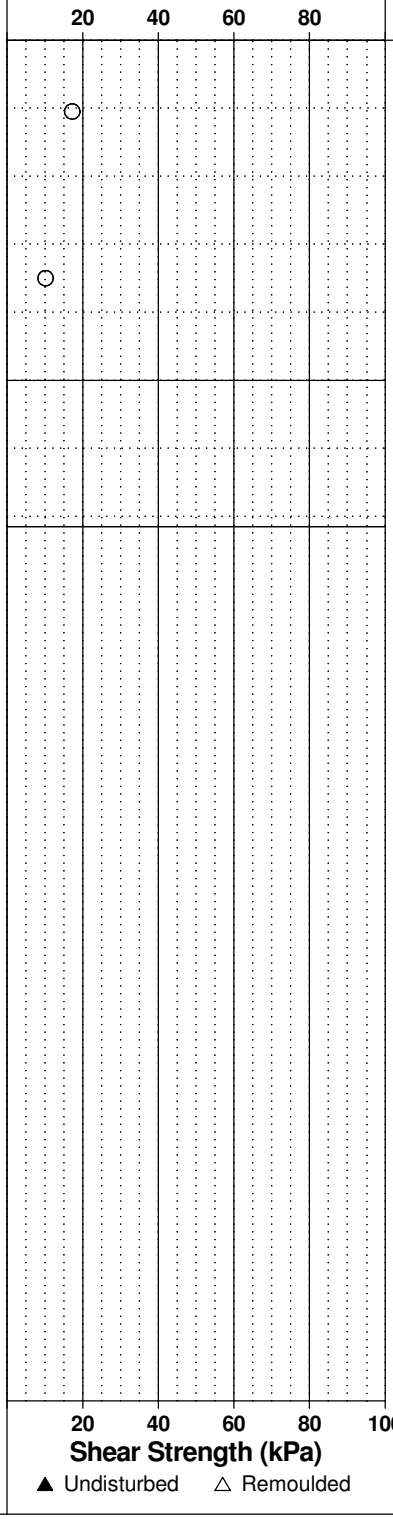
REMARKS

HOLE NO. TP 4

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	108.49
TOPSOIL 0.21		G	1				
Brown **SILTY SAND,** trace gravel, cobble and organics 0.70		G	2				
GLACIAL TILL: Brown silty sand, some gravel, cobble, boulder, trace clay 1.43		G	3			1	107.49
End of Test Pit							
Test Pit terminated on bedrock surface at 1.43m depth							
(TP dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %



Piezometer Construction

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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 5

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	108.36		
TOPSOIL 0.22		G	1						
Brown **SILTY SAND**		G	2			1	107.36		
1.16									
GLACIAL TILL: Brown silty sand, some gravel, cobble, and boulder 1.46		G	3						▽
End of Test Pit									
TP terminated on inferred bedrock surface at 1.46m depth									
(Groundwater infiltration at 1.28m - Nov 20, 2020)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Water Content %: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 6

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.27		G	1			0	107.91		
Brown **SILTY SAND,** trace cobble, boulders and seashells 1.70		G	2			1	106.91		
		G	3						▽
BEDROCK: Weathered interbedded limestone 2.89		G	4			2	105.91		
End of Test Pit									
TP terminated on inferred bedrock surface at 2.89m depth									
(Groundwater infiltration at 1.70m - Nov 20, 2020)									

○ Water Content %: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
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DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 7

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	106.31		
TOPSOIL 0.22		G	1						
Brown **SILTY SAND,** trace clay 0.81		G	2			1	105.31		
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders		G	3			2	104.31		▽
		G	4			3	103.31		
End of Test Pit 3.37									
TP terminated on inferred bedrock surface at 3.37m depth									
(Groundwater infiltration at 2.24m - Nov 20, 2020)									

Pen. Resist. Blows/0.3m: ○ Water Content % — 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100 — ▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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DATUM Geodetic

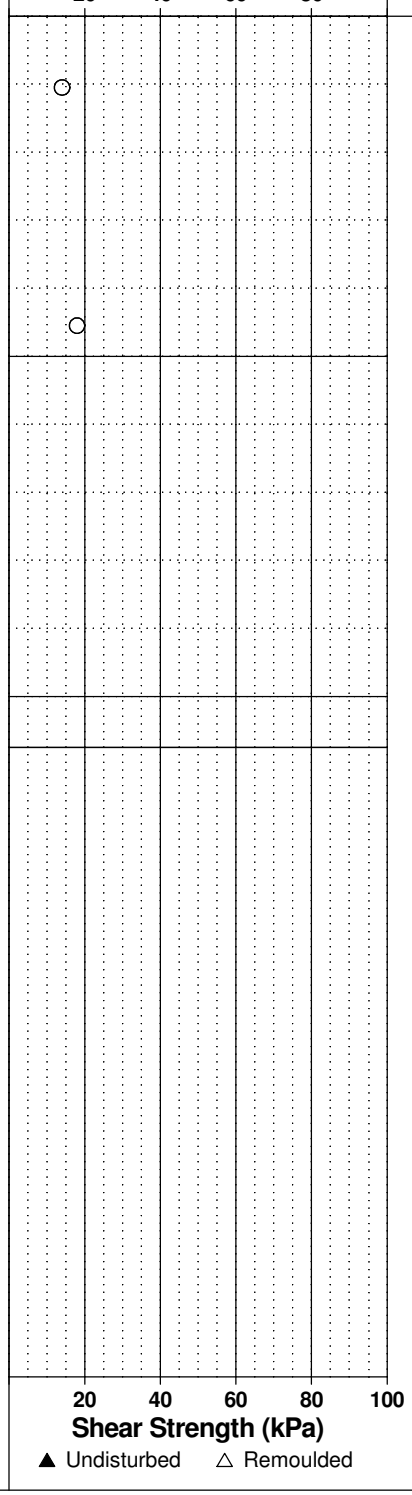
FILE NO. PG5570

REMARKS

HOLE NO. TP 8

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.21		G	1			0	105.48		
		G	2			1	104.48		
Brown **SILTY SAND,** trace clay and organics - increasing in silt content with depth		G	3			2	103.48		
2.15 End of Test Pit TP terminated on inferred bedrock surface at 2.15m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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DATUM Geodetic

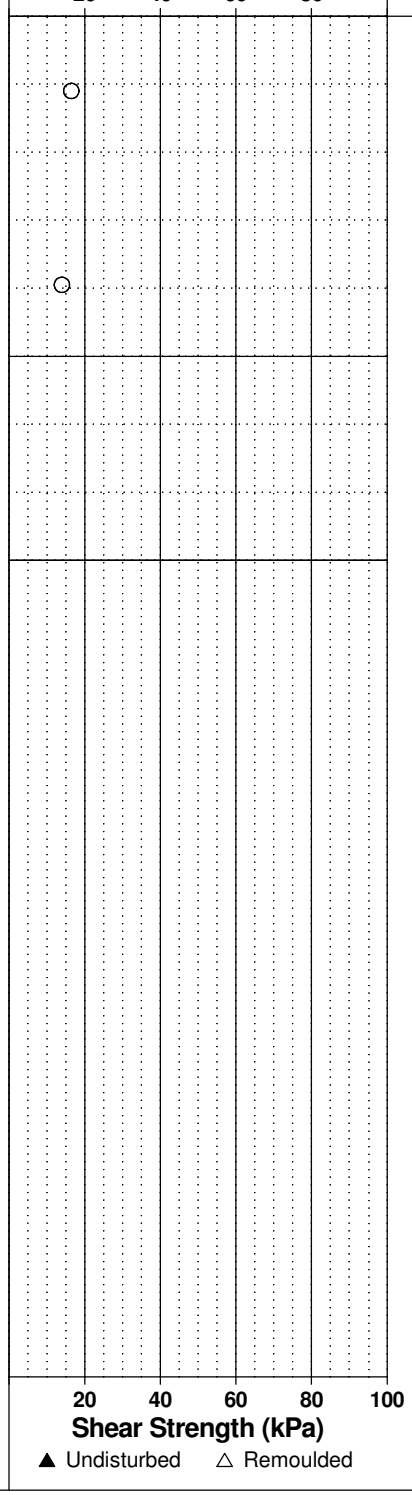
FILE NO. PG5570

REMARKS

HOLE NO. TP 9

BORINGS BY CME-55 Low Clearance Drill **DATE** November 20, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	104.47		
TOPSOIL 0.22		G	1						
Brown **SILTY SAND,** trace organics 0.79		G	2						
GLACIAL TILL: Brown silty sand trace gravel, cobbles, and boulders 1.60		G	3			1	103.47		
End of Test Pit									
TP terminated on inferred bedrock surface at 1.60m depth									
(TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
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DATUM Geodetic

FILE NO. PG5570

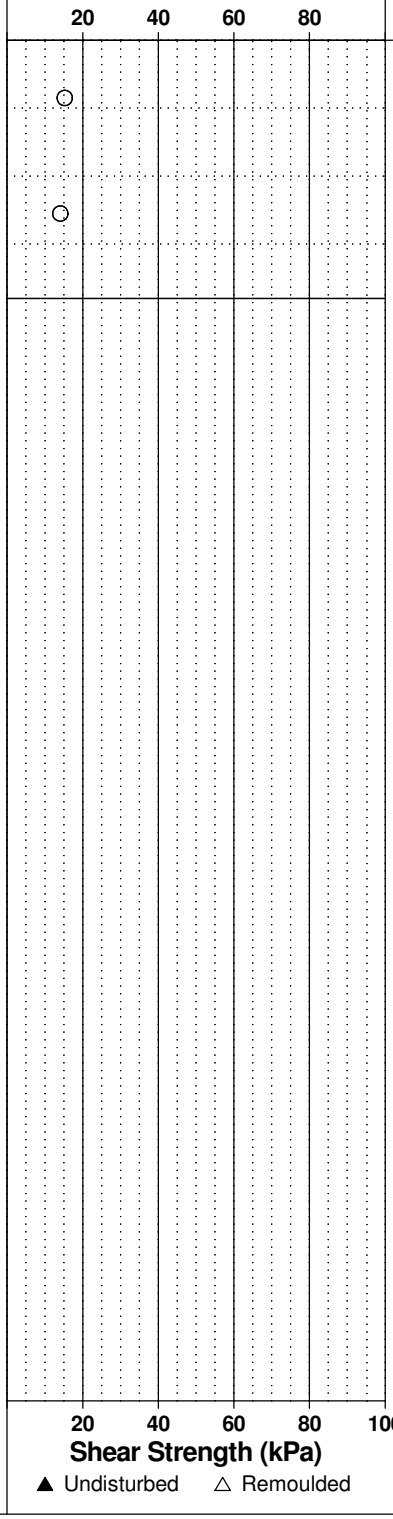
REMARKS

HOLE NO. TP 10

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.62
TOPSOIL 0.17		G	1				
Brown **SILTY SAND,** trace gravel and cobbles 0.51		G	2				
GLACIAL TILL: Brown silty sand, with gravel, trace cobble and boulders 0.76		G	3				
End of Test Pit							
TP terminated on inferred bedrock surface at 0.76m depth							
(Groundwater infiltration at 0.51m - Dec 10, 2020)							

Pen. Resist. Blows/0.3m
● **50 mm Dia. Cone**
○ **Water Content %**



Piezometer Construction

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FILE NO. PG5570

REMARKS

HOLE NO. TP 11

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	103.01		
TOPSOIL 0.15		G	1						
Brown **SILTY SAND,** trace gravel		G	2						
0.89		G	3						▽
GLACIAL TILL: Brown silty sand, with gravel, cobbles, and boulders		G	1			1	102.01		
1.49									
End of Test Pit									
TP terminated on inferred bedrock surface at 1.49m depth									
(Groundwater infiltration at 0.89m - Dec 10, 2020)									

Pen. Resist. Blows/0.3m: ○ Water Content % — 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
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DATUM Geodetic

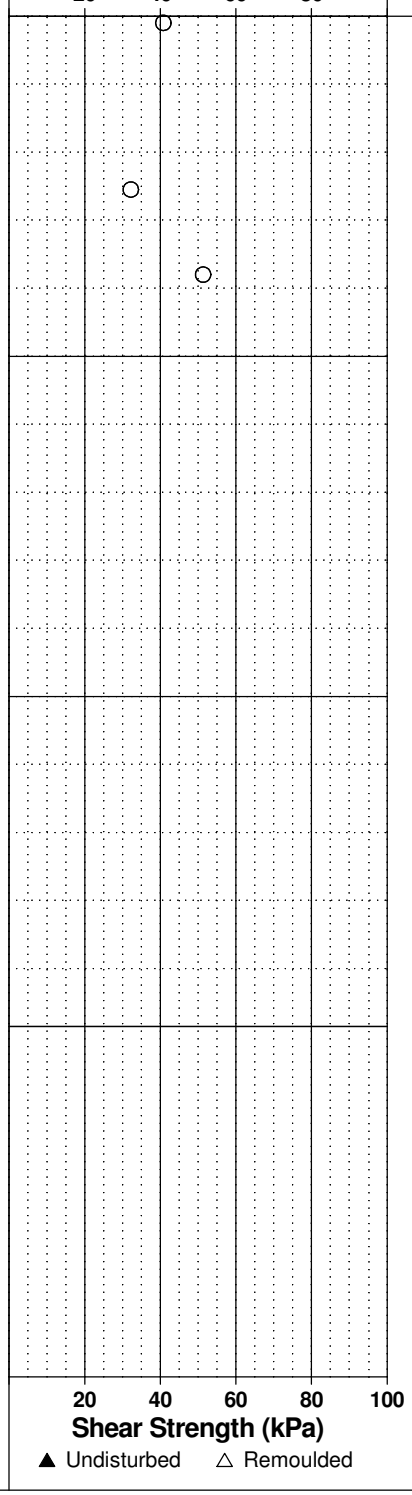
FILE NO. PG5570

REMARKS

HOLE NO. TP 12

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	103.21		
TOPSOIL 0.02		G	1						
		G	2						
Brown **SILTY SAND,** trace gravel 0.51									
Organic silt with **PEAT** fibers 0.76		G	3						
		G	4			1	102.21		
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders						2	101.21		▽
2.97									
End of Test Pit									
TP terminated on inferred bedrock surface at 2.97m depth									
(Groundwater infiltration at 1.82m - Dec 10, 2020)									



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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

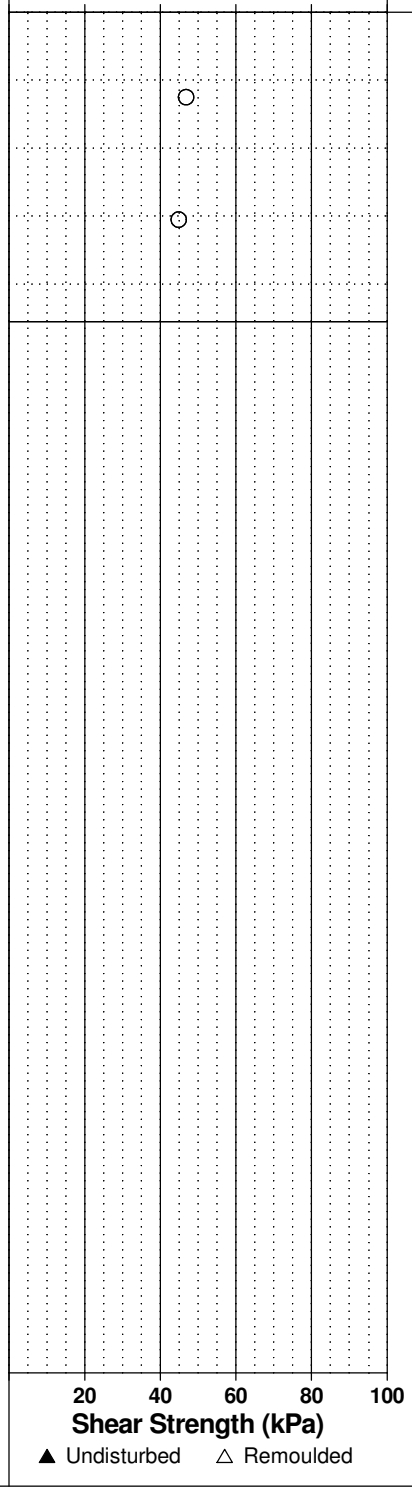
FILE NO. PG5570

REMARKS

HOLE NO. TP 13

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	104.30
TOPSOIL 0.25		G	1				
Brown **SILTY SAND,** trace organics 0.61		G	2				
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders 0.91		G	3				
End of Test Pit							
TP terminated on inferred bedrock surface at 0.91m depth							
(Groundwater infiltration at 0.61m - Dec 10, 2020)							



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SOIL PROFILE AND TEST DATA

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DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 14

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	105.60		
TOPSOIL			1						
0.30									
Brown **SILTY SAND**			2						
0.56									
GLACIAL TILL: Brown silty sand with gravel, cobbles, and boulders.			3						
0.97									
End of Test Pit									
Practical refusal to excavation at 0.94m depth									
(TP dry upon completion)									

Pen. Resist. Blows/0.3m: ● 50 mm Dia. Cone; ○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 15

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	106.80		
TOPSOIL 0.18		G	1						
		G	2			1	105.80		
		G	3						
Brown **SILTY SAND**		G	4						
		G	5			2	104.80		
2.64									
GLACIAL TILL: Grey silty sand with gravel, cobbles and boulders 2.74		G	6						
End of Test Pit									
TP terminated on inferred bedrock surface at 2.74m depth									
(Groundwater infiltration at 2.28m - Dec 10, 2020)									

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

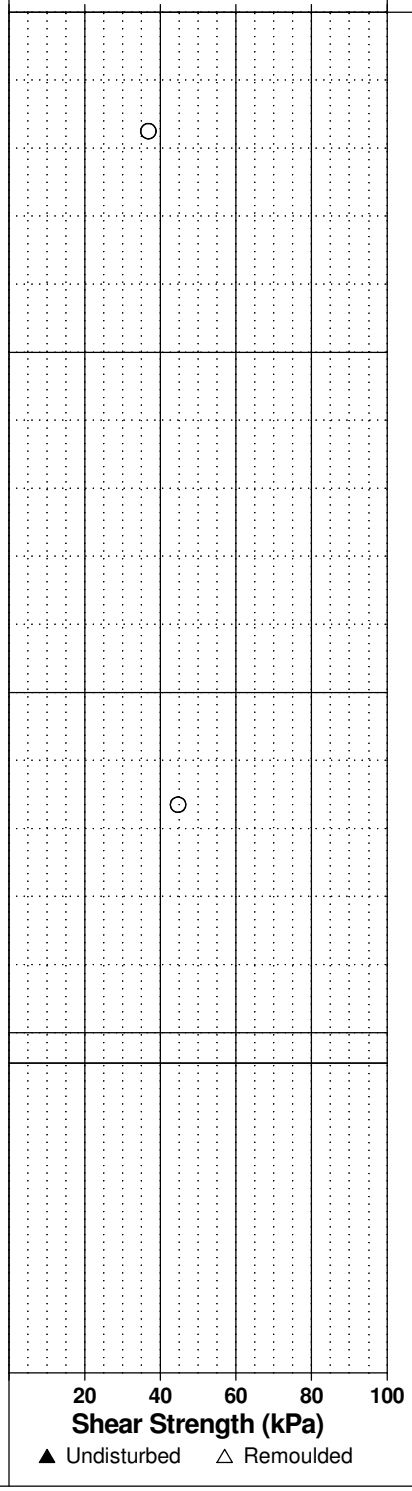
FILE NO. PG5570

REMARKS

HOLE NO. TP 16

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	104.62		
TOPSOIL		G	1						
0.35									
		G	2			1	103.62		
Brown **SILTY SAND,** trace gravel									
						2	102.62		
2.34									
GLACIAL TILL: Grey silty sand with gravel, cobbles and boulders.		G	3						
						3	101.62		
3.09									
End of Test Pit									
TP terminated on inferred bedrock surface at 3.09m depth									
(Groundwater infiltration at 2.33m - Dec 10, 2020)									



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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 17

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	103.90		
TOPSOIL 0.33		G	1						
Brown **SILTY SAND,** trace gravel		G	2			1	102.90		▽
1.37									
GLACIAL TILL: Brown silty sand, with gravel cobbles and boulders 1.78		G	3						
End of Test Pit									

TP terminated on inferred bedrock surface at 1.78m depth

(Groundwater infiltration at 1.37m - Dec 10, 2020)

Pen. Resist. Blows/0.3m: ● 50 mm Dia. Cone; ○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
6070 and 6115 Flewellyn Road
Ottawa, Ontario

DATUM Geodetic

FILE NO. PG5570

REMARKS

HOLE NO. TP 18

BORINGS BY CME-55 Low Clearance Drill **DATE** December 10, 2020

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	103.42
TOPSOIL		G	1				
0.30							
		G	2				
Brown **SILTY SAND,** some gravel							
		G	3			1	102.42
1.32							
End of Test Pit							
TP terminated on inferred bedrock surface at 1.32m depth							
(TP dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the relative strength of cohesionless soils is the compactness condition, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm. An SPT N value of "P" denotes that the split-spoon sampler was pushed 300 mm into the soil without the use of a falling hammer.

Compactness Condition	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory shear vane tests, unconfined compression tests, or occasionally by the Standard Penetration Test (SPT). Note that the typical correlations of undrained shear strength to SPT N value (tabulated below) tend to underestimate the consistency for sensitive silty clays, so Paterson reviews the applicable split spoon samples in the laboratory to provide a more representative consistency value based on tactile examination.

Consistency	Undrained Shear Strength (kPa)	'N' Value
Very Soft	<12	<2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their "sensitivity". The sensitivity, S_t, is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil. The classes of sensitivity may be defined as follows:

Low Sensitivity:	$S_t < 2$
Medium Sensitivity:	$2 < S_t < 4$
Sensitive:	$4 < S_t < 8$
Extra Sensitive:	$8 < S_t < 16$
Quick Clay:	$S_t > 16$

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NQ or larger size core. However, it can be used on smaller core sizes, such as BQ, if the bulk of the fractures caused by drilling stresses (called "mechanical breaks") are easily distinguishable from the normal in situ fractures.

RQD %	**ROCK QUALITY**
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube, generally recovered using a piston sampler
G	-	"Grab" sample from test pit or surface materials
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size BQ, NQ, HQ, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

PLASTICITY LIMITS AND GRAIN SIZE DISTRIBUTION

WC%	-	Natural water content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic Limit, % (water content above which soil behaves plastically)
PI	-	Plasticity Index, % (difference between LL and PL)
Dxx	-	Grain size at which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D10	-	Grain size at which 10% of the soil is finer (effective grain size)
D60	-	Grain size at which 60% of the soil is finer
Cc	-	Concavity coefficient = $(D30)^2$ / (D10 x D60)
Cu	-	Uniformity coefficient = D60 / D10

Cc and Cu are used to assess the grading of sands and gravels:
Well-graded gravels have: $1 < Cc < 3$ and $Cu > 4$
Well-graded sands have: $1 < Cc < 3$ and $Cu > 6$
Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.
Cc and Cu are not applicable for the description of soils with more than 10% silt and clay
(more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

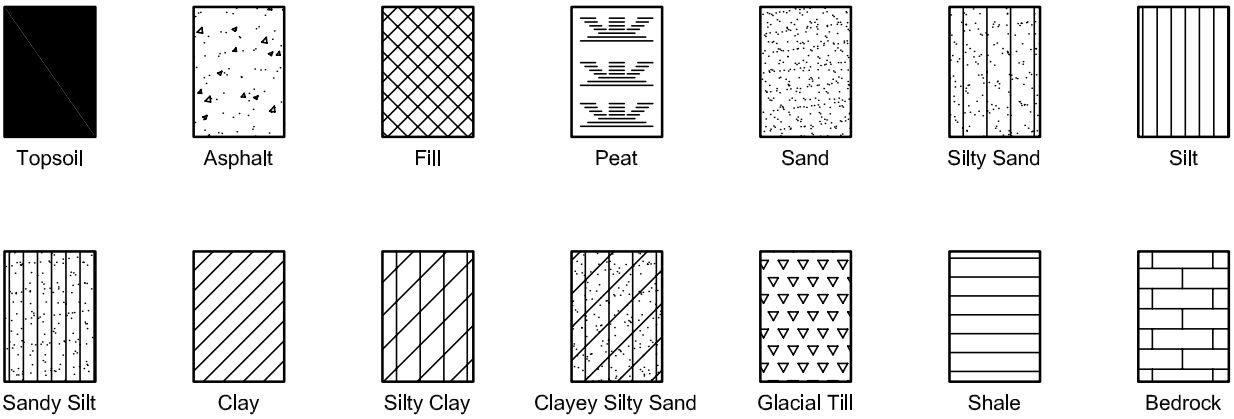
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
Wo	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.

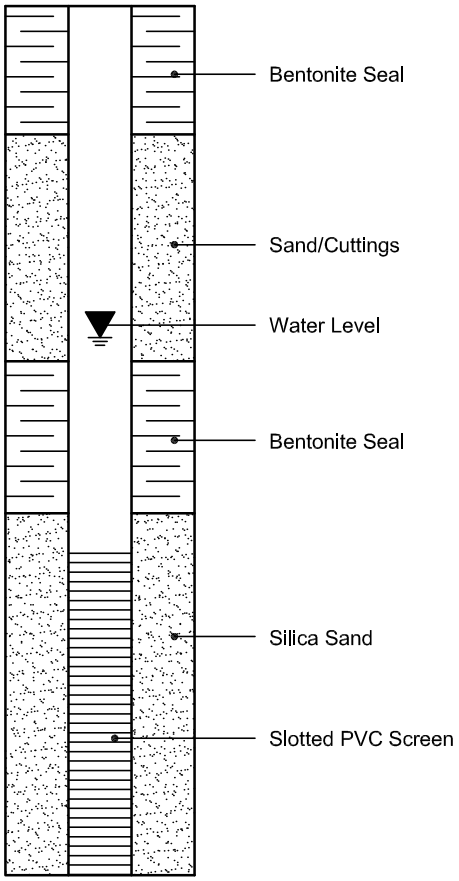
SYMBOLS AND TERMS (continued)

STRATA PLOT

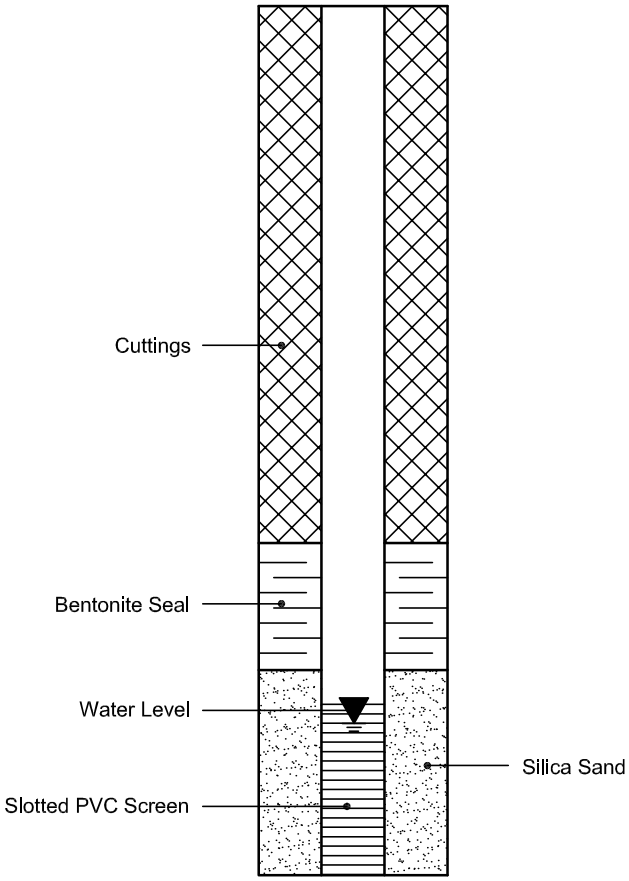


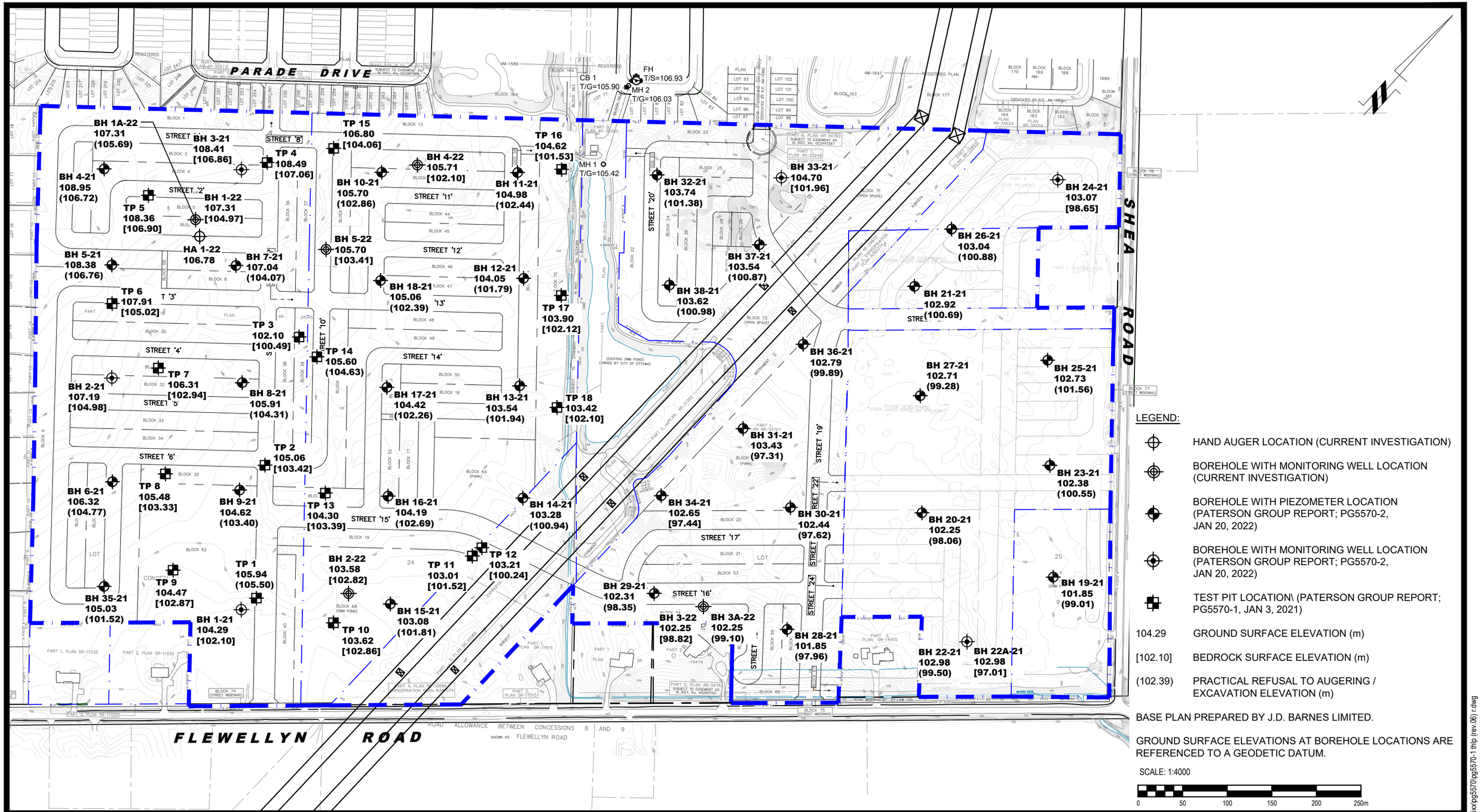
MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION





LEGEND:

- HAND AUGER LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH MONITORING WELL LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH PIEZOMETER LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- BOREHOLE WITH MONITORING WELL LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- TEST PIT LOCATION\ (PATERSON GROUP REPORT; PG5570-1, JAN 3, 2021)

104.29 GROUND SURFACE ELEVATION (m)

[102.10] BEDROCK SURFACE ELEVATION (m)

(102.39) PRACTICAL REFUSAL TO AUGERING / EXCAVATION ELEVATION (m)

BASE PLAN PREPARED BY J.D. BARNES LIMITED.

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:4000

0 50 100 150 200 250m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
6	UPDATED TO NEW CONCEPTUAL PLAN	03/07/2024	KP
5	UPDATED TO NEW CONCEPTUAL PLAN	28/08/2023	KP
4	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	KP
3	UPDATED SITE BOUNDARY	13/02/2023	KP
2	BH 1-22 - BH 5-22 & HA1-22 ADDED TO PLAN	10/03/2022	KP

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:4000	Date: 01/2022
Drawn by: YA	Report No.: PG5570-2, REVISION 4
Checked by: KP	Dwg. No.: PG5570-1
Approved by: DJG	Revision No.: 6

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11x17

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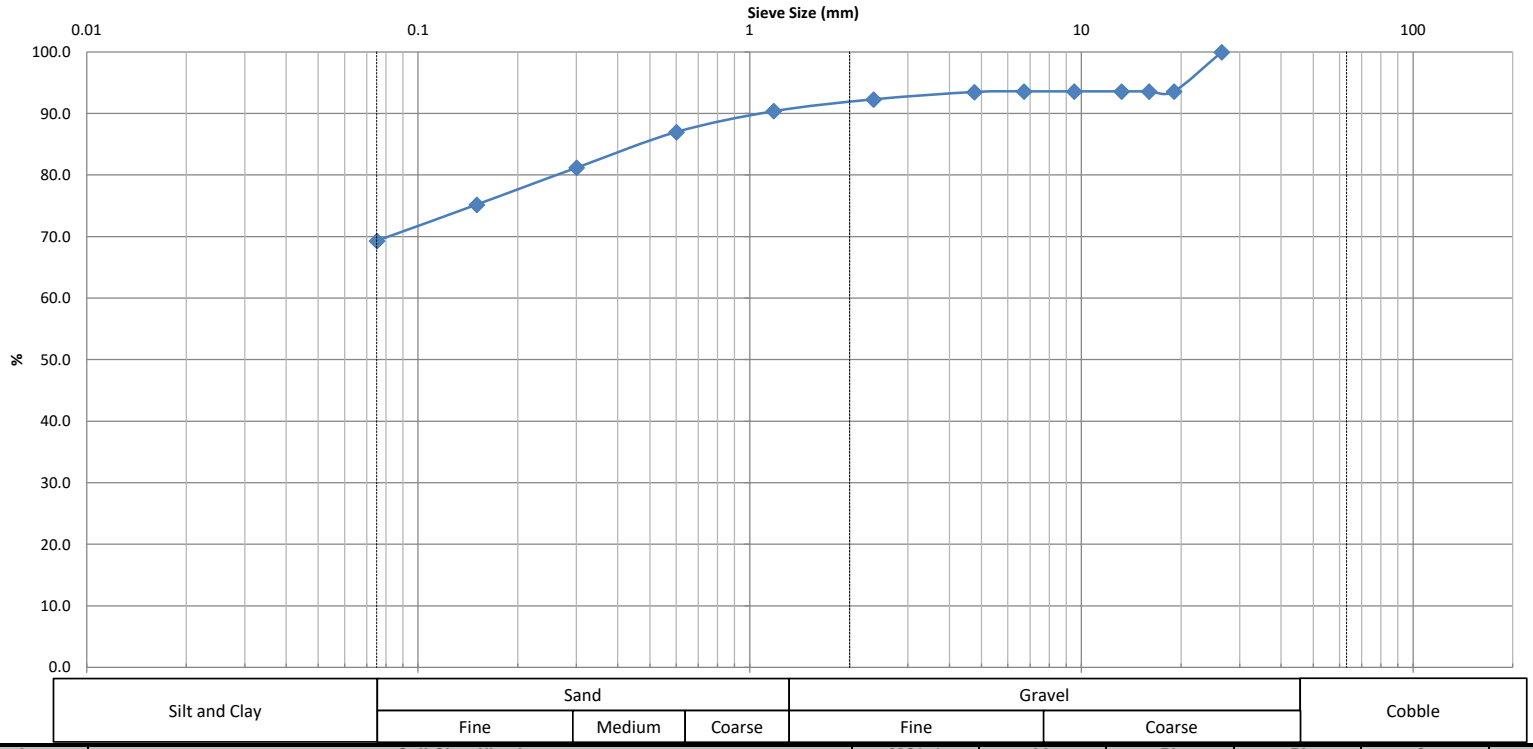
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	GLACIAL TILL	LAB NO:	31575
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH4-21; SS2 + SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.



Identification	Soil Classification				MC(%)	LL	PL	PI	Cc	Cu
									0.40	2.5
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)	Clay (%)	
	26.5	0.025	0.01	0.01	6.5	24.2		69.3		

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31575
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH4-21; SS2 + SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	275.9
WEIGHT AFTER WASH	93.5

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5	**0.0**	0.0	**100.0**			
19	**17.7**	6.4	**93.6**			
16	**17.7**	6.4	**93.6**			
13.2	**17.7**	6.4	**93.6**			
9.5	**17.7**	6.4	**93.6**			
6.7	**17.7**	6.4	**93.6**			
4.75	**17.9**	6.5	**93.5**			
2.36	**21.2**	7.7	**92.3**			
1.18	**26.5**	9.6	**90.4**			
0.6	**36.0**	13.0	**87.0**			
0.3	**51.9**	18.8	**81.2**			
0.15	**68.4**	24.8	**75.2**			
0.075	**84.7**	30.7	**69.3**			
PAN	**93.3**					
SIEVE CHECK FINE		0.21	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	**RESULT**	**LAB NO.**	**RESULT**

REVIEWED BY:	**Curtis Beadow**	**Joe Forsyth, P. Eng.**
		

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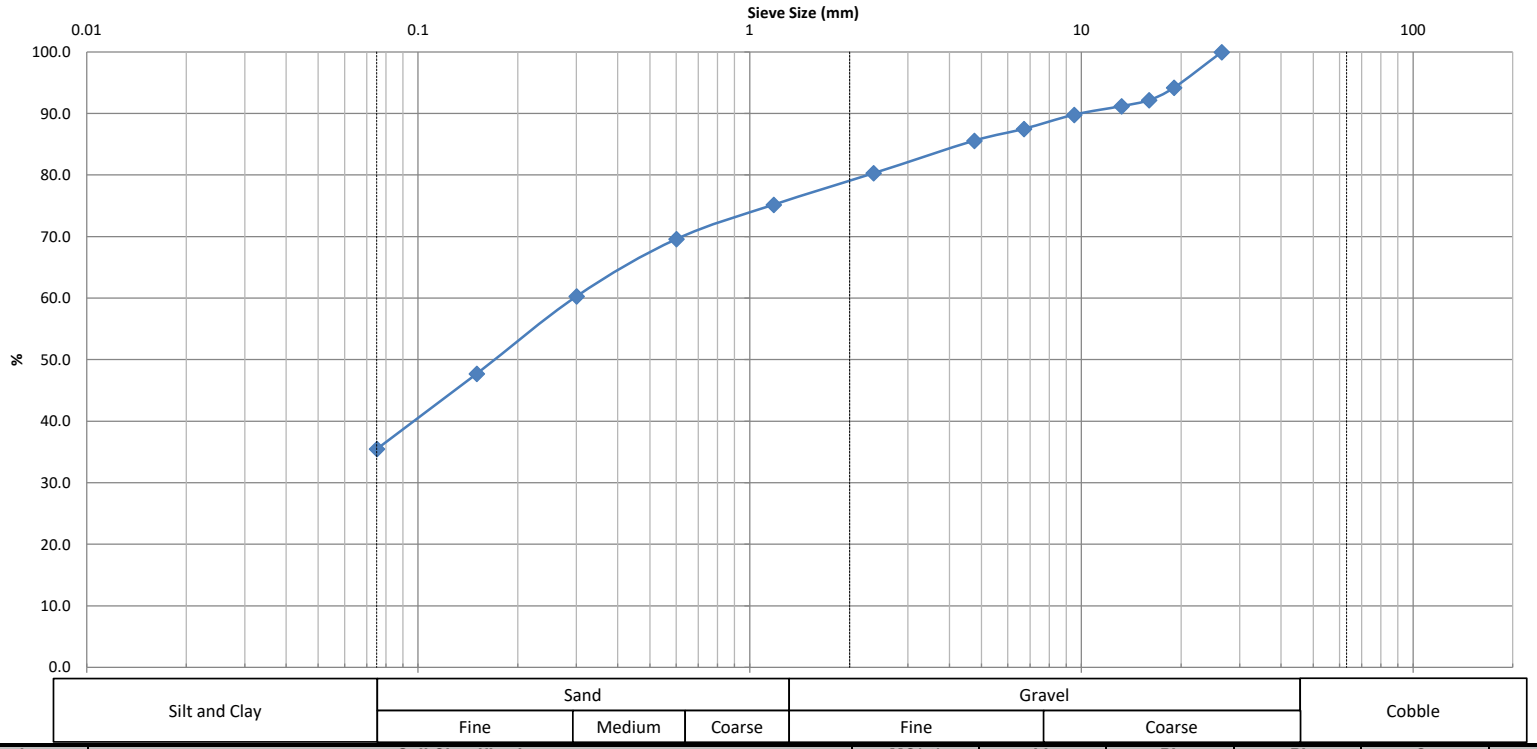
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	GLACIAL TILL	LAB NO:	31576
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH11-21; SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'0" to 7'0"	TESTED BY:	D.K.



Silt and Clay	Sand			Gravel		Cobble
	Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
										0.87	24.2
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
	26.5	0.29	0.055	0.012	14.4	50.1		35.5			

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31576
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH11-21; SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'0" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	503.6
WEIGHT AFTER WASH	339.5

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5	**0.0**	0.0	**100.0**			
19	**29.1**	5.8	**94.2**			
16	**39.2**	7.8	**92.2**			
13.2	**44.3**	8.8	**91.2**			
9.5	**51.6**	10.2	**89.8**			
6.7	**63.0**	12.5	**87.5**			
4.75	**72.5**	14.4	**85.6**			
2.36	**99.3**	19.7	**80.3**			
1.18	**125.1**	24.8	**75.2**			
0.6	**153.1**	30.4	**69.6**			
0.3	**199.7**	39.7	**60.3**			
0.15	**263.4**	52.3	**47.7**			
0.075	**325.0**	64.5	**35.5**			
PAN	**339.3**					
SIEVE CHECK FINE		0.06	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	**RESULT**	**LAB NO.**	**RESULT**

REVIEWED BY:	**Curtis Beadow**	**Joe Forsyth, P. Eng.**
		

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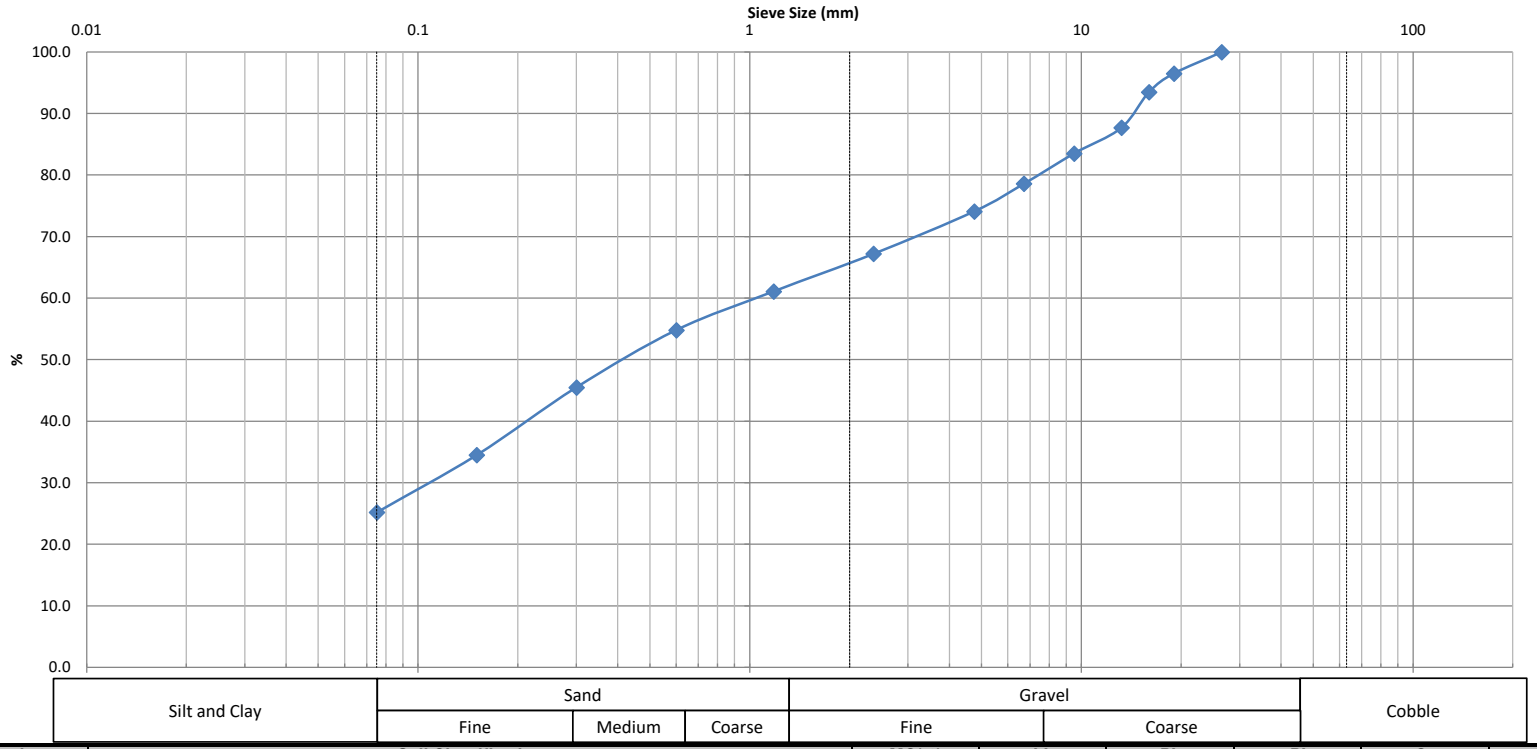
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	GLACIAL TILL	LAB NO:	31577
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH14-21; SS2 + SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.



Identification	Soil Classification				MC(%)	LL	PL	PI	Cc	Cu
									0.70	76.7

D100	D60	D30	D10	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
26.5	1.15	0.11	0.015	25.9	48.9	25.2	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31577
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH14-21; SS2 + SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	553.4
WEIGHT AFTER WASH	428.6

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5	**0.0**	0.0	**100.0**			
19	**19.1**	3.5	**96.5**			
16	**36.0**	6.5	**93.5**			
13.2	**68.2**	12.3	**87.7**			
9.5	**91.4**	16.5	**83.5**			
6.7	**118.6**	21.4	**78.6**			
4.75	**143.3**	25.9	**74.1**			
2.36	**181.6**	32.8	**67.2**			
1.18	**215.4**	38.9	**61.1**			
0.6	**250.3**	45.2	**54.8**			
0.3	**301.8**	54.5	**45.5**			
0.15	**362.7**	65.5	**34.5**			
0.075	**414.2**	74.8	**25.2**			
PAN	**428.2**					
SIEVE CHECK FINE		0.09	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	**RESULT**	**LAB NO.**	**RESULT**

REVIEWED BY:	**Curtis Beadow**	**Joe Forsyth, P. Eng.**
		

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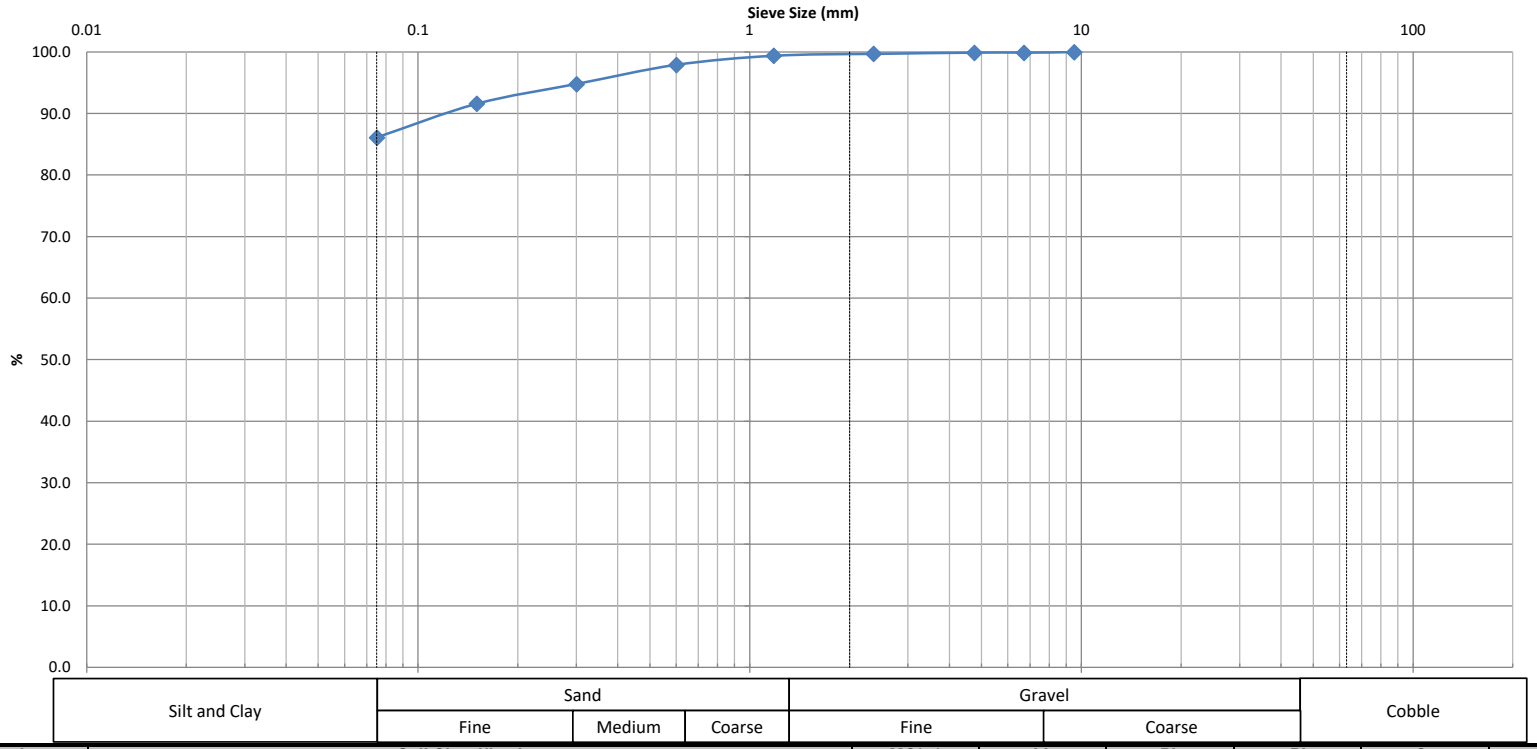
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	SILTY SAND/SANDY SILT	LAB NO:	31578
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH19-21; SS2 + SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.



Silt and Clay	Sand			Gravel		Cobble
	Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
										0.83	1.2
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
	9.5	0.012	0.01	0.01	0.1	13.8		86.1			

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31578
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH19-21; SS2 + SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	397.5
WEIGHT AFTER WASH	69.5

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5						
19						
16						
13.2						
9.5	**0.0**	0.0	**100.0**			
6.7	**0.5**	0.1	**99.9**			
4.75	**0.5**	0.1	**99.9**			
2.36	**1.1**	0.3	**99.7**			
1.18	**2.5**	0.6	**99.4**			
0.6	**8.5**	2.1	**97.9**			
0.3	**20.8**	5.2	**94.8**			
0.15	**33.5**	8.4	**91.6**			
0.075	**55.3**	13.9	**86.1**			
PAN	**69.3**					
SIEVE CHECK FINE		0.29	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	RESULT	LAB NO.	RESULT

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.
		

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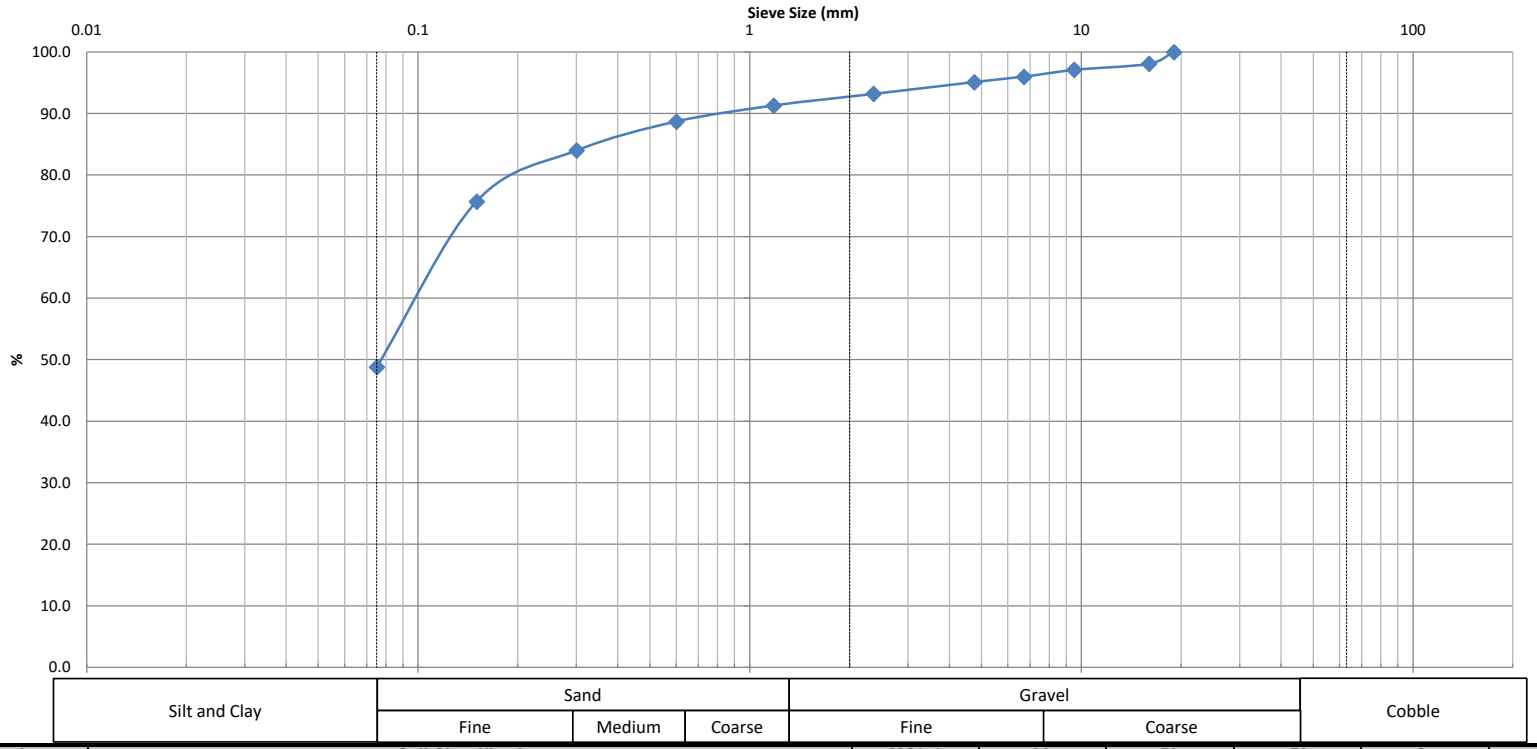
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	SILTY SAND/SANDY SILT	LAB NO:	31579
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH24-21; SS2 + SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
										1.10	3.5
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
	19	0.098	0.055	0.028	4.9	46.3		48.8			

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31579
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH24-21; SS2 + SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	2'6" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	421.6
WEIGHT AFTER WASH	278.2

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5						
19	**0.0**	0.0	**100.0**			
16	**8.1**	1.9	**98.1**			
13.2						
9.5	**12.2**	2.9	**97.1**			
6.7	**16.8**	4.0	**96.0**			
4.75	**20.8**	4.9	**95.1**			
2.36	**28.7**	6.8	**93.2**			
1.18	**36.7**	8.7	**91.3**			
0.6	**47.6**	11.3	**88.7**			
0.3	**67.5**	16.0	**84.0**			
0.15	**102.5**	24.3	**75.7**			
0.075	**216.0**	51.2	**48.8**			
PAN	**278.2**					
SIEVE CHECK FINE		0.00	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	RESULT	LAB NO.	RESULT

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.
		

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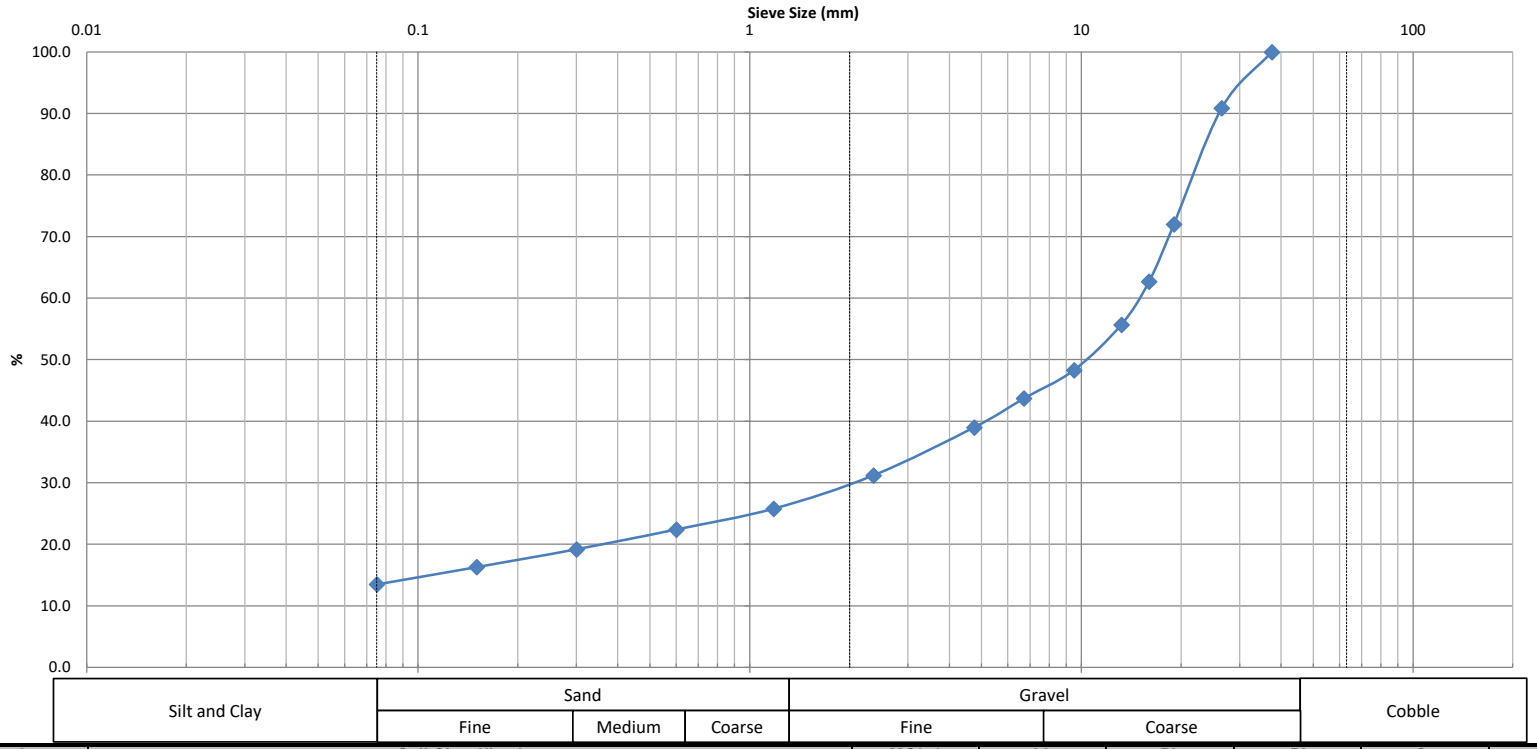
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	GLACIAL TILL	LAB NO:	31580
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH35-22; SS4 + SS5	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	7'6" to 12'0"	TESTED BY:	D.K.



Identification	Soil Classification				MC(%)	LL	PL	PI	Cc	Cu
									17.82	1100.0

D100	D60	D30	D10	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
37.5	16.5	2.1	0.015	61.0	25.5	13.5	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31580
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH35-22; SS4 + SS5	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	7'6" to 12'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	470.5
WEIGHT AFTER WASH	411.0

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5	**0.0**	0.0	**100.0**			
26.5	**42.6**	9.1	**90.9**			
19	**131.9**	28.0	**72.0**			
16	**175.4**	37.3	**62.7**			
13.2	**208.2**	44.3	**55.7**			
9.5	**243.2**	51.7	**48.3**			
6.7	**264.7**	56.3	**43.7**			
4.75	**286.9**	61.0	**39.0**			
2.36	**323.5**	68.8	**31.2**			
1.18	**349.0**	74.2	**25.8**			
0.6	**365.3**	77.6	**22.4**			
0.3	**380.1**	80.8	**19.2**			
0.15	**393.9**	83.7	**16.3**			
0.075	**406.9**	86.5	**13.5**			
PAN	**410.9**					
SIEVE CHECK FINE		0.02	0.3% max.			**REFERENCE MATERIAL**

OTHER TESTS	**RESULT**	**LAB NO.**	**RESULT**

REVIEWED BY:	**Curtis Beadow**	**Joe Forsyth, P. Eng.**
		

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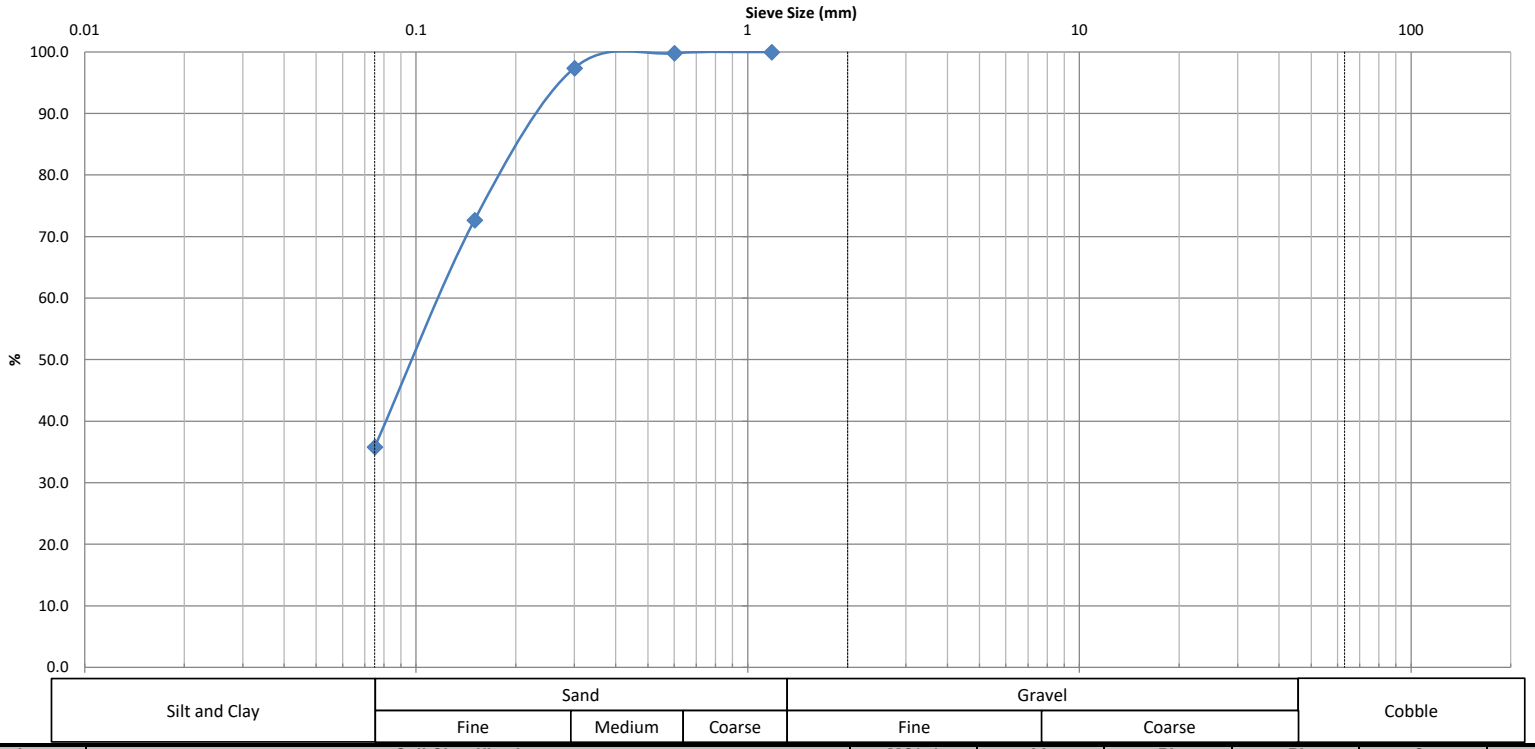
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	SILTY SAND/SANDY SILT	LAB NO:	31581
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH37-22; SS3	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'7" to 7'0"	TESTED BY:	D.K.



Silt and Clay	Sand			Gravel		Cobble
	Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
										0.65	2.4
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
	1.18	0.13	0.068	0.055	0.0	64.2		35.8			

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31581
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH37-22; SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'7" to 7'0"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	354.8
WEIGHT AFTER WASH	256.6

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5						
19						
16						
13.2						
9.5						
6.7						
4.75						
2.36						
1.18	**0.0**	0.0	**100.0**			
0.6	**0.6**	0.2	**99.8**			
0.3	**9.3**	2.6	**97.4**			
0.15	**96.8**	27.3	**72.7**			
0.075	**227.7**	64.2	**35.8**			
PAN	**256.4**					

SIEVE CHECK FINE	0.08	0.3% max.	**REFERENCE MATERIAL**

OTHER TESTS	**RESULT**	**LAB NO.**	**RESULT**

	Curtis Beadow	**Joe Forsyth, P. Eng.**
REVIEWED BY:		

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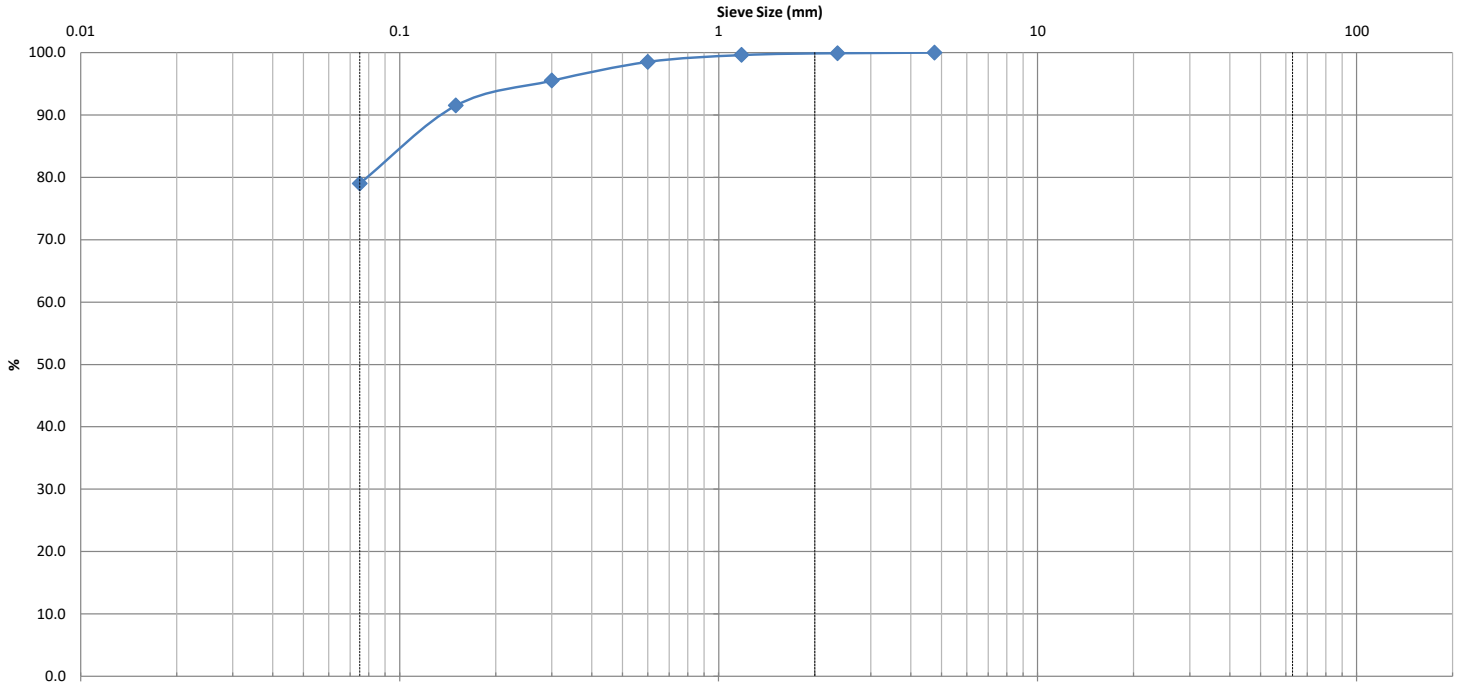
SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	SILTY SAND/SANDY SILT	LAB NO:	31582
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE RECEIVED:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH38-22; SS3 + SS4	DATE REPORTED:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'0" to 9'6"	TESTED BY:	D.K.



Silt and Clay	Sand			Gravel		Cobble
	Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
										0.56	1.8
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
	4.75	0.018	0.01	0.01	0.0	21.0		79.0			

Comments:

REVIEWED BY:	Curtis Beadow	Joe Fosyth, P. Eng.

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SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DESCRIPTION:	Fine Aggregate	FILE NO.:	PG5570
CONTRACT NO.:	-	SPECIFICATION:	**Silty Clay**	LAB NO.:	31582
PROJECT:	Geotechnical Investigation - 6115 Flewellyn Road	INTENDED USE:	-	DATE REC'D:	10-Jan-22
		PIT OR QUARRY:	-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCATION:	BH38-22; SS3 + SS4	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emmerton	SAMPLE LOCATION:	5'0" to 9'6"	TESTED BY:	D.K.

WEIGHT BEFORE WASH	299.7
WEIGHT AFTER WASH	88.6

SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMARK
150						
106						
75						
63						
53						
37.5						
26.5						
19						
16						
13.2						
9.5						
6.7						
4.75	**0.0**	0.0	**100.0**			
2.36	**0.2**	0.1	**99.9**			
1.18	**1.1**	0.4	**99.6**			
0.6	**4.5**	1.5	**98.5**			
0.3	**13.4**	4.5	**95.5**			
0.15	**25.4**	8.5	**91.5**			
0.075	**63.0**	21.0	**79.0**			
PAN	**88.5**					
SIEVE CHECK FINE		0.11	0.3% max.			**REFERENCE MATERIAL**

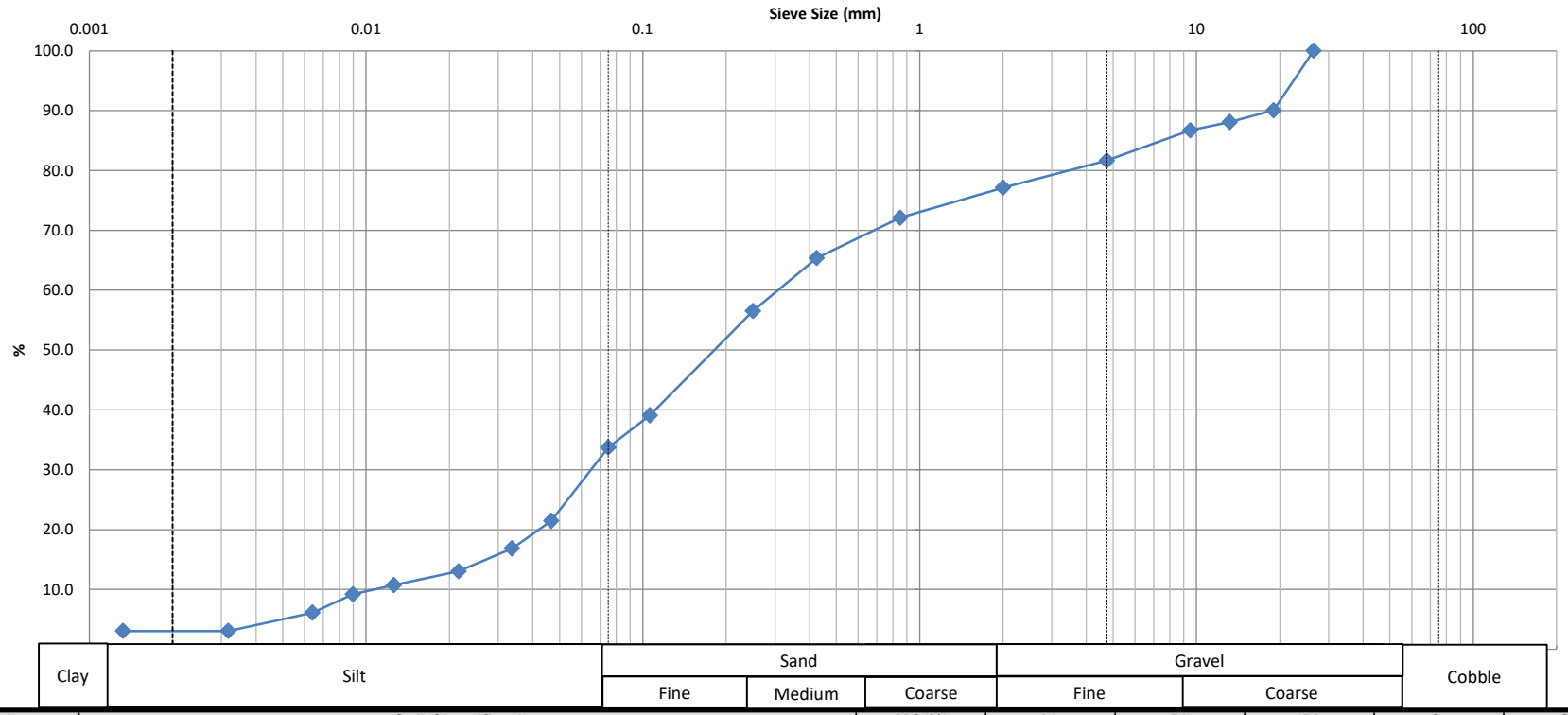
OTHER TESTS	RESULT	LAB NO.	RESULT

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.
		

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DEPTH:	2'6" to 4'6"	FILE NO:	PG5570
CONTRACT NO.:		BH OR TP No.:	BH1-22 SS2	LAB NO:	39280
PROJECT:	6115 Flewellyn Rd		**GLACIAL TILL**	DATE RECEIVED:	6-Oct-22
				DATE TESTED:	18-Oct-22
DATE SAMPLED:	30-Sep-22			DATE REPORTED:	20-Oct-22
SAMPLED BY:	KB			TESTED BY:	DK/CS



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						9.6					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					18.3	47.9		31.2		2.5	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Caivan	DEPTH:	2'6" to 4'6"	FILE NO.:	PG5570
PROJECT:	6115 Flewellyn Rd	BH OR TP No.:	BH1-22 SS2	DATE SAMPLEI	30-Sep-22
LAB No. :	39280	TESTED BY:	DK/CS	DATE RECEIVE	6-Oct-22
SAMPLED BY:	KB	DATE REPT'D:	20-Oct-22	DATE TESTED:	18-Oct-22

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
525.7	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	49.72	TARE WEIGHT	50.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	28.95	AIR DRY	528.40	478.40
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	525.70	475.70
		CORRECTED	0.994	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5	**0**	0.0	**100.0**
19	**52.1**	9.9	**90.1**
13.2	**62.5**	11.9	**88.1**
9.5	**69.8**	13.3	**86.7**
4.75	**96.3**	18.3	**81.7**
2.0	**120.1**	22.8	**77.2**
Pan	**404.8**		
0.850	**3.27**	27.9	**72.1**
0.425	**7.64**	34.6	**65.4**
0.250	**13.36**	43.5	**56.5**
0.106	**24.66**	60.9	**39.1**
0.075	**28.13**	66.3	**33.7**
Pan	**28.95**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	6:01	20.0	6.0	23.0	0.0467	27.8	**21.5**
2	6:02	17.0	6.0	23.0	0.0336	21.9	**16.9**
5	6:05	14.5	6.0	23.0	0.0216	16.9	**13.0**
15	6:15	13.0	6.0	23.0	0.0126	13.9	**10.7**
30	6:30	12.0	6.0	23.0	0.0090	11.9	**9.2**
60	7:00	10.0	6.0	23.0	0.0064	7.9	**6.1**
250	10:10	8.0	6.0	23.0	0.0032	4.0	**3.1**
1440	6:00	8.0	6.0	23.0	0.0013	4.0	**3.1**

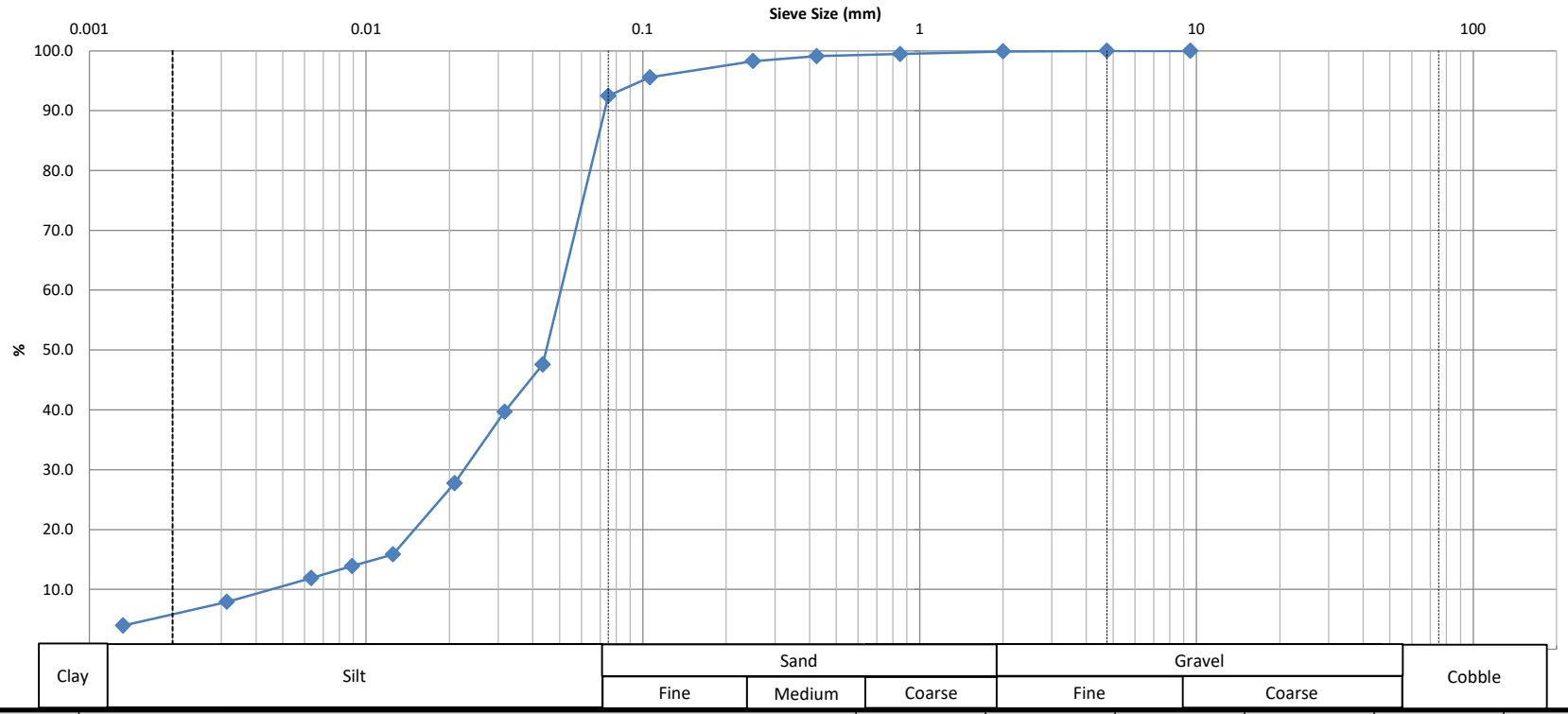
Moisture = 9.60%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DEPTH:	7'6" to 9'6"	FILE NO:	PG5570
CONTRACT NO.:		BH OR TP No.:	BH3 -22 SS4	LAB NO:	39281
PROJECT:	6115 Flewellyn Rd		**SILTY SAND TO SANDY SILT**	DATE RECEIVED:	6-Oct-22
				DATE TESTED:	18-Oct-22
DATE SAMPLED:	30-Sep-22			DATE REPORTED:	20-Oct-22
SAMPLED BY:	KB			TESTED BY:	DK/CS



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						22.9					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					0.0	7.5		87.0		5.5	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Caivan	DEPTH:	7'6" to 9'6"	FILE NO.:	PG5570
PROJECT:	6115 Flewellyn Rd	BH OR TP No.:	BH4-22 SS4	DATE SAMPLEI	30-Sep-22
LAB No. :	39281	TESTED BY:	DK/CS	DATE RECEIVE	6-Oct-22
SAMPLED BY:	KB	DATE REPT'D:	20-Oct-22	DATE TESTED:	18-Oct-22

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
130.5	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	49.75	TARE WEIGHT	50.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	3.95	AIR DRY	130.90	80.90
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	130.50	80.50
		CORRECTED	0.995	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5	**0.0**	0.0	**100.0**
4.75	**0.0**	0.0	**100.0**
2.0	**0.1**	0.1	**99.9**
Pan	**130.4**		
0.850	**0.22**	0.5	**99.5**
0.425	**0.39**	0.9	**99.1**
0.250	**0.80**	1.7	**98.3**
0.106	**2.17**	4.4	**95.6**
0.075	**3.71**	7.5	**92.5**
Pan	**3.95**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	6:21	30.0	6.0	23.0	0.0435	47.7	**47.6**
2	6:22	26.0	6.0	23.0	0.0317	39.7	**39.7**
5	6:25	20.0	6.0	23.0	0.0209	27.8	**27.8**
15	6:35	14.0	6.0	23.0	0.0125	15.9	**15.9**
30	6:50	13.0	6.0	23.0	0.0089	13.9	**13.9**
60	7:20	12.0	6.0	23.0	0.0063	11.9	**11.9**
250	10:30	10.0	6.0	23.0	0.0031	7.9	**7.9**
1440	6:20	8.0	6.0	23.0	0.0013	4.0	**4.0**

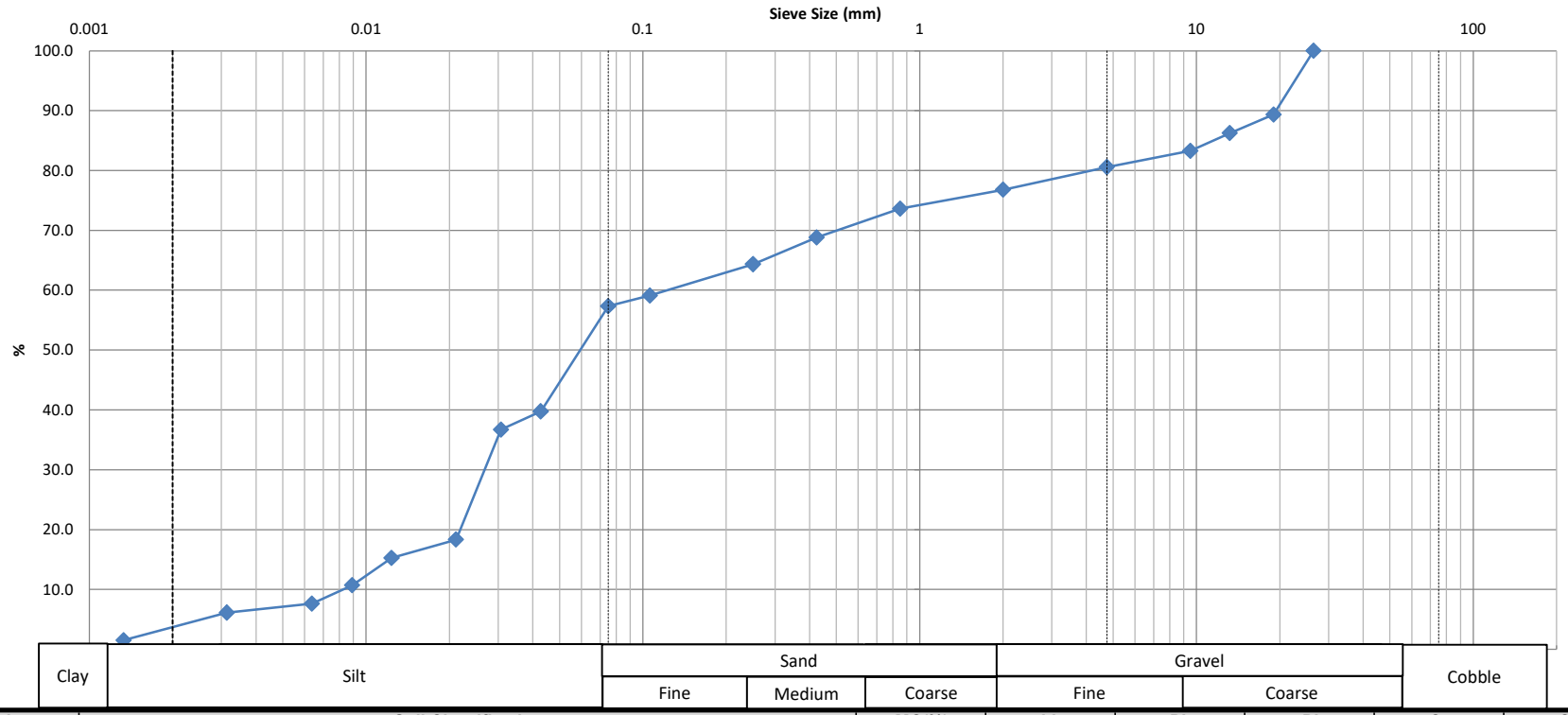
Moisture = 22.91%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DEPTH:	7'6" to 9'6"	FILE NO:	PG5570
CONTRACT NO.:		BH OR TP No.:	BH4 -22 SS4	LAB NO:	39282
PROJECT:	6115 Flewellyn Rd		**GLACIAL TILL**	DATE RECEIVED:	6-Oct-22
				DATE TESTED:	20-Oct-22
DATE SAMPLED:	30-Sep-22			DATE REPORTED:	21-Oct-22
SAMPLED BY:	KB			TESTED BY:	DK/CS



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						15.1					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					19.4	23.3		53.8		3.5	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Caivan	DEPTH:	7'6" to 9'6"	FILE NO.:	PG5570
PROJECT:	6115 Flewellyn Rd	BH OR TP No.:	BH5-22 SS4	DATE SAMPLEI	30-Sep-22
LAB No. :	39282	TESTED BY:	DK/CS	DATE RECEIVE	6-Oct-22
SAMPLED BY:	KB	DATE REPT'D:	21-Oct-22	DATE TESTED:	20-Oct-22

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
563.6	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	49.61	TARE WEIGHT	50.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	12.87	AIR DRY	567.60	517.60
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	563.60	513.60
		CORRECTED	0.992	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5	**0**	0.0	**100.0**
19	**60.1**	10.7	**89.3**
13.2	**77.4**	13.7	**86.3**
9.5	**94.2**	16.7	**83.3**
4.75	**109.4**	19.4	**80.6**
2.0	**130.8**	23.2	**76.8**
Pan	**432.8**		
0.850	**2.05**	26.4	**73.6**
0.425	**5.20**	31.2	**68.8**
0.250	**8.09**	35.6	**64.4**
0.106	**11.50**	40.9	**59.1**
0.075	**12.67**	42.7	**57.3**
Pan	**12.87**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	6:25	32.0	6.0	23.0	0.0428	51.8	**39.8**
2	6:26	30.0	6.0	23.0	0.0307	47.8	**36.7**
5	6:29	18.0	6.0	23.0	0.0211	23.9	**18.4**
15	6:39	16.0	6.0	23.0	0.0124	19.9	**15.3**
30	6:54	13.0	6.0	23.0	0.0089	13.9	**10.7**
60	7:24	11.0	6.0	23.0	0.0064	10.0	**7.6**
250	10:34	10.0	6.0	23.0	0.0031	8.0	**6.1**
1440	6:24	7.0	6.0	23.0	0.0013	2.0	**1.5**

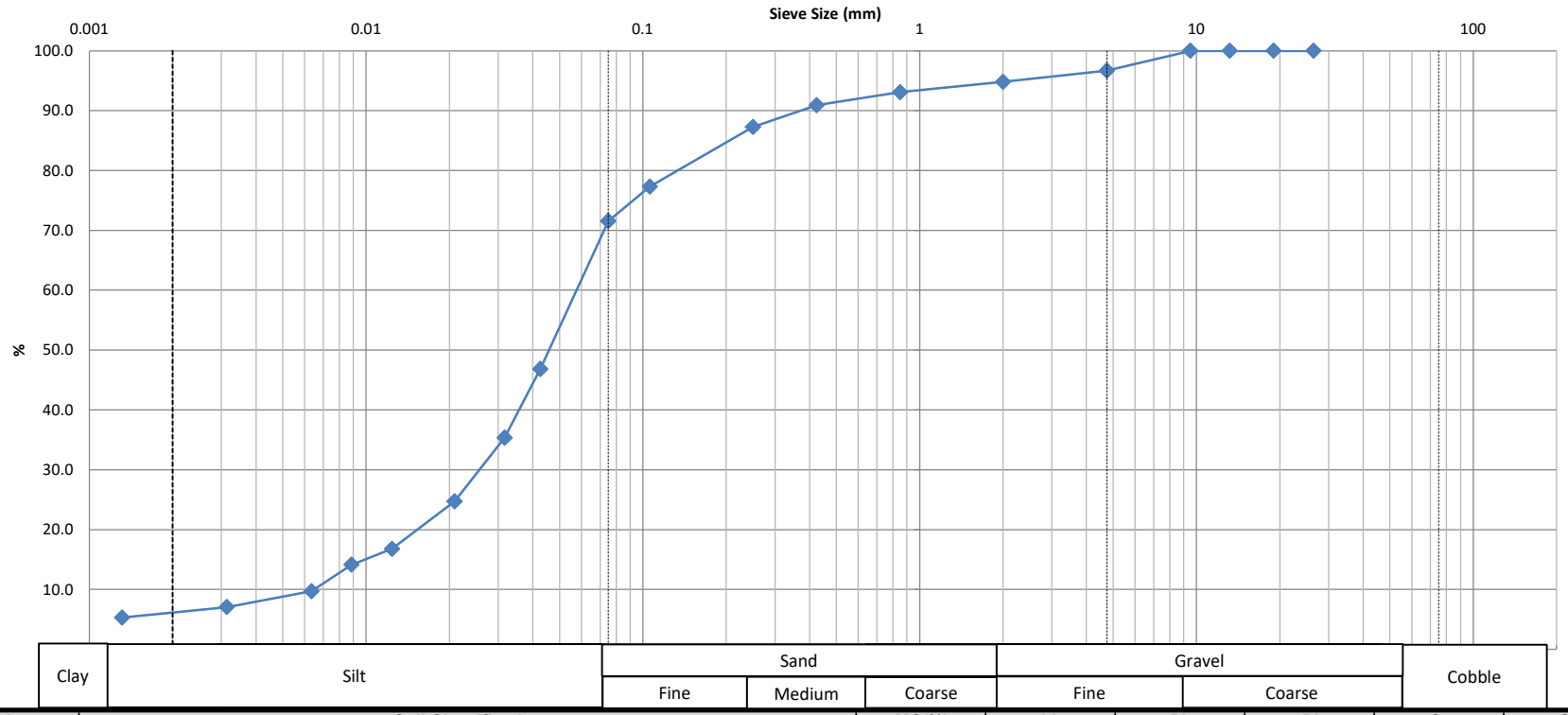
Moisture = 15.10%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Caivan	DEPTH:	5'0" to 7'0"	FILE NO:	PG5570
CONTRACT NO.:		BH OR TP No.:	BH5 -22 SS3	LAB NO:	39283
PROJECT:	6115 Flewellyn Rd		SILTY SAND TO SANDY SILT W/ GRAVEL	DATE RECEIVED:	6-Oct-22
				DATE TESTED:	18-Oct-22
DATE SAMPLED:	30-Sep-22			DATE REPORTED:	20-Oct-22
SAMPLED BY:	KB			TESTED BY:	DK/CS



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						18.7					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					3.3	25.1		65.6		6.0	

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Caivan	DEPTH:	5'0" to 7'0"	FILE NO.:	PG5570
PROJECT:	6115 Flewellyn Rd	BH OR TP No.:	BH6-22 SS3	DATE SAMPLEI	30-Sep-22
LAB No. :	39283	TESTED BY:	DK/CS	DATE RECEIVE	6-Oct-22
SAMPLED BY:	KB	DATE REPT'D:	20-Oct-22	DATE TESTED:	18-Oct-22

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
131.1	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	53.01	TARE WEIGHT	50.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	13.56	AIR DRY	126.50	76.50
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	131.10	81.10
		CORRECTED	1.060	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5	**0**	0.0	**100.0**
19	**0.0**	0.0	**100.0**
13.2	**0.0**	0.0	**100.0**
9.5	**0.0**	0.0	**100.0**
4.75	**4.3**	3.3	**96.7**
2.0	**6.8**	5.2	**94.8**
Pan	**124.3**		
0.850	**0.91**	6.9	**93.1**
0.425	**2.04**	9.1	**90.9**
0.250	**3.96**	12.7	**87.3**
0.106	**9.23**	22.7	**77.3**
0.075	**12.25**	28.4	**71.6**
Pan	**13.56**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	6:25	32.5	6.0	23.0	0.0426	49.4	**46.8**
2	6:26	26.0	6.0	23.0	0.0317	37.3	**35.3**
5	6:29	20.0	6.0	23.0	0.0209	26.1	**24.7**
15	6:39	15.5	6.0	23.0	0.0124	17.7	**16.8**
30	6:54	14.0	6.0	23.0	0.0089	14.9	**14.1**
60	7:24	11.5	6.0	23.0	0.0064	10.3	**9.7**
250	10:34	10.0	6.0	23.0	0.0031	7.5	**7.1**
1440	6:24	9.0	6.0	23.0	0.0013	5.6	**5.3**

Moisture = 18.69%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

Certificate of Analysis

Report Date: 27-Nov-2020

Client: **Paterson Group Consulting Engineers**

Order Date: 20-Nov-2020

Client PO: **31285**

Project Description: PG5570

	Client ID:	TP4-GR3	-	-	-
	Sample Date:	20-Nov-20 13:00	-	-	-
	Sample ID:	2047663-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	89.0	-	-	-
General Inorganics					
pH	0.05 pH Units	7.60	-	-	-
Resistivity	0.10 Ohm.m	93.8	-	-	-
Anions					
Chloride	5 ug/g dry	<5	-	-	-
Sulphate	5 ug/g dry	<5	-	-	-

Certificate of Analysis

Report Date: 17-Dec-2020

Client: **Paterson Group Consulting Engineers**

Order Date: 14-Dec-2020

Client PO: **31363**

Project Description: PG5570

	Client ID:	TPF-G2	-	-	-
	Sample Date:	11-Dec-20 15:30	-	-	-
	Sample ID:	2051099-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	82.7	-	-	-
General Inorganics					
pH	0.05 pH Units	7.33	-	-	-
Resistivity	0.10 Ohm.m	101	-	-	-
Anions					
Chloride	5 ug/g dry	<5	-	-	-
Sulphate	5 ug/g dry	<5	-	-	-

Certificate of Analysis

Report Date: 22-Dec-2021

Client: **Paterson Group Consulting Engineers**

Order Date: 17-Dec-2021

Client PO: **33505**

Project Description: PG5570

	Client ID:	BH17-21 SS3	-	-	-
	Sample Date:	16-Dec-21 09:00	-	-	-
	Sample ID:	2151599-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	81.9	-	-	-
General Inorganics					
pH	0.05 pH Units	7.73	-	-	-
Resistivity	0.10 Ohm.m	48.9	-	-	-
Anions					
Chloride	5 ug/g dry	34	-	-	-
Sulphate	5 ug/g dry	24	-	-	-

Certificate of Analysis

Report Date: 04-Jan-2022

Client: **Paterson Group Consulting Engineers**

Order Date: 23-Dec-2021

Client PO: **33585**

Project Description: PG5570

	Client ID:	BH34-21 SS3	-	-	-
	Sample Date:	22-Dec-21 09:00	-	-	-
	Sample ID:	2152465-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	84.6	-	-	-
General Inorganics					
pH	0.05 pH Units	7.75	-	-	-
Resistivity	0.10 Ohm.m	81.3	-	-	-
Anions					
Chloride	5 ug/g dry	12	-	-	-
Sulphate	5 ug/g dry	9	-	-	-

APPENDIX 3

PH4625-1 - SURFICIAL GEOLOGY PLAN

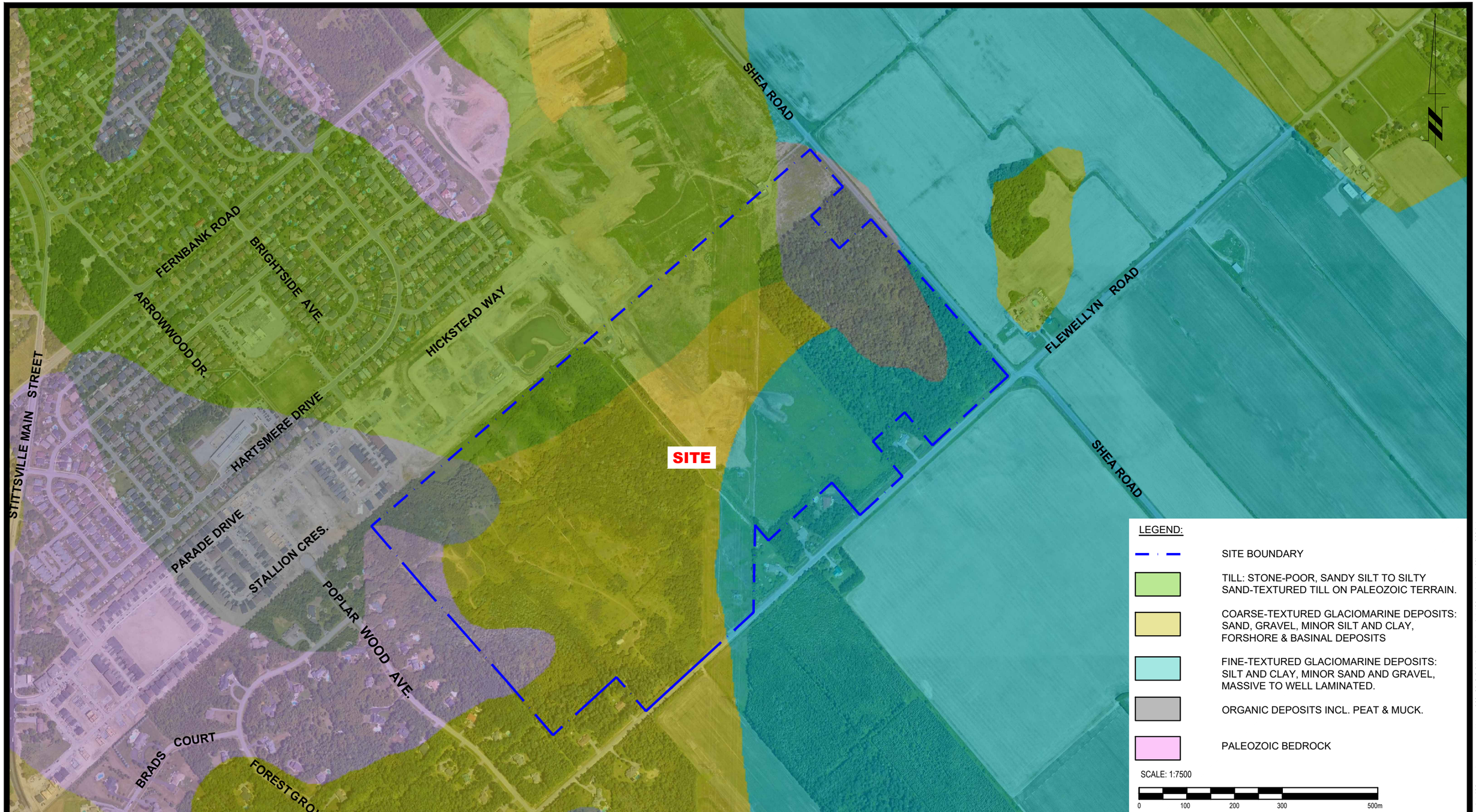
PH4625-2 - DRIFT THICKNESS PLAN

PH4625-3 - BEDROCK GEOLOGY PLAN

PH4625-4 - MECP WATER WELL LOCATION PLAN

PH4625-5 - GROUNDWATER CONTOUR PLAN

PG5570-2.- BEDROCK CONTOUR PLAN



PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

SURFICIAL GEOLOGY PLAN

Scale: 1:7500	Date: 10/2022
Drawn by: JM	Report No.: PH4625-REP.01
Checked by: OB	Dwg. No.: PH4625-1
Approved by: MK	Revision No.: 2

11x17

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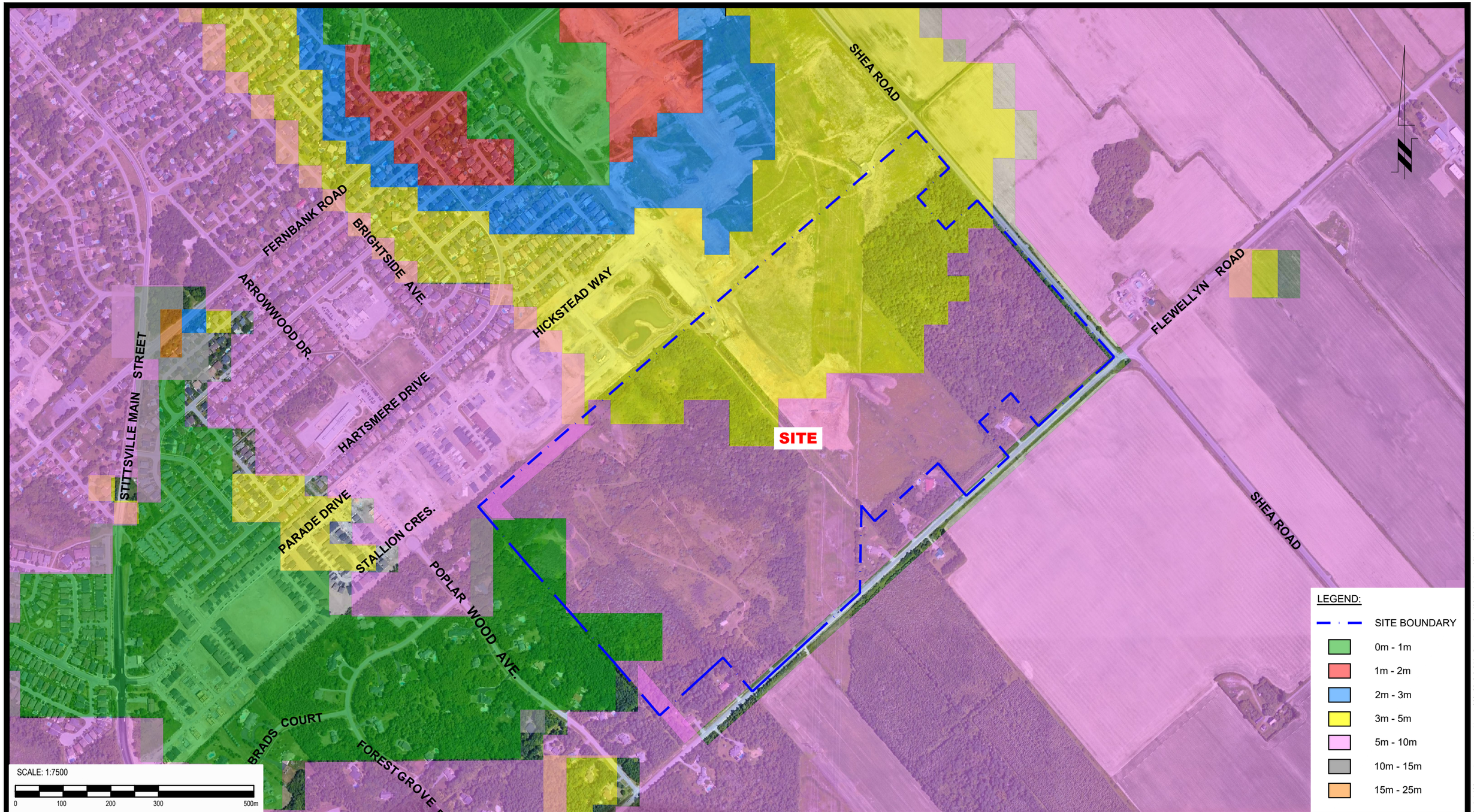

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

DRIFT THICKNESS PLAN

Scale: 1:7500	Date: 10/2022
Drawn by: JM	Report No.: PH4625-REP.01
Checked by: OB	Dwg. No.: PH4625-2
Approved by: MK	Revision No.: 2

11x17

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SHEA ROAD

FERNBANK ROAD

BRIGHTSIDE AVE.

ARROWWOOD DR.

HICKSTEAD WAY

FLEWELLYN ROAD

STITTSVILLE MAIN STREET

HARTSMERE DRIVE

SITE

PARADE DRIVE

STALLION CRES.

POPLAR WOOD AVE.

SHEA ROAD

BRADS COURT

FOREST GROVE DR.

LEGEND:

SITE BOUNDARY

SIMCOE GROUP, AND GULL RIVER FORMATION: LIMESTONE, DOLOSTONE, SHALE, SANDSTONE.

SCALE: 1:7500

0 100 200 300 500m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

BEDROCK GEOLOGY PLAN

Scale: 1:7500	Date: 10/2022
Drawn by: JM	Report No.: PH4625-REP.01
Checked by: OB	Dwg. No.: PH4625-3
Approved by: MK	Revision No.: 2

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

MECP WATER WELL LOCATION PLAN

Scale: 1:12500	Date: 10/2022
Drawn by: JM	Report No.: PH4625-REP.01
Checked by: OB	Dwg. No.: PH4625-4
Approved by: MK	Revision No.: 2

11x17

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PARADE DRIVE

SHEA ROAD

FLEWELLYN ROAD

5993, 6070 & 6115 FLEWELLYN ROAD

CB 1
T/G=105.90

FH
T/S=106.93

MH 2
T/G=106.03

MH 1
T/G=105.42

TP 15
106.80
[104.06]

BH 3-21
108.41
[106.86]
{107.52}

BH 4-22
105.71
[102.10]
{102.10}

BH 11-21
104.98
(102.44)

BH 4-21
108.95
(106.72)

TP 4
108.49
[107.06]

BH 10-21
105.70
(102.86)

TP 16
104.62
[101.53]

BH 32-21
103.74
(101.38)

BH 33-21
104.70
[101.96]
{102.59}

BH 24-21
103.07
[98.65]
{102.47}

BH 1A-22
107.31
(105.69)

TP 5
108.36
[106.90]

BH 1-22
107.31
[104.97]
{105.99}

BH 5-22
105.70
[103.41]
{104.09}

BH 5-21
108.38
(106.76)

HA 1-22
108.78

BH 7-21
107.04
(104.07)

BH 12-21
104.05
(101.79)

TP 17
103.90
[102.12]

BH 37-21
103.54
(100.87)

BH 26-21
103.04
(100.88)

BH 18-21
105.06
(102.39)

BH 38-21
103.62
(100.98)

BH 21-21
102.92
(100.69)

TP 6
107.91
[105.02]

TP 3
102.10
[100.49]

BH 36-21
102.79
(99.89)

BH 25-21
102.73
(101.56)

BH 2-21
107.19
[104.98]
{106.03}

TP 7
106.31
[102.94]

TP 14
105.60
104.63)

BH 13-21
103.54
(101.94)

BH 8-21
105.91
(104.31)

BH 17-21
104.42
(102.26)

TP 18
103.42
[102.10]

BH 27-21
102.71
(99.28)

BH 31-21
103.43
(97.31)

BH 6-21
106.32
(104.77)

TP 2
105.06
[103.42]

TP 8
105.48
[103.33]

TP 13
104.30
[103.39]

BH 9-21
104.62
(103.40)

BH 14-21
103.28
(100.94)

BH 34-21
102.65
[97.44]

BH 30-21
102.44
(97.62)

BH 20-21
102.25
(98.06)

BH 23-21
102.38
(100.55)

BH 2-22
103.58
[102.82]
{102.06}

TP 12
103.21
[100.24]

TP 11
103.01
[101.52]

BH 29-21
102.31
(98.35)

BH 3-22
102.25
[98.82]
{101.42}

TP 9
104.47
[102.87]

TP 1
105.94
(105.50)

BH 35-21
105.03
(101.52)

BH 15-21
103.08
(101.81)

BH 19-21
101.85
(99.01)

BH 1-21
104.29
[102.10]
{103.17}

TP 10
103.62
[102.86]

BH 3A-22
102.25
(99.10)
{101.44}

BH 22-21
102.98
(99.50)

BH 28-21
101.85
(97.96)

BH 22A-21
102.98
[97.01]
{100.37}

Flewellyn Rd

LEGEND:

- SITE BOUNDARY
- HAND AUGER LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH MONITORING WELL LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH PIEZOMETER LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- BOREHOLE WITH MONITORING WELL LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- TEST PIT LOCATION\ (PATERSON GROUP REPORT; PG5570-1, JAN 3, 2021)

104.29 GROUND SURFACE ELEVATION (m)

[102.10] BEDROCK SURFACE ELEVATION (m)

(102.39) PRACTICAL REFUSAL TO AUGERING / EXCAVATION ELEVATION (m)

{100.37} GROUNDWATER ELEVATION (OCT 11, 2022)

102.5 GROUNDWATER CONTOUR(m)

GENERAL GROUNDWATER FLOW DIRECTION

BASE PLAN PROVIDED BY KILGOUR & ASSOCIATES.

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:4000

0 50 100 150 200 250m

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PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7S9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
2	REVISED SITE BOUNDARY	04/07/2024	OB
1	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	OB

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.

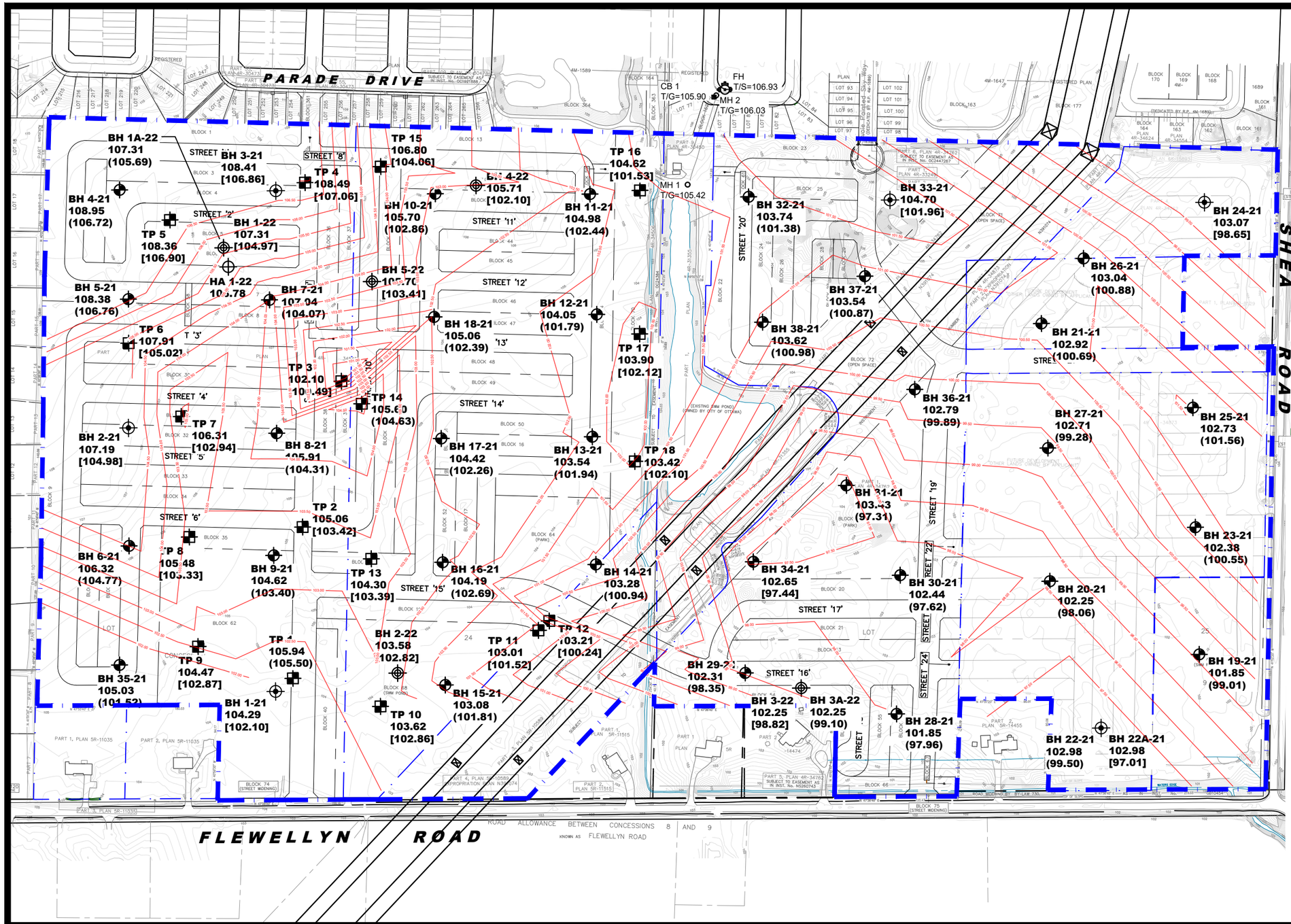
HYDROGEOLOGICAL EXISTING CONDITIONS
PROPOSED RESIDENTIAL DEVELOPMENT
5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

GROUNDWATER CONTOUR PLAN

Scale: 1:4000	Date: 11/2022
Drawn by: RCG	Report No.: PH4625-REP.01
Checked by: OB	Dwg. No.: PH4625-5
Approved by: MK	Revision No.: 2

11x17



LEGEND:

- HAND AUGER LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH MONITORING WELL LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH PIEZOMETER LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- BOREHOLE WITH MONITORING WELL LOCATION (PATERSON GROUP REPORT; PG5570-2, JAN 20, 2022)
- TEST PIT LOCATION\ (PATERSON GROUP REPORT; PG5570-1, JAN 3, 2021)
- 97.50 BEDROCK CONTOUR (m)
- 104.29 GROUND SURFACE ELEVATION (m)
- [102.10] BEDROCK SURFACE ELEVATION (m)
- (102.39) PRACTICAL REFUSAL TO AUGERING / EXCAVATION ELEVATION (m)

BASE PLAN PREPARED BY J.D. BARNES LIMITED.

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:4000

0 50 100 150 200 250m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
6	UPDATED TO NEW CONCEPTUAL PLAN	03/07/2024	KP
5	UPDATED TO NEW CONCEPTUAL PLAN	28/08/2023	KP
4	UPDATED CLIENT'S NAME AND SITE ADDRESS	12/06/2023	KP
3	UPDATED SITE BOUNDARY	13/02/2023	KP
2	BH 1-22 - BH 5-22 & HA1-22 ADDED TO PLAN	10/03/2022	KP

CAIVAN (STITTSVILLE SOUTH) INC. & CAIVAN (STITTSVILLE WEST) LTD.

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5993 & 6115 FLEWELLYN ROAD & 6030 & 6070 FERNBANK ROAD ONTARIO

Title:

BEDROCK CONTOUR PLAN

Scale: 1:4000	Date: 01/2022
Drawn by: YA	Report No.: PG5570-2, REVISION 4
Checked by: KP	Dwg. No.: PG5570-2
Approved by: DJG	Revision No.: 6

11x17

p:\autocad drawings\geotechnical\pg55xx\pg5570\pg5570-1 thlp (rev.06) r.dwg

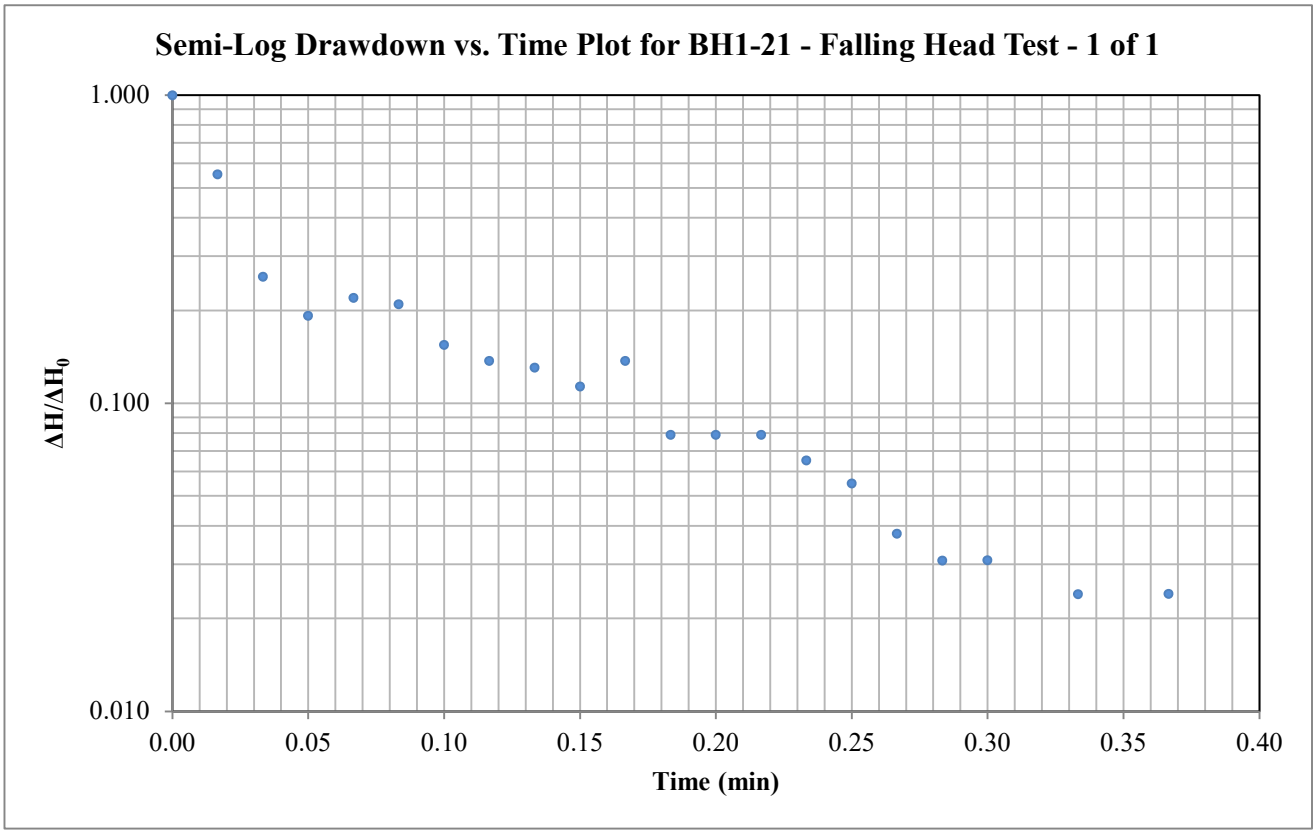
APPENDIX 4

HYDRAULIC CONDUCTIVITY RESULTS - FALLING AND RISING HEAD TESTS

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-21
Test: Falling Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.027 minutes $\Delta H^*/\Delta H_0$: 0.37

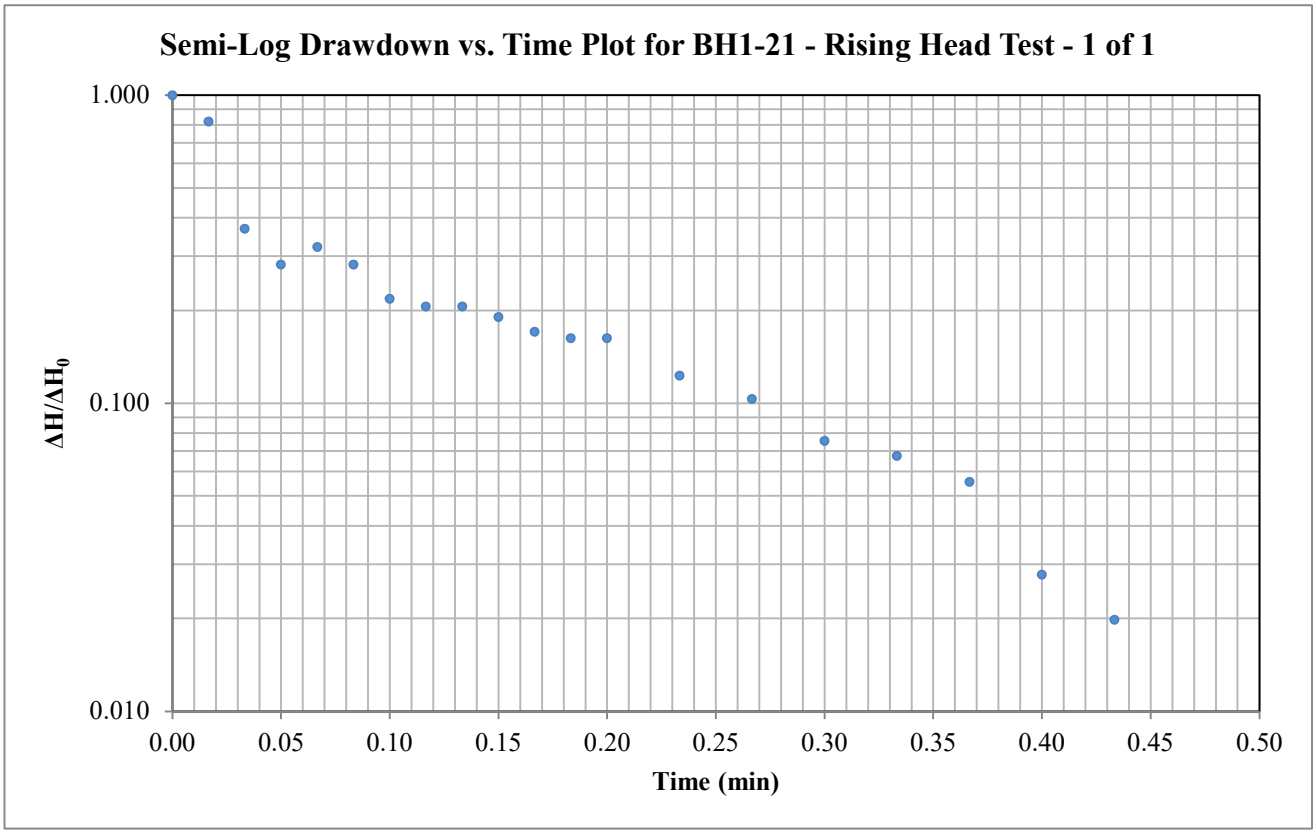
Horizontal Hydraulic Conductivity
K = 1.35E-04 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-21
Test: Rising Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.033 minutes $\Delta H^*/\Delta H_0$: 0.37

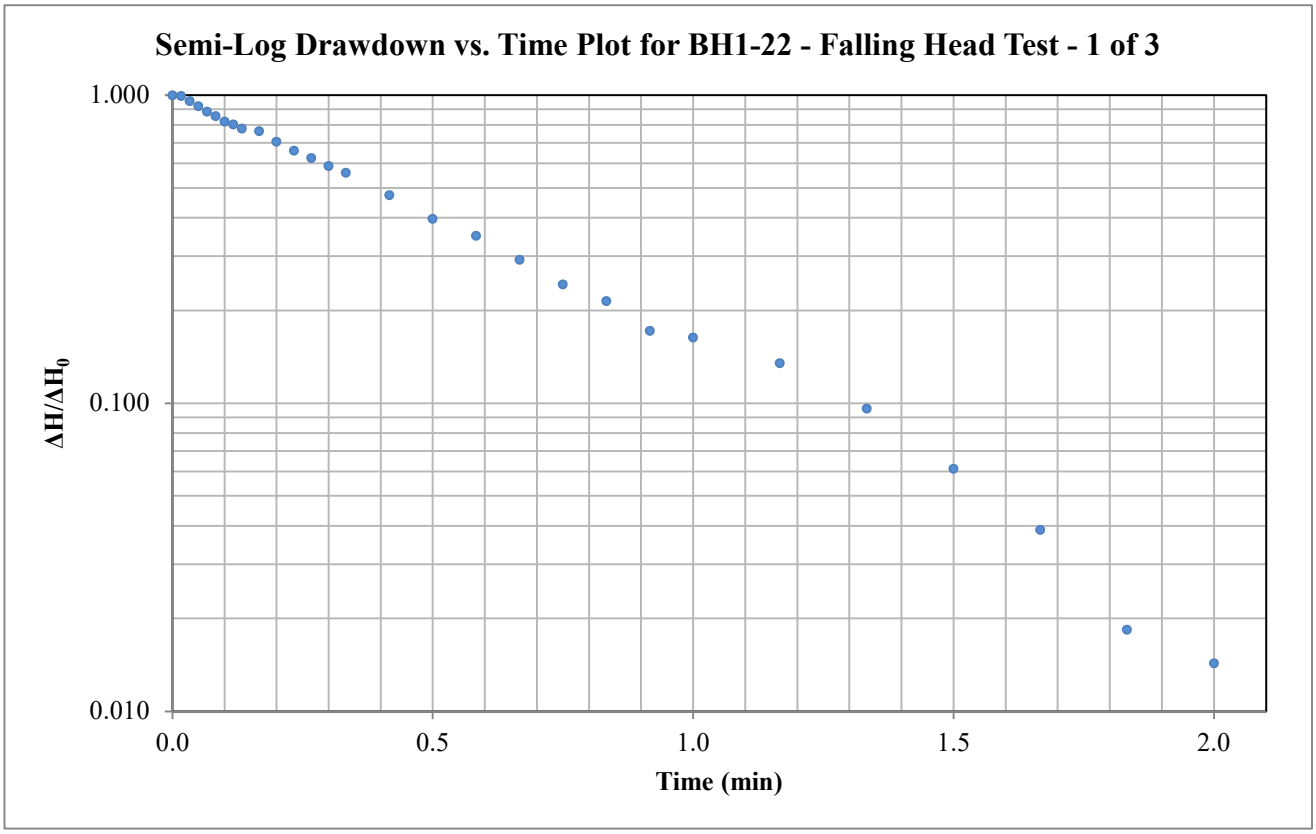
Horizontal Hydraulic Conductivity
K = 1.10E-04 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-22
Test: Falling Head - 1 of 3
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.516 minutes $\Delta H^*/\Delta H_0$: 0.37

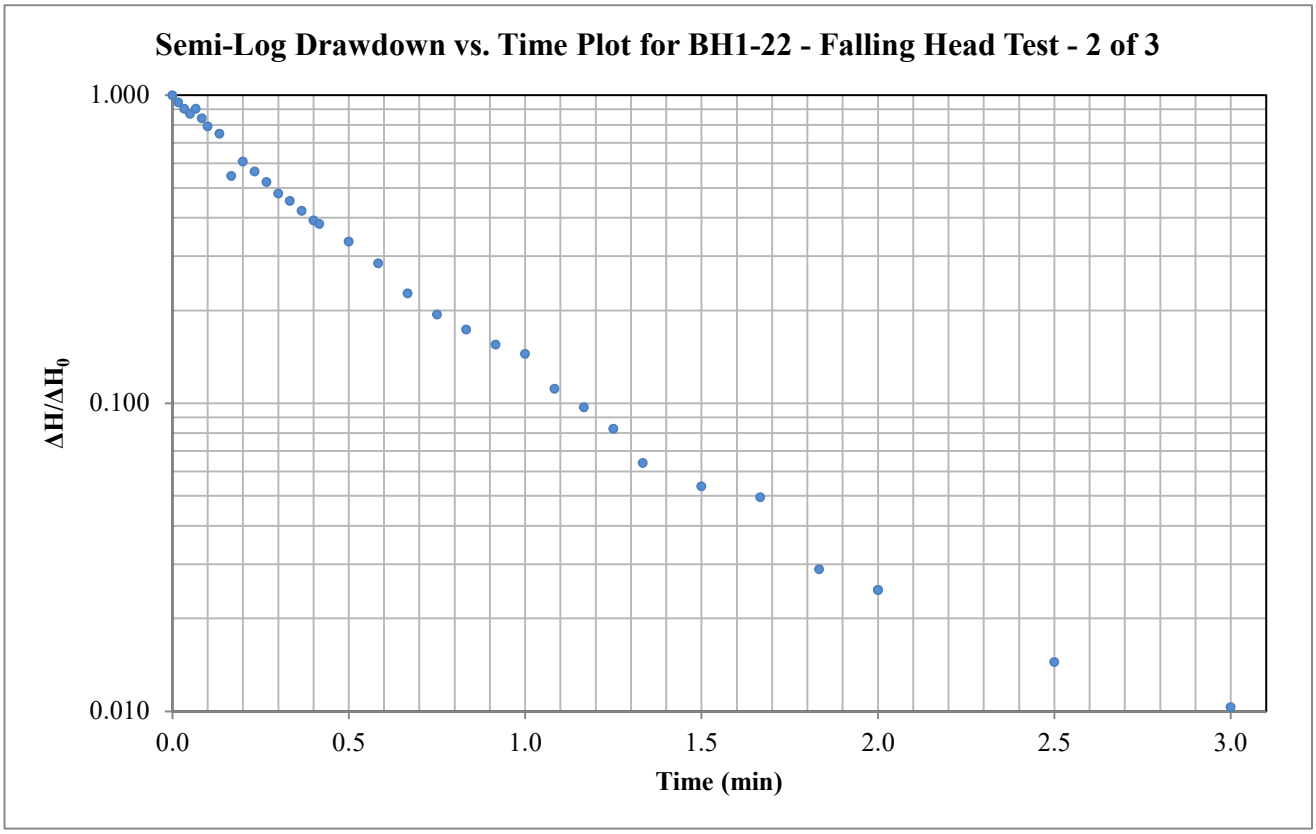
Horizontal Hydraulic Conductivity
K = 1.23E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-22
Test: Falling Head - 2 of 3
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.428 minutes $\Delta H^*/\Delta H_0$: 0.37

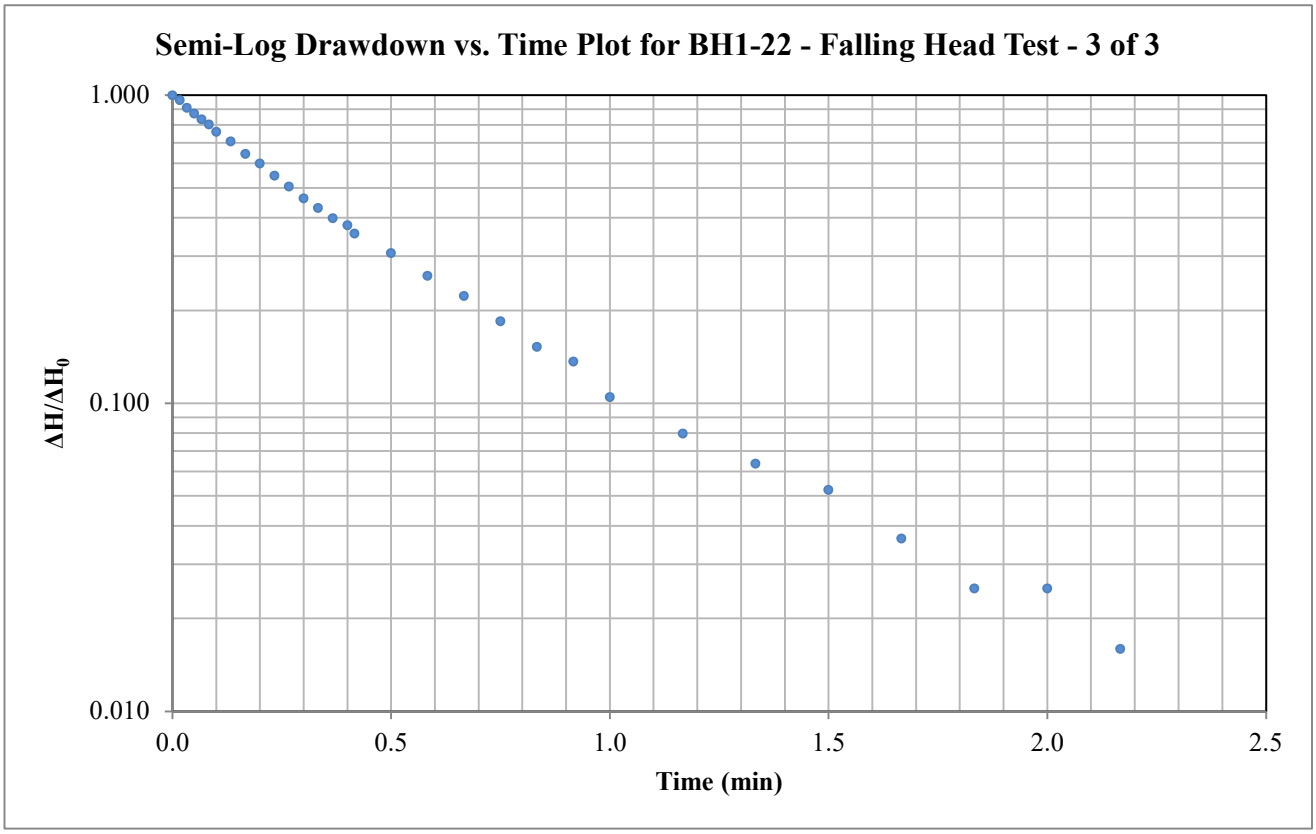
Horizontal Hydraulic Conductivity
K = 1.48E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-22
Test: Falling Head - 3 of 3
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.406 minutes $\Delta H^*/\Delta H_0$: 0.37

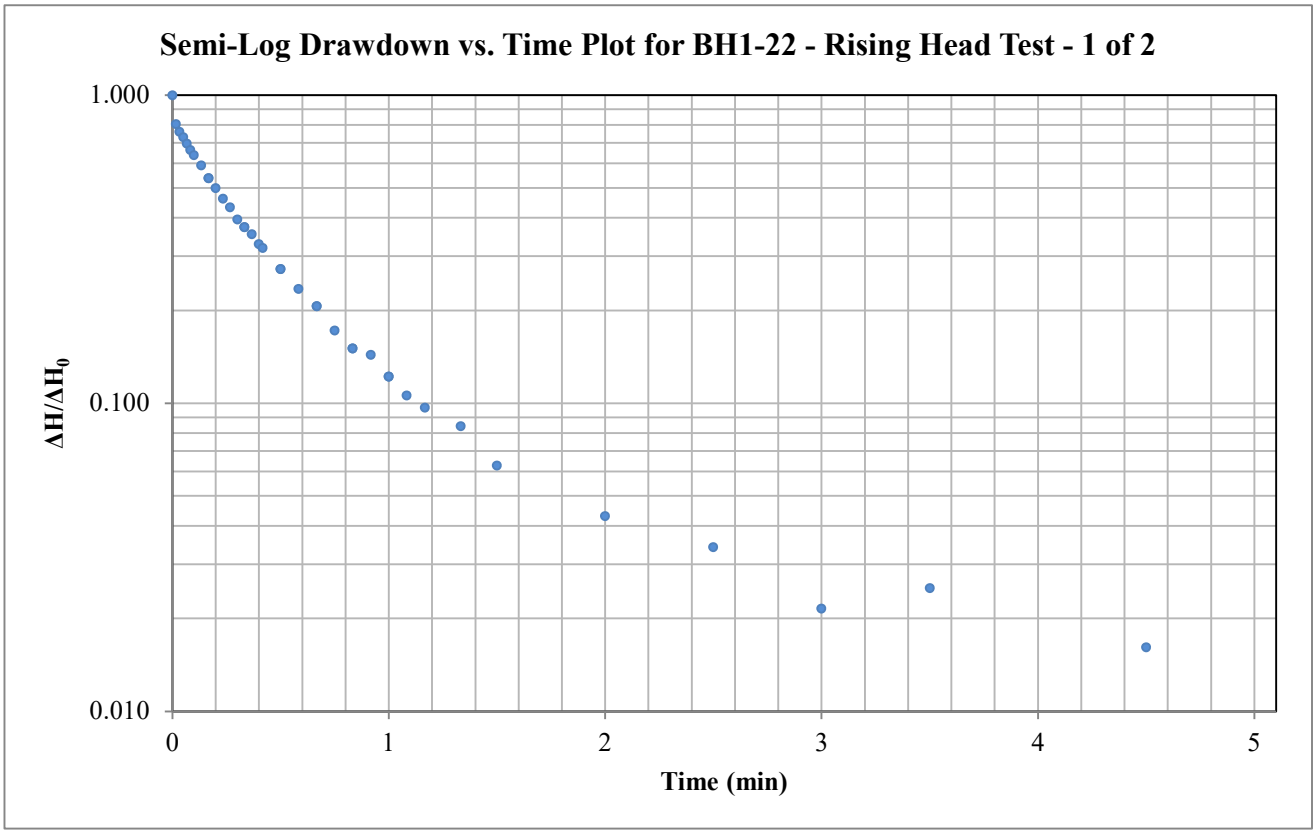
Horizontal Hydraulic Conductivity
K = 1.56E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-22
Test: Rising Head - 1 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.341 minutes $\Delta H^*/\Delta H_0$: 0.37

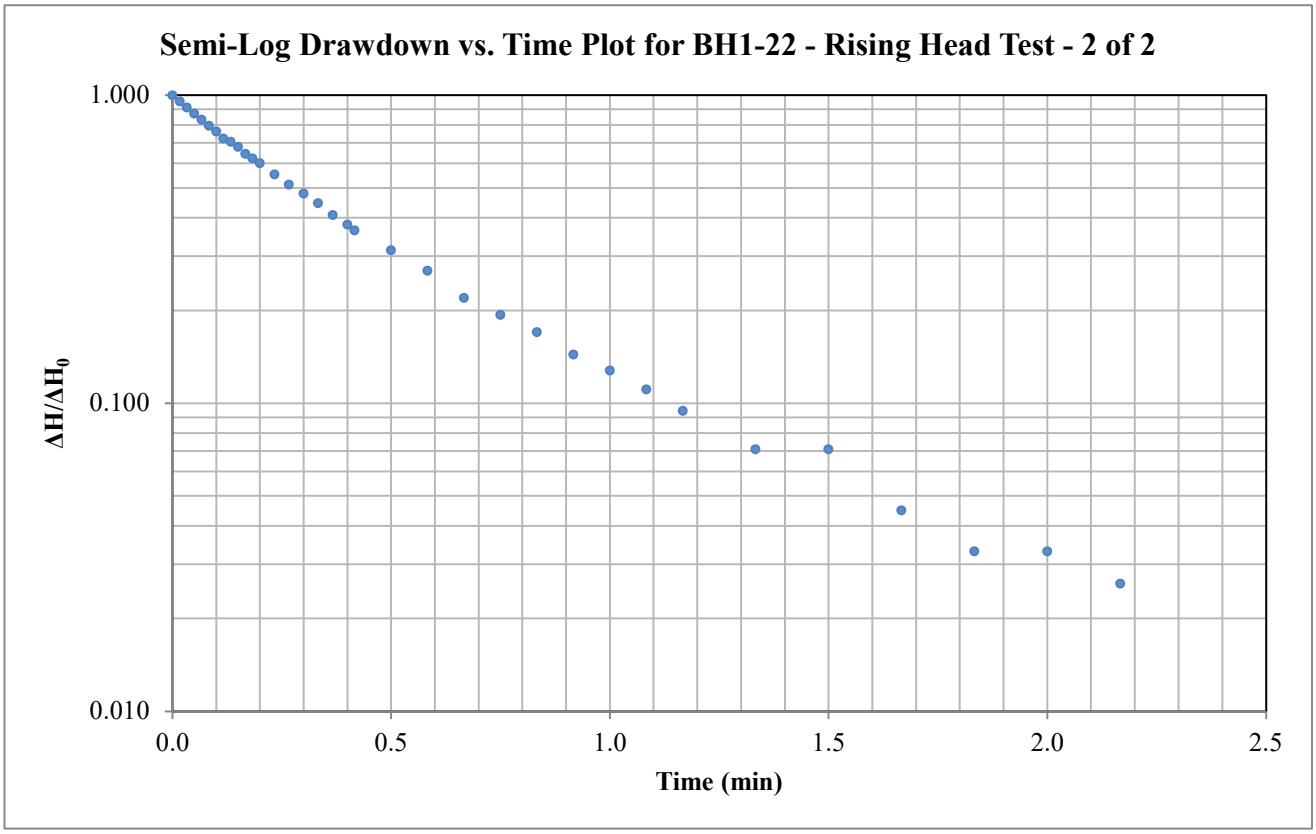
Horizontal Hydraulic Conductivity
K = 1.86E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH1-22
Test: Rising Head - 2 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.411 minutes $\Delta H^*/\Delta H_0$: 0.37

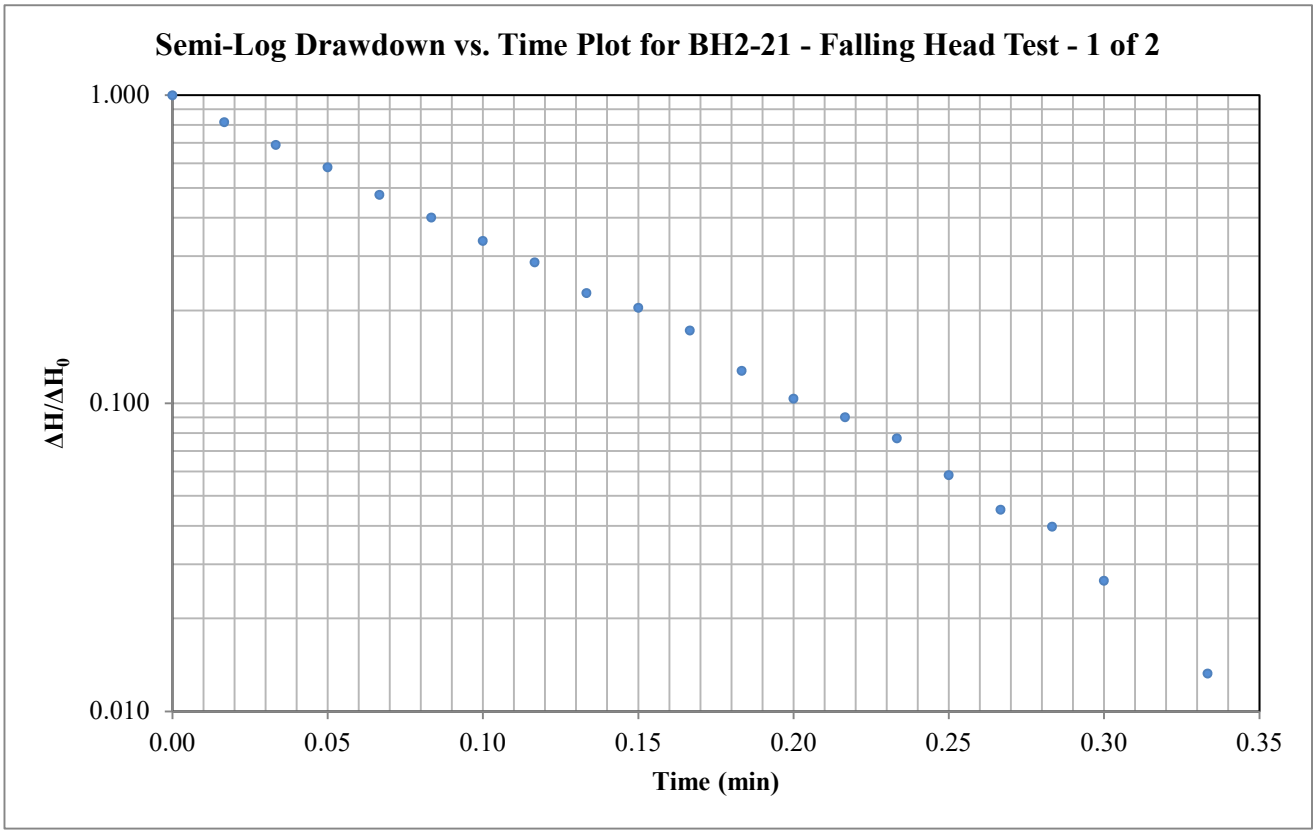
Horizontal Hydraulic Conductivity
K = 1.54E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-21
Test: Falling Head - 1 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.091 minutes $\Delta H^*/\Delta H_0$: 0.37

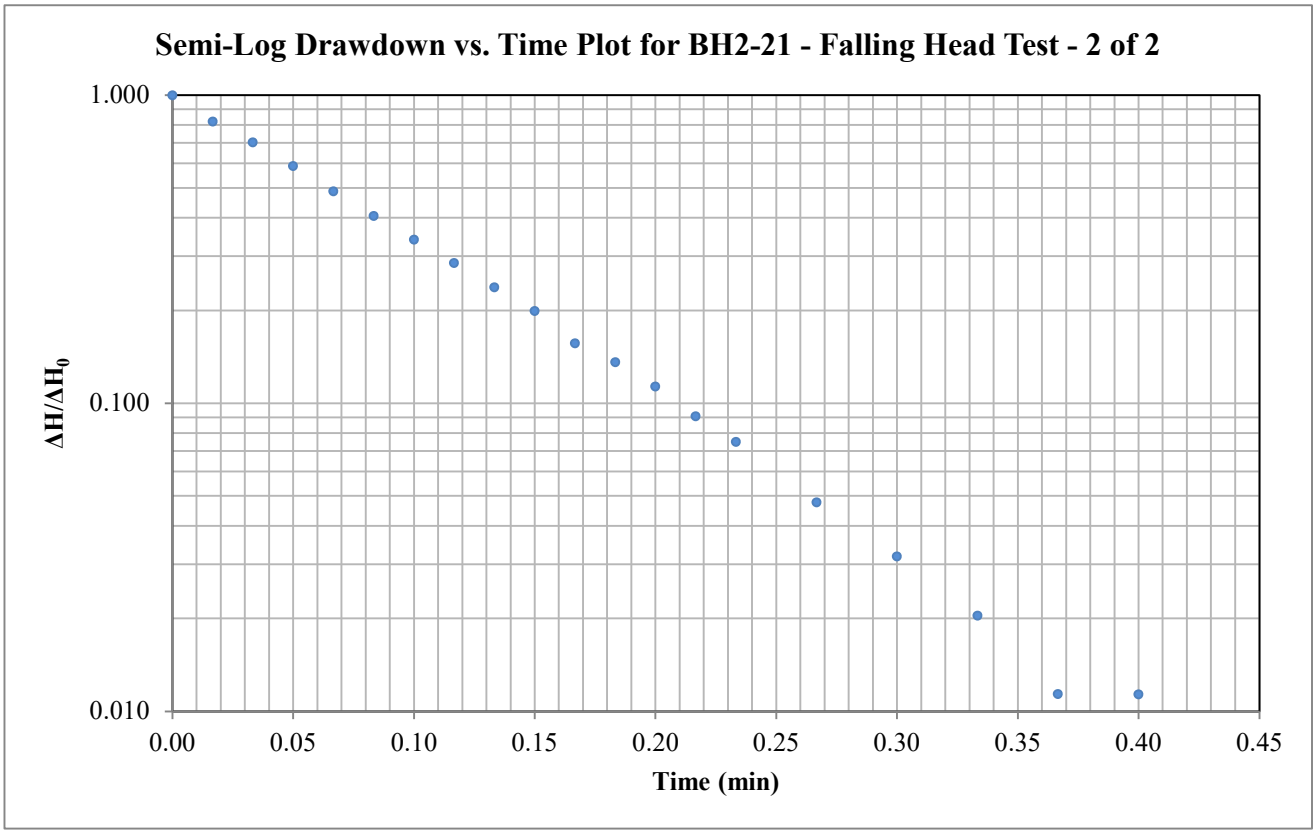
Horizontal Hydraulic Conductivity
K = 3.99E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-21
Test: Falling Head - 2 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.092 minutes $\Delta H^*/\Delta H_0$: 0.37

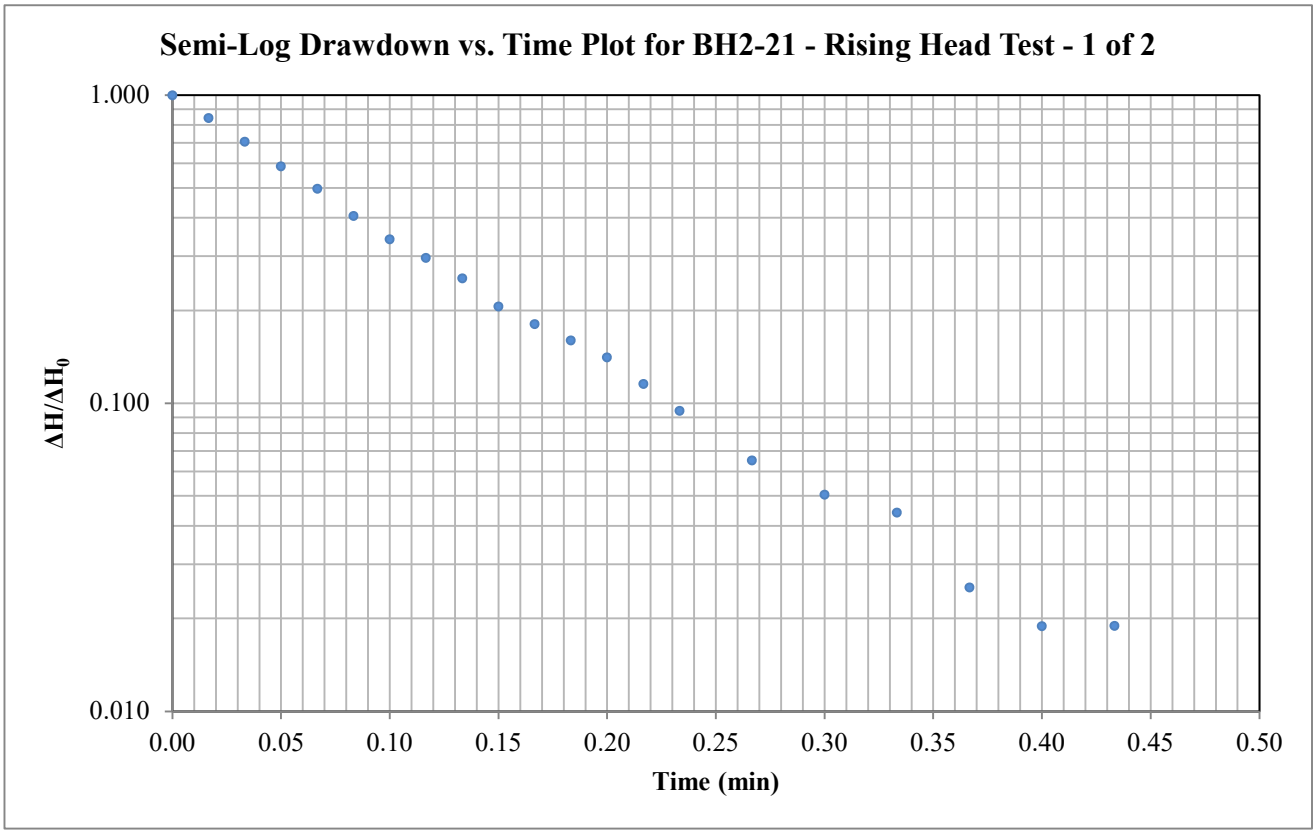
Horizontal Hydraulic Conductivity
K = 3.95E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-21
Test: Rising Head - 1 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.093 minutes $\Delta H^*/\Delta H_0$: 0.37

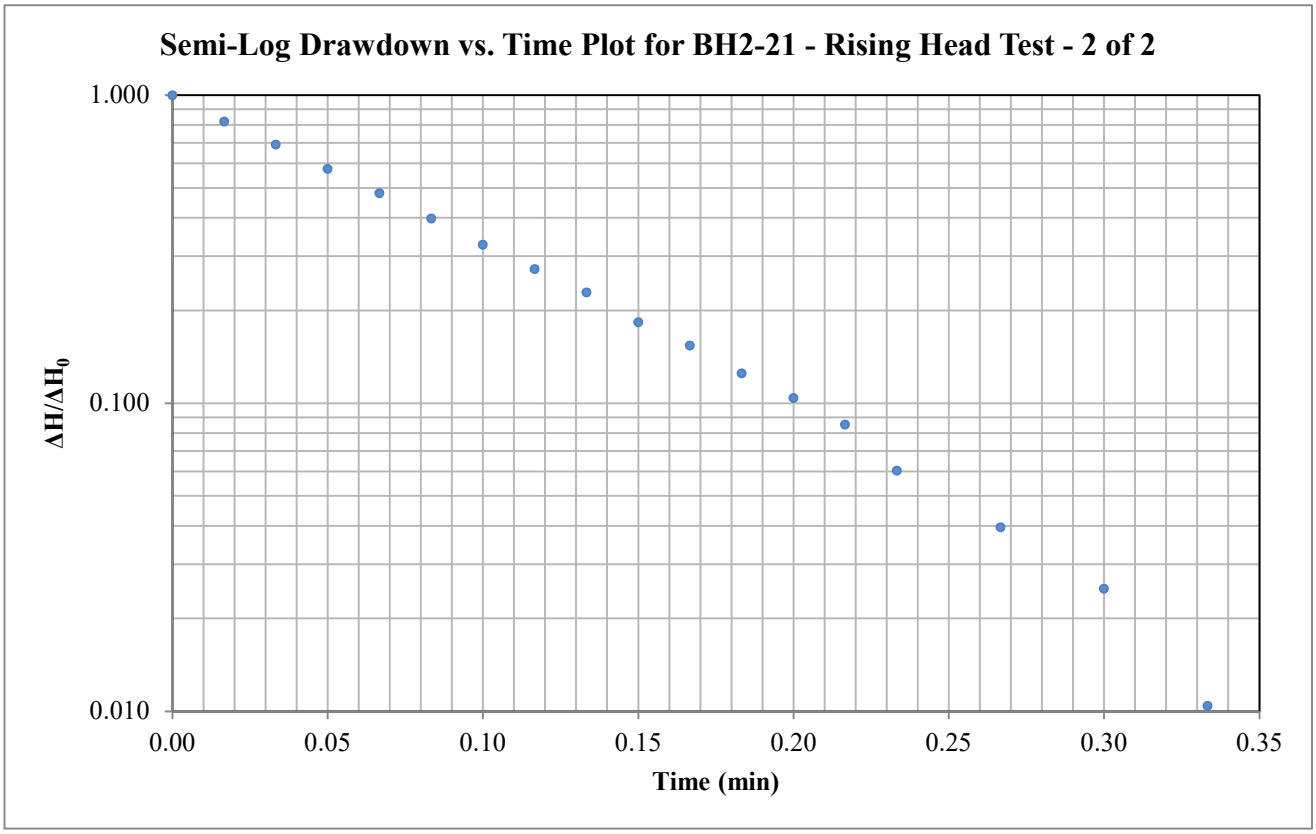
Horizontal Hydraulic Conductivity
K = 3.94E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-21
Test: Rising Head - 2 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.090 minutes $\Delta H^*/\Delta H_0$: 0.37

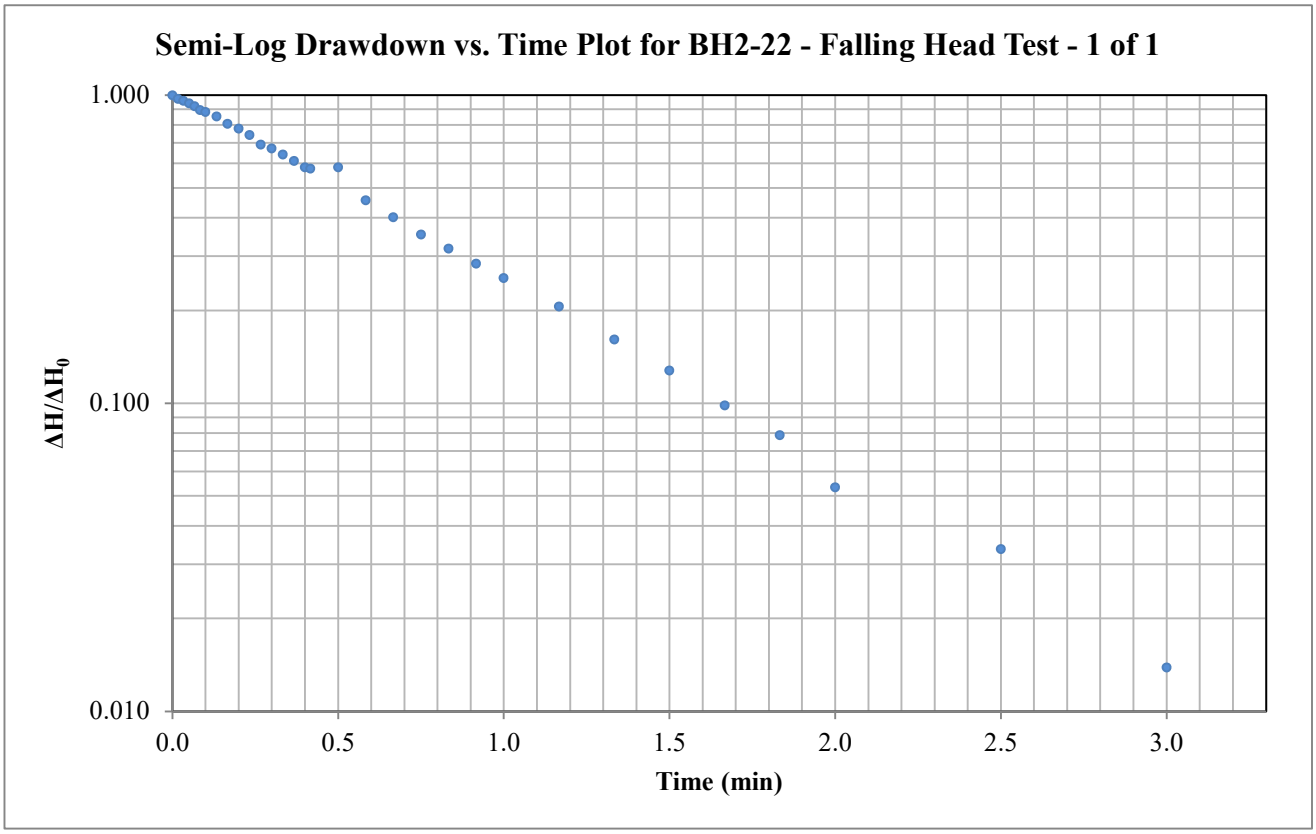
Horizontal Hydraulic Conductivity
K = 4.06E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-22
Test: Falling Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.712 minutes $\Delta H^*/\Delta H_0$: 0.37

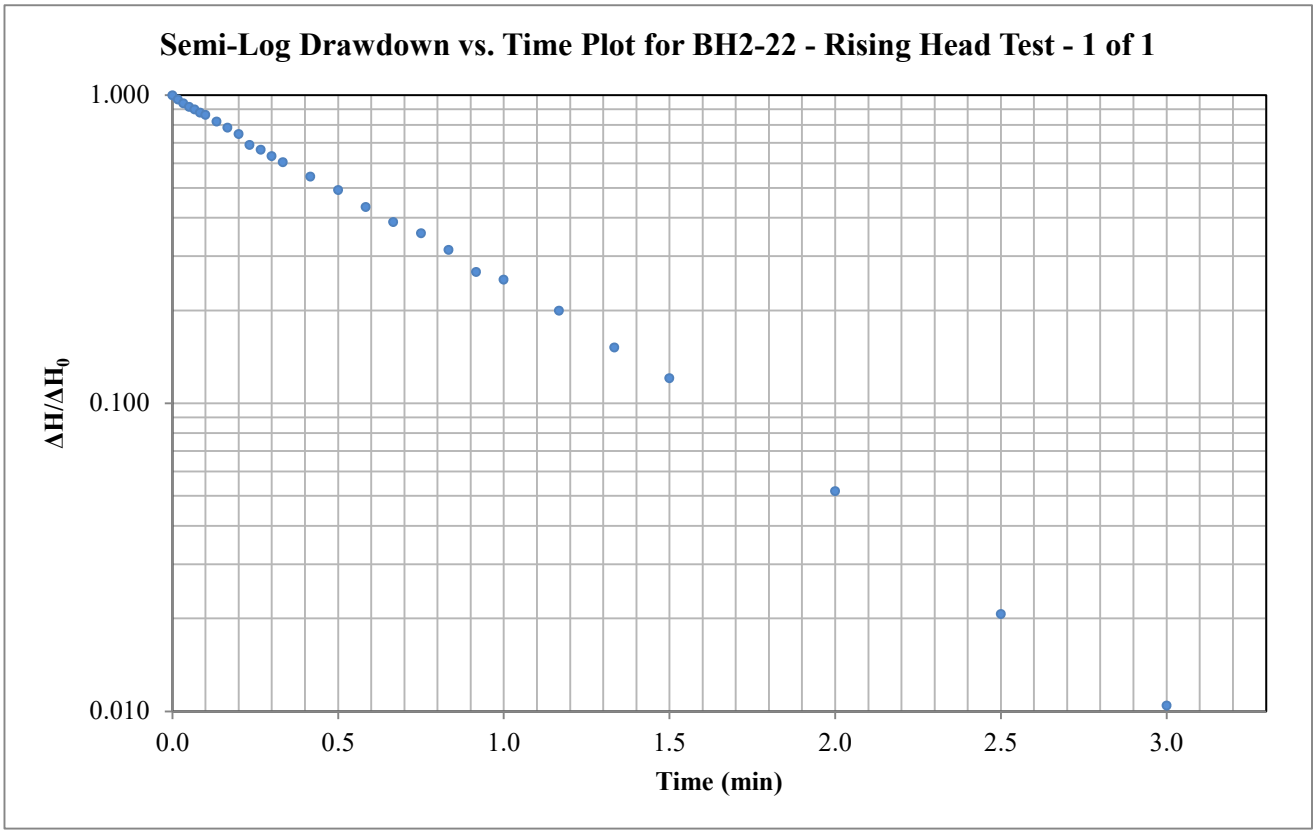
Horizontal Hydraulic Conductivity
K = 8.89E-06 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH2-22
Test: Rising Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.697 minutes $\Delta H^*/\Delta H_0$: 0.37

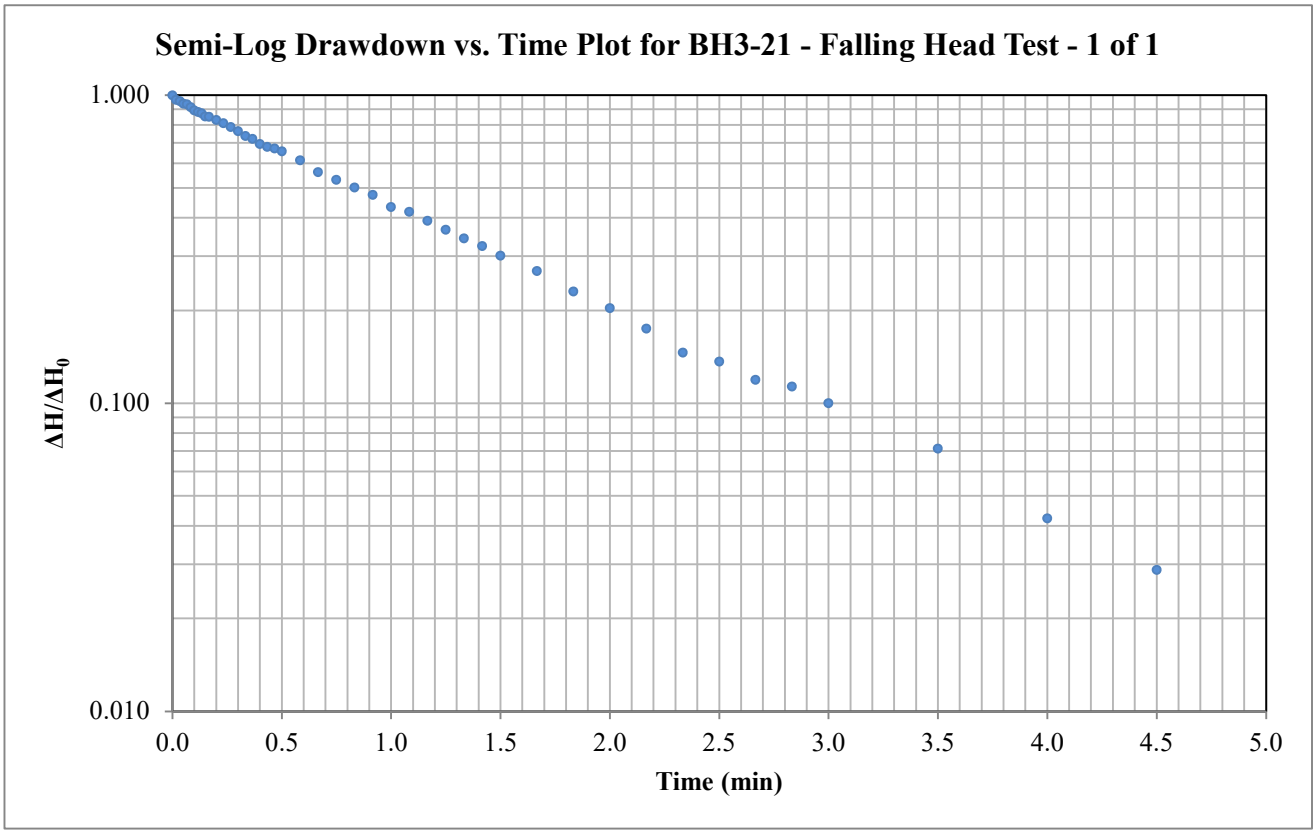
Horizontal Hydraulic Conductivity
K = 9.09E-06 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH3-21
Test: Falling Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 1.223 minutes $\Delta H^*/\Delta H_0$: 0.37

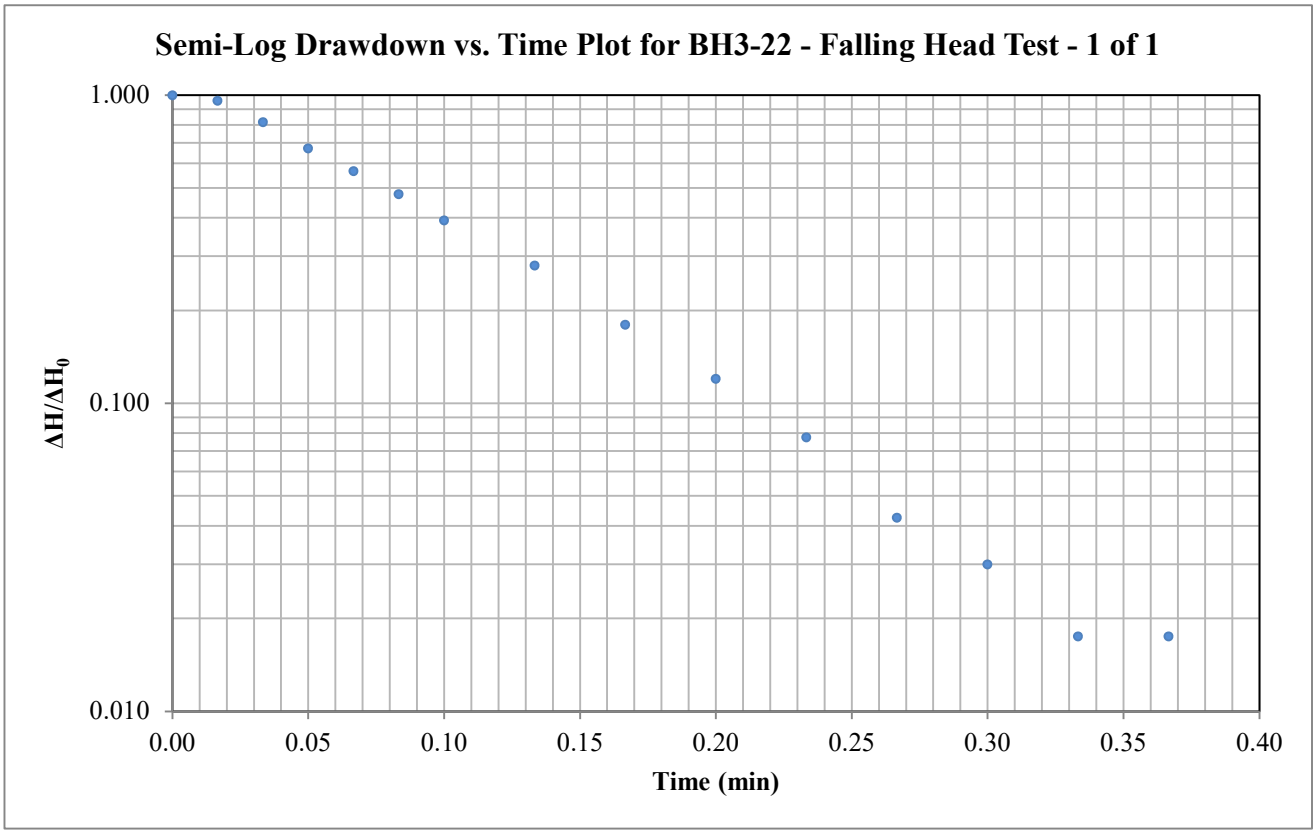
Horizontal Hydraulic Conductivity
K = 2.98E-06 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH3-22
Test: Falling Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.105 minutes $\Delta H^*/\Delta H_0$: 0.37

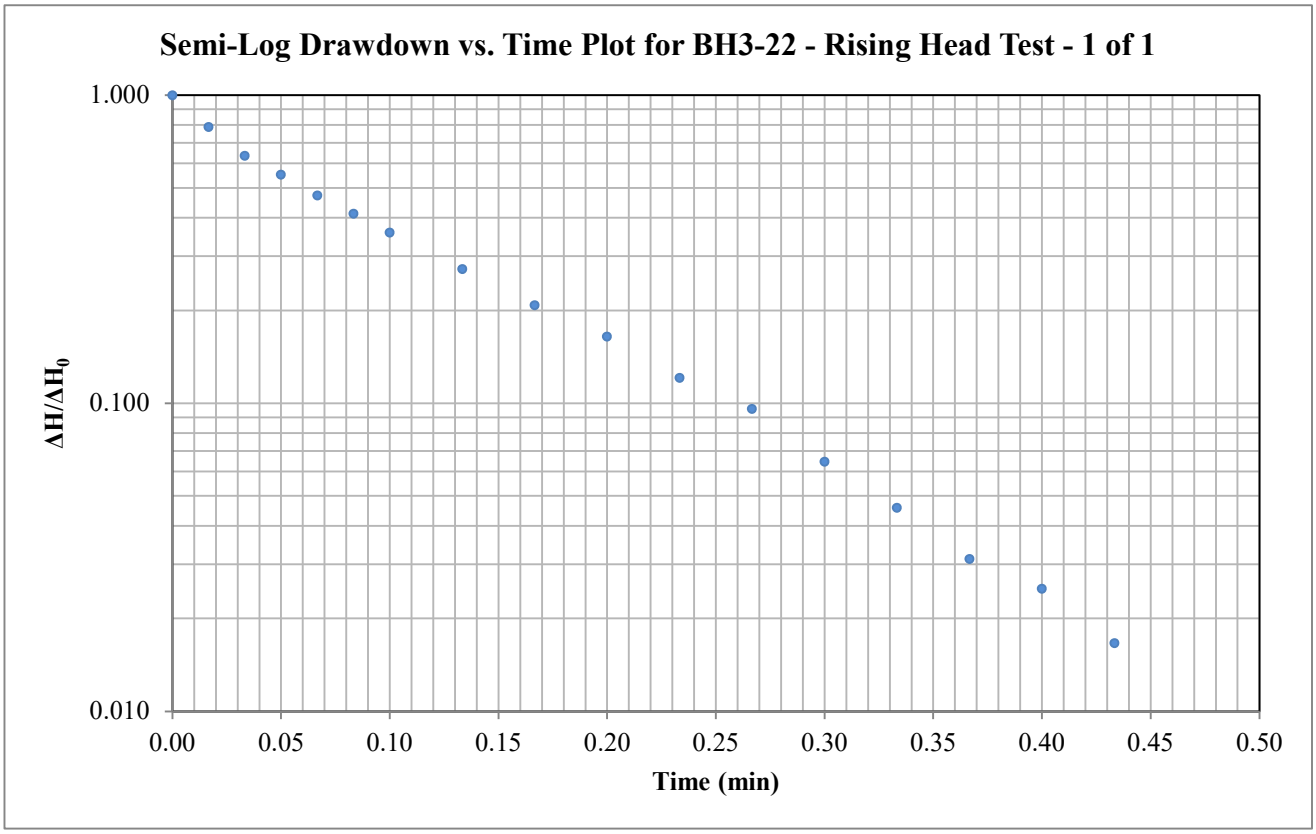
Horizontal Hydraulic Conductivity
K = 6.01E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH3-22
Test: Rising Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.096 minutes $\Delta H^*/\Delta H_0$: 0.37

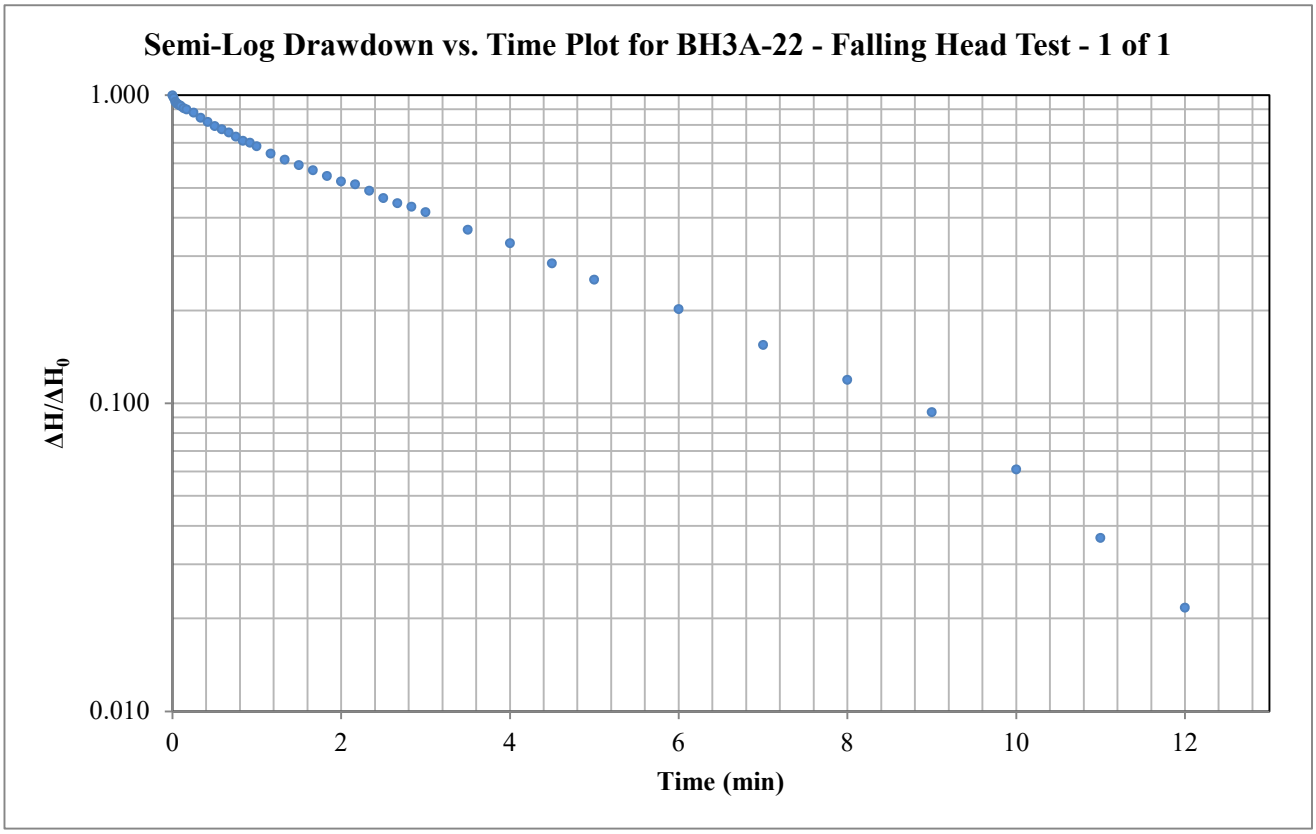
Horizontal Hydraulic Conductivity
K = 6.57E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH3A-22
Test: Falling Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.31086

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.0508	m	Diameter of well
r_c	0.0254	m	Radius of well

Data Points (from plot):

t*: 3.485 minutes $\Delta H^*/\Delta H_0$: 0.37

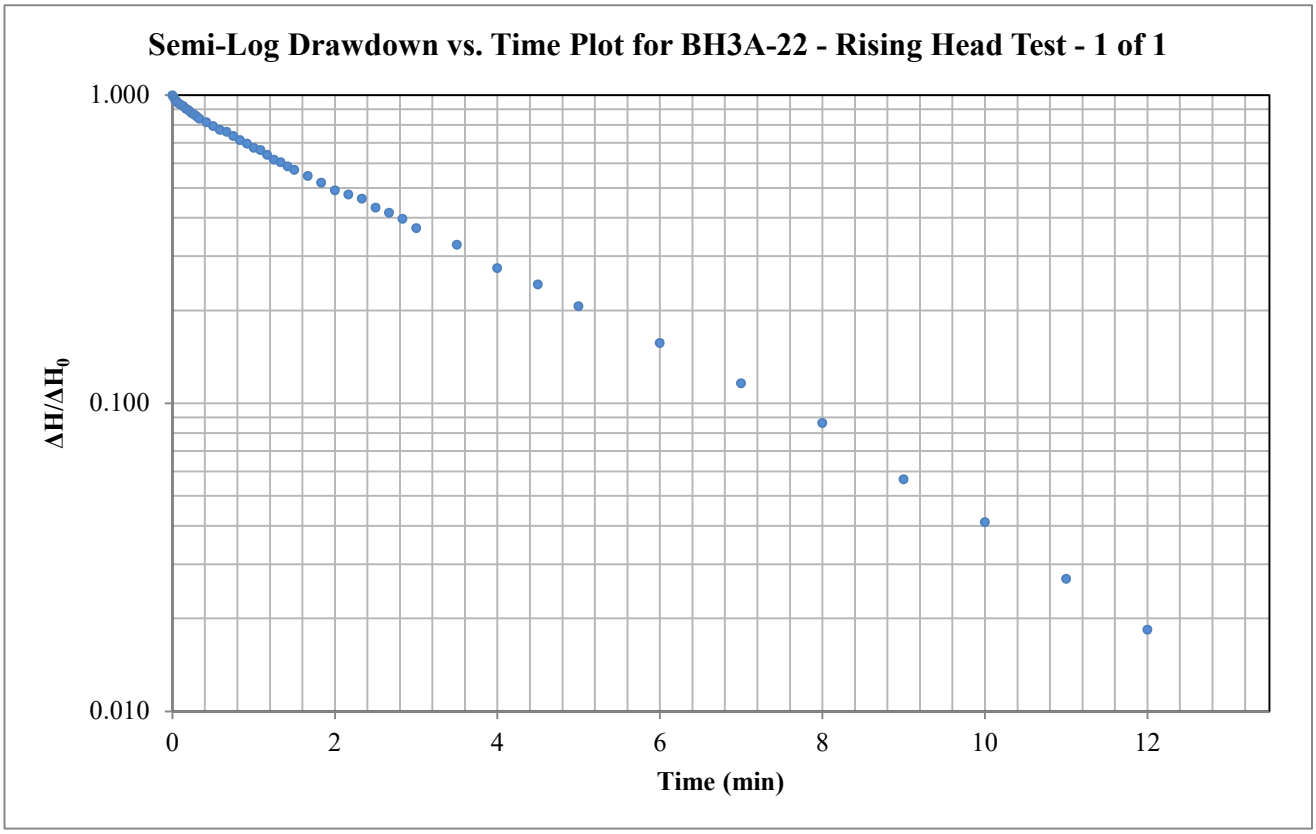
Horizontal Hydraulic Conductivity
K = 4.17E-06 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH3A-22
Test: Rising Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.31086

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.0508	m	Diameter of well
r_c	0.0254	m	Radius of well

Data Points (from plot):

t*: 3.038 minutes $\Delta H^*/\Delta H_0$: 0.37

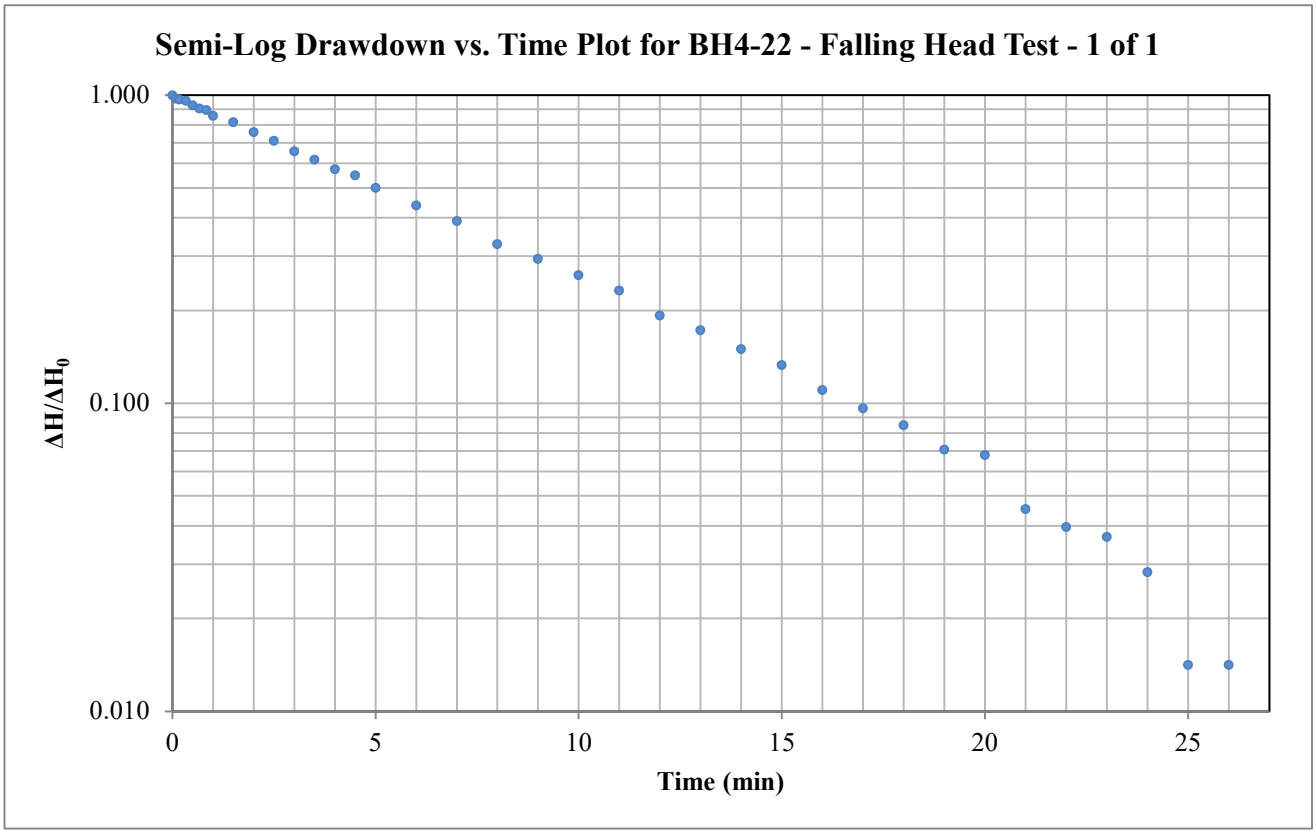
Horizontal Hydraulic Conductivity
K = 4.78E-06 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH4-22
Test: Falling Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 7.262 minutes $\Delta H^*/\Delta H_0$: 0.37

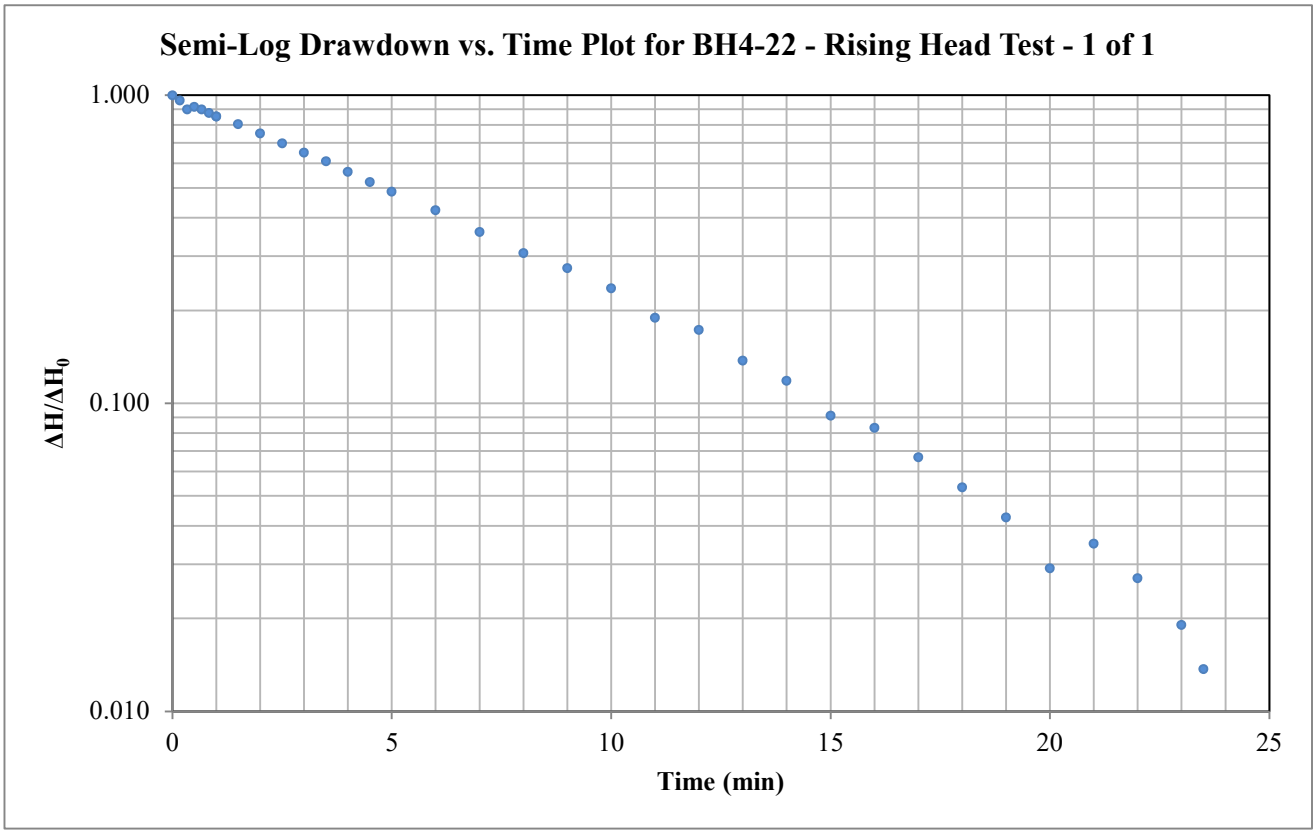
Horizontal Hydraulic Conductivity
K = 8.72E-07 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH4-22
Test: Rising Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 6.985 minutes $\Delta H^*/\Delta H_0$: 0.37

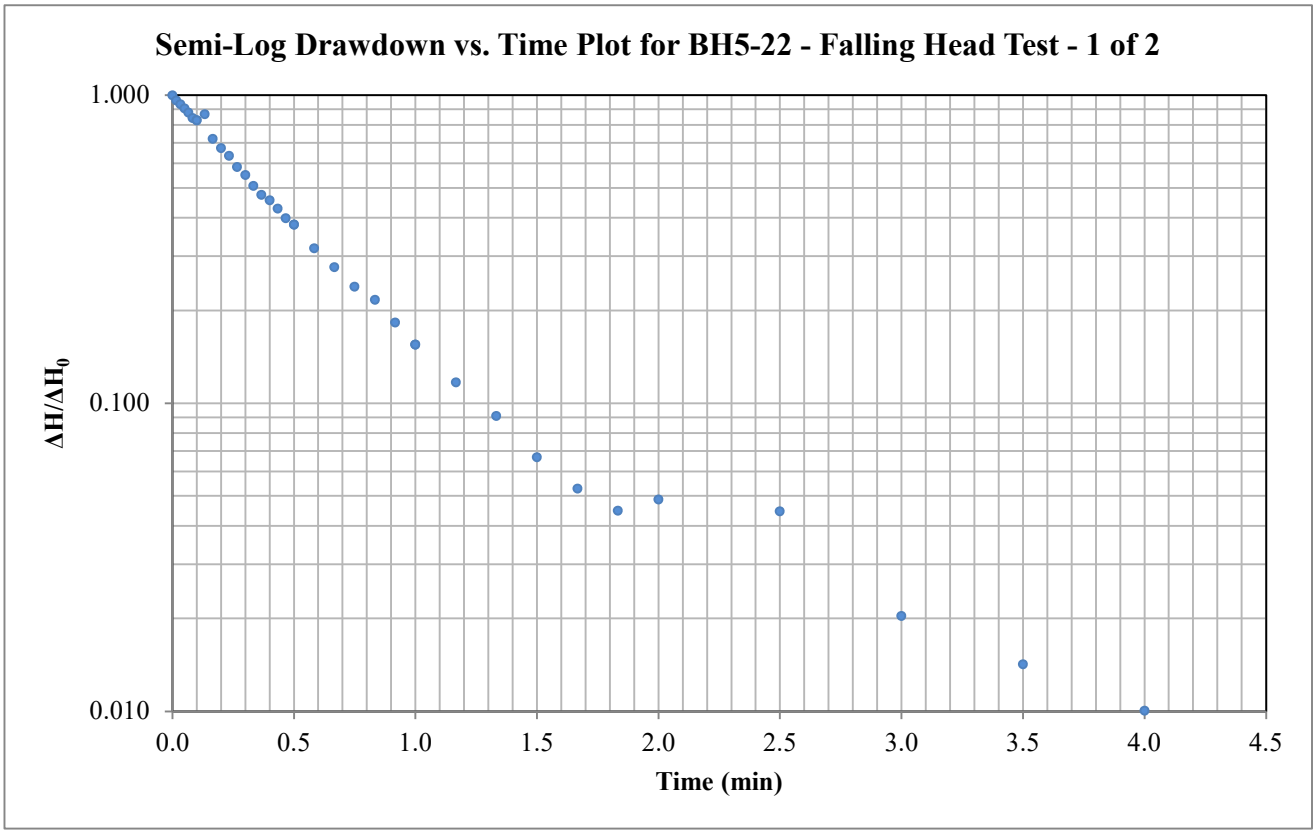
Horizontal Hydraulic Conductivity
K = 9.06E-07 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH5-22
Test: Falling Head - 1 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.521 minutes $\Delta H^*/\Delta H_0$: 0.37

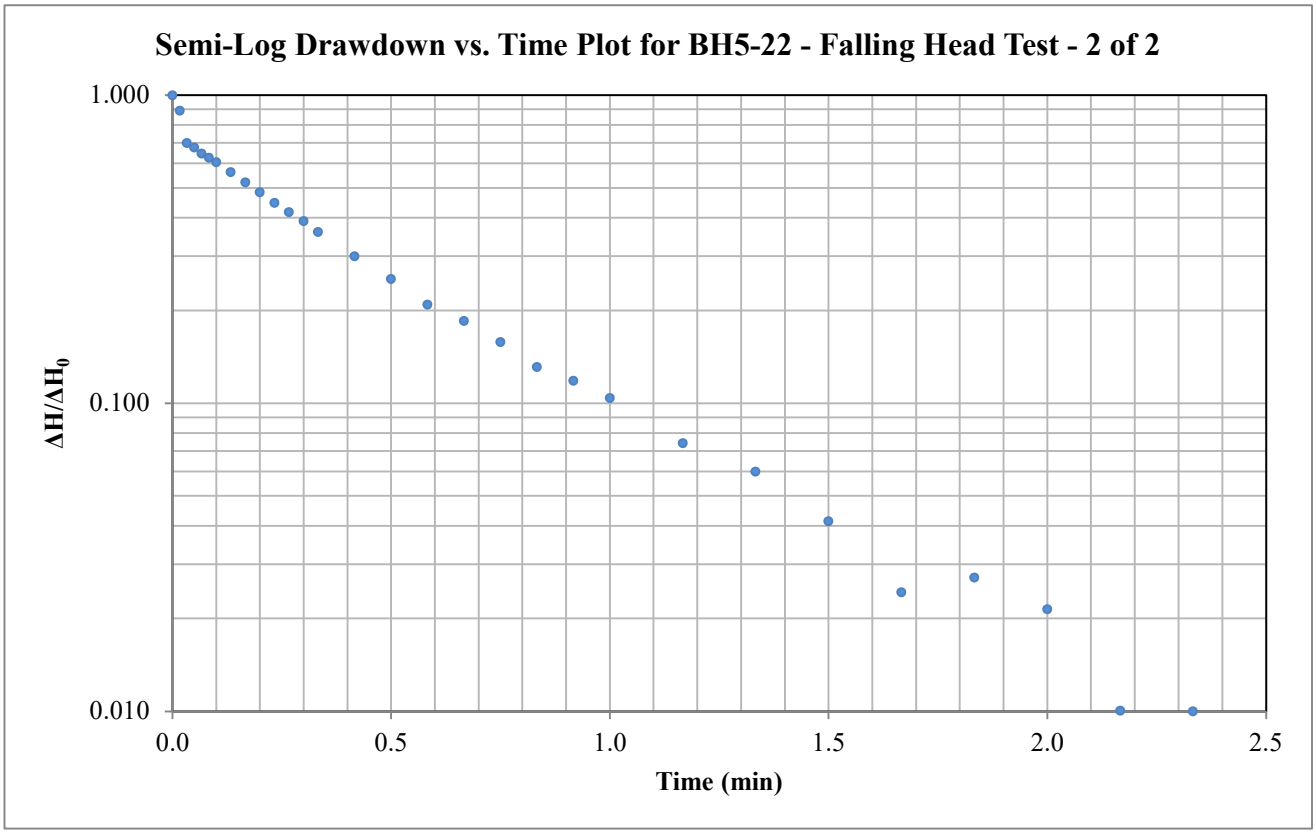
Horizontal Hydraulic Conductivity
K = 1.21E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH5-22
Test: Falling Head - 2 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.318 minutes $\Delta H^*/\Delta H_0$: 0.37

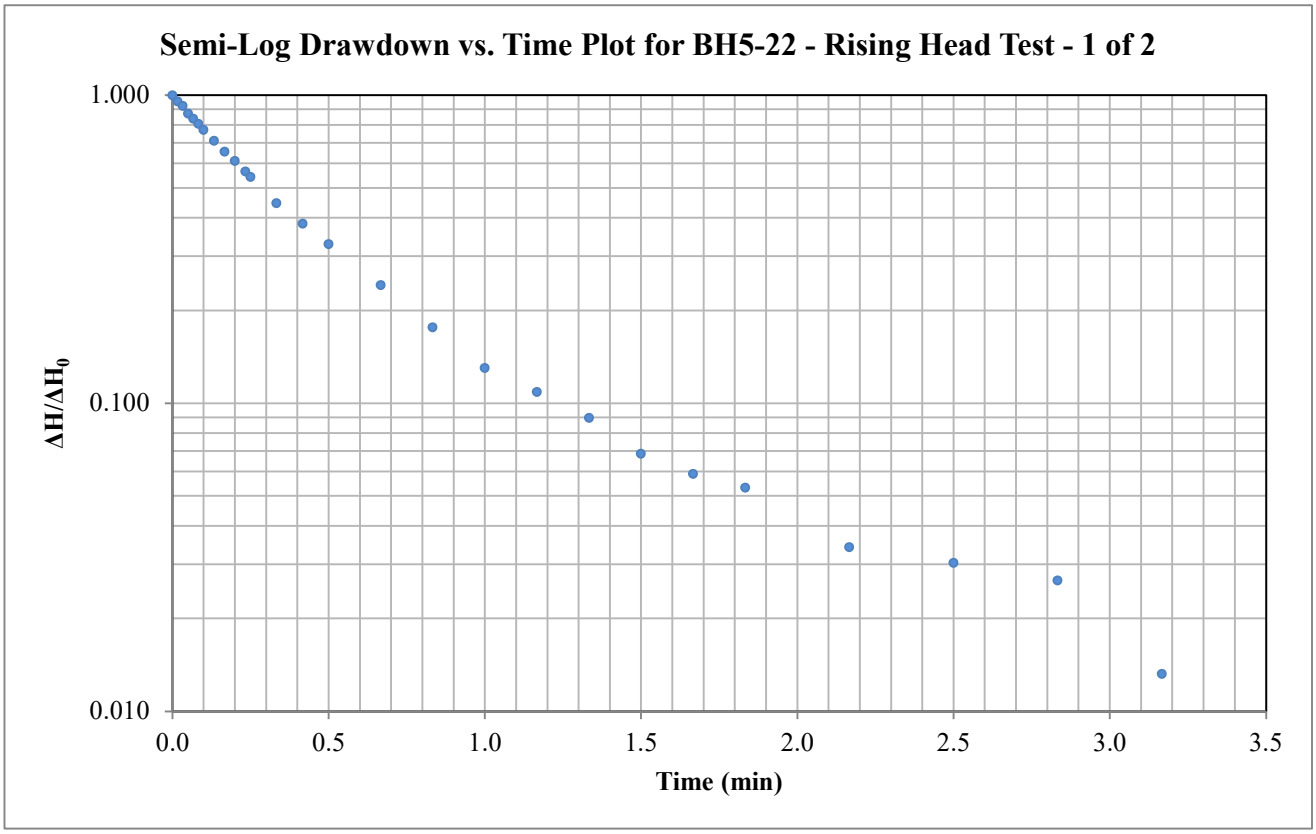
Horizontal Hydraulic Conductivity
K = 1.99E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH5-22
Test: Rising Head - 1 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.444 minutes $\Delta H^*/\Delta H_0$: 0.37

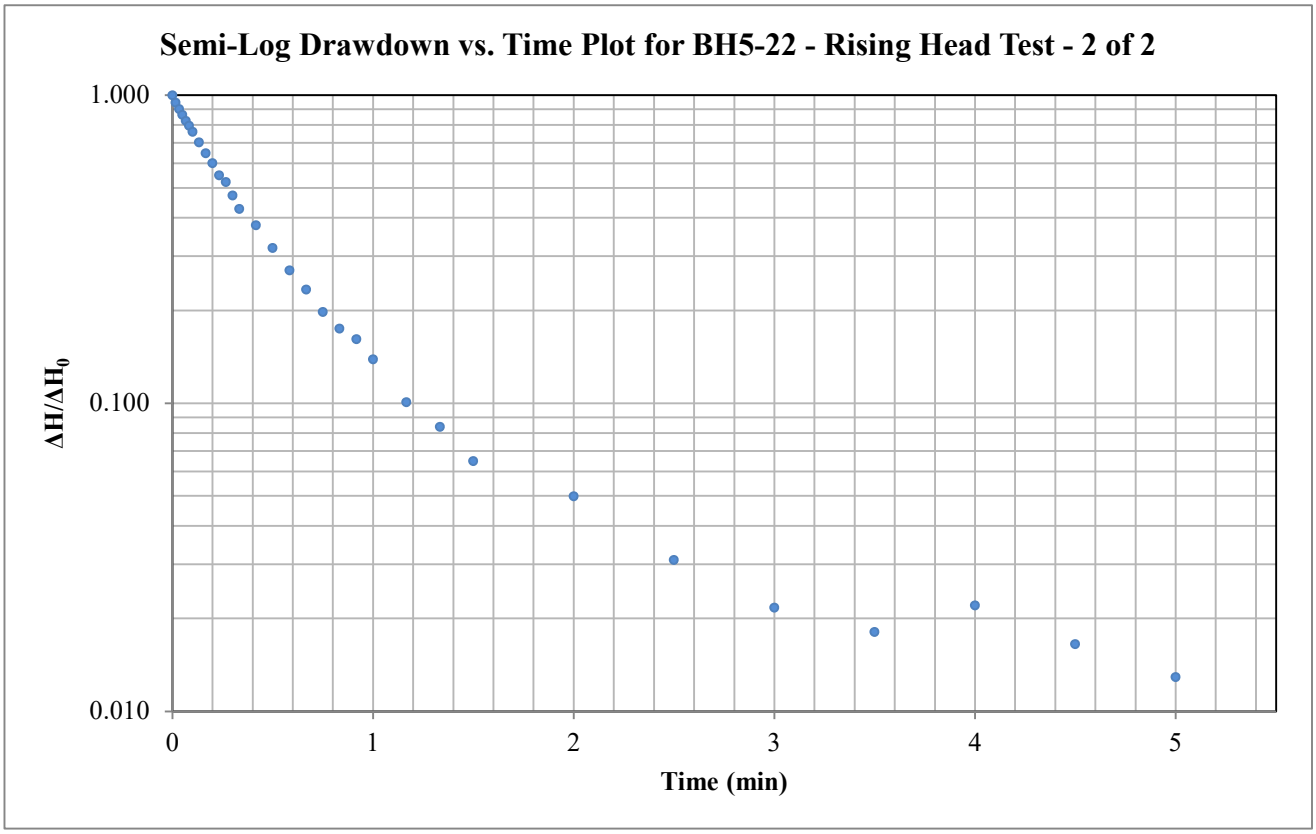
Horizontal Hydraulic Conductivity
K = 1.43E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH5-22
Test: Rising Head - 2 of 2
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L	1.5	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.437 minutes $\Delta H^*/\Delta H_0$: 0.37

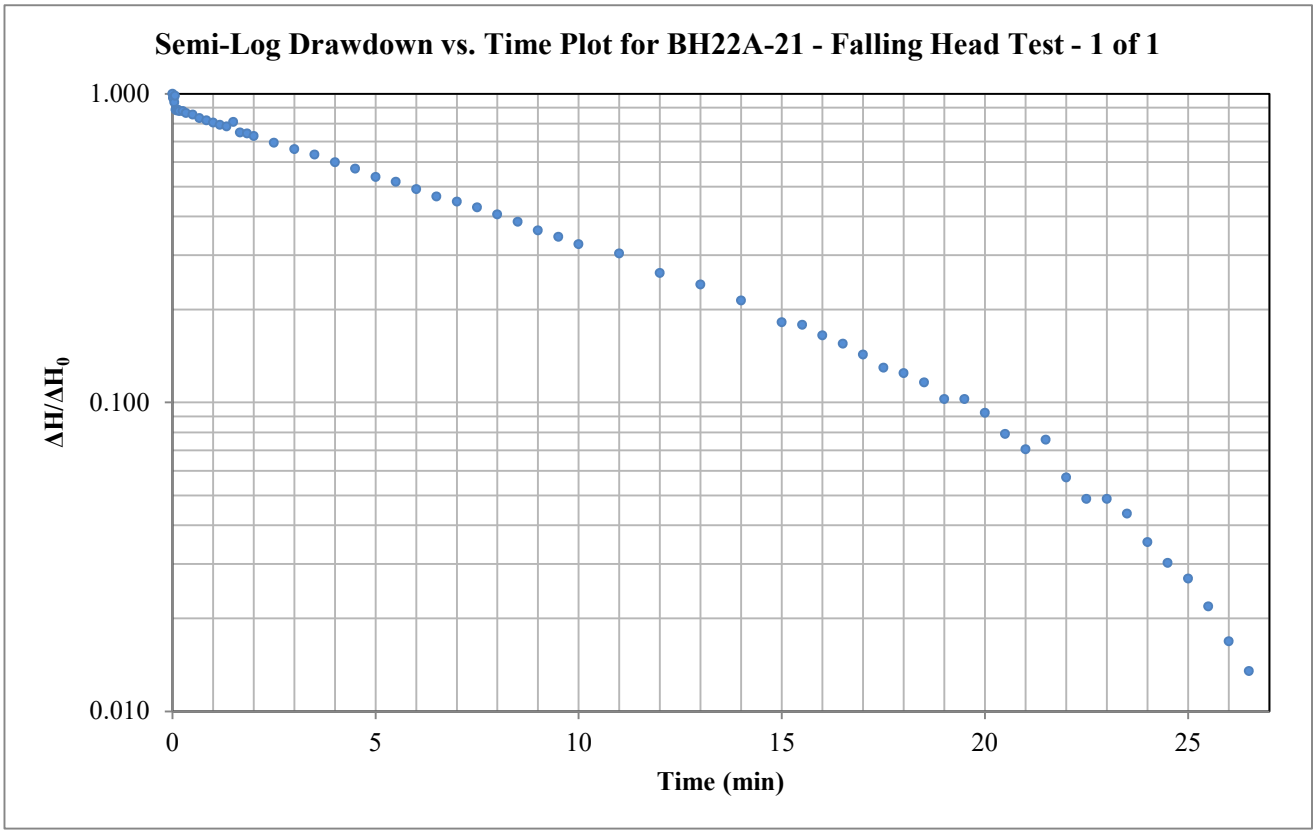
Horizontal Hydraulic Conductivity
K = 1.45E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH22A-21
Test: Falling Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 8.463 minutes $\Delta H^*/\Delta H_0$: 0.37

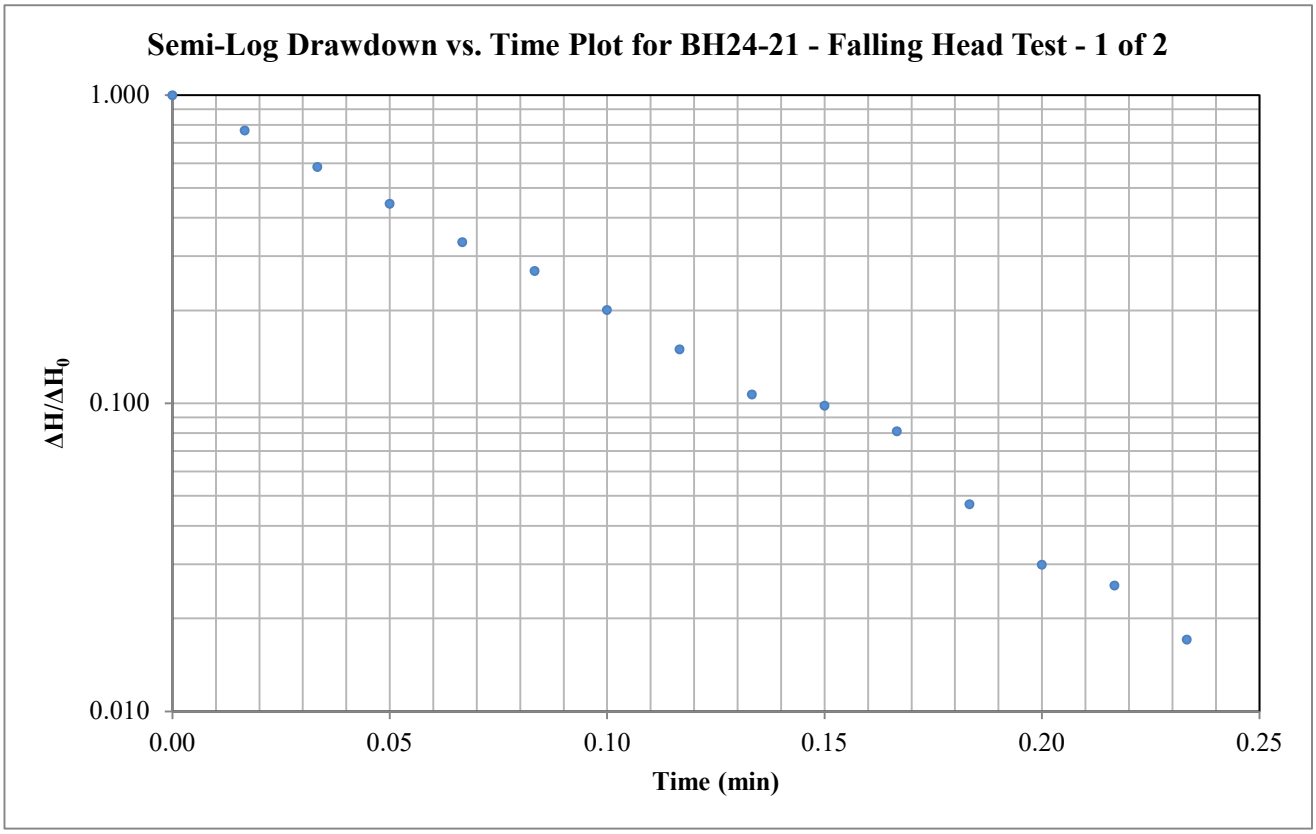
Horizontal Hydraulic Conductivity
K = 4.31E-07 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH24-21
Test: Falling Head - 1 of 2
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.061 minutes $\Delta H^*/\Delta H_0$: 0.37

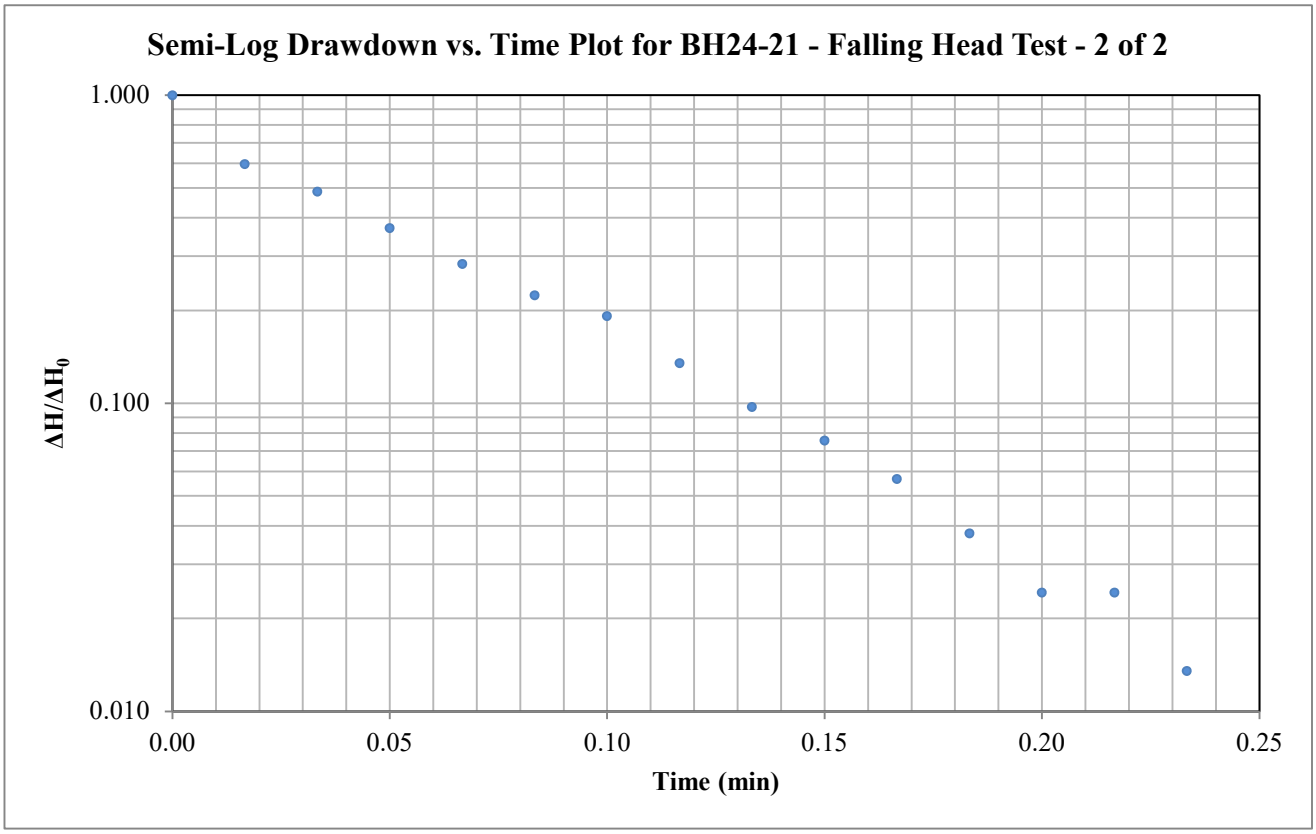
Horizontal Hydraulic Conductivity
K = 5.96E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH24-21
Test: Falling Head - 2 of 2
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.050 minutes $\Delta H^*/\Delta H_0$: 0.37

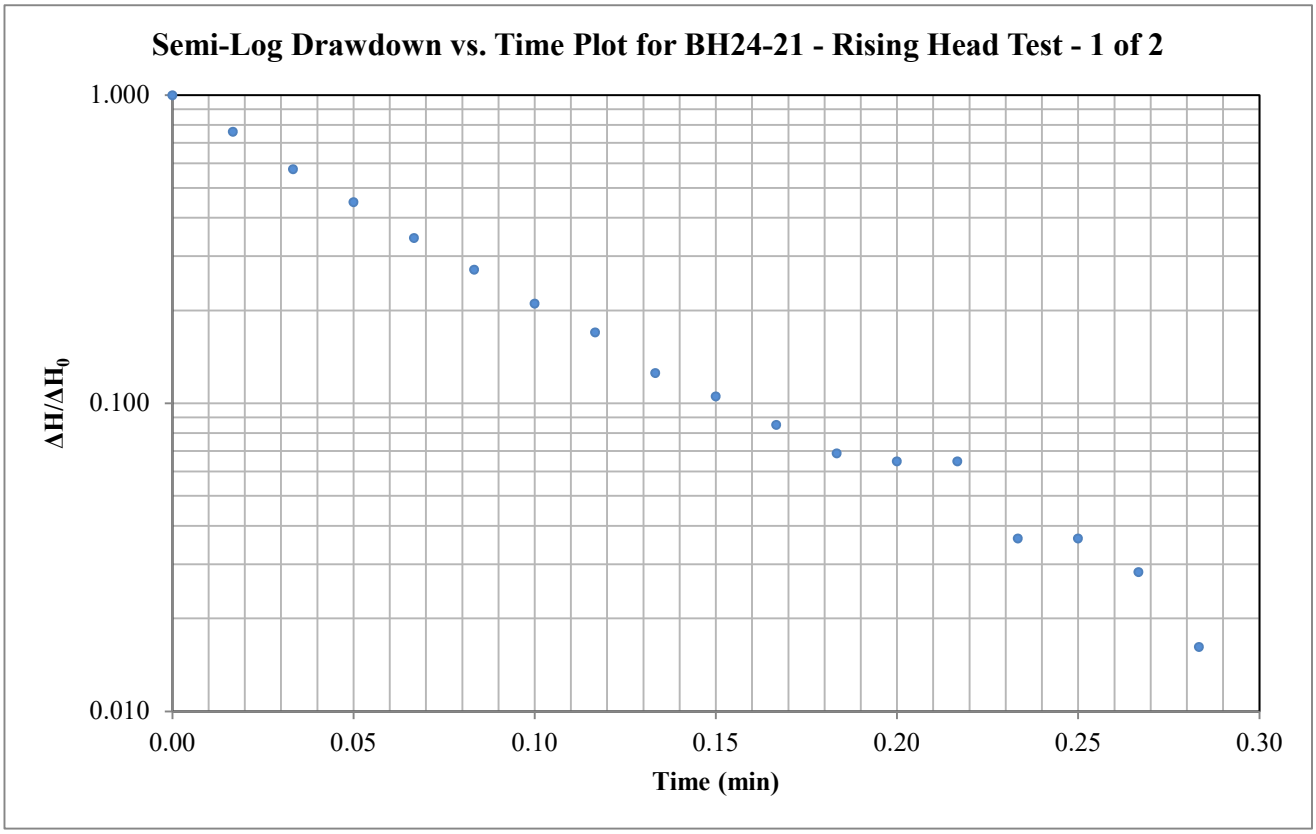
Horizontal Hydraulic Conductivity
K = 7.29E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH24-21
Test: Rising Head - 1 of 2
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.063 minutes $\Delta H^*/\Delta H_0$: 0.37

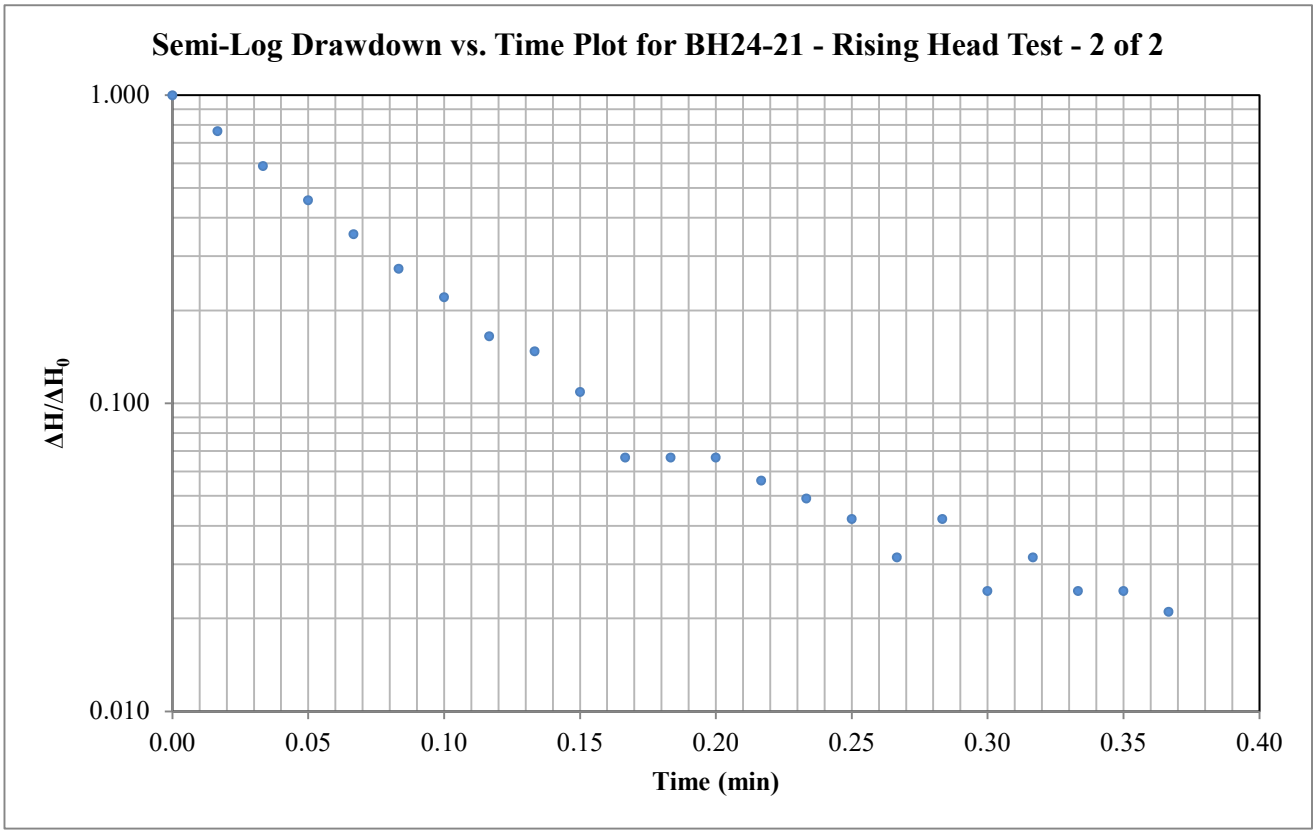
Horizontal Hydraulic Conductivity
K = 5.83E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH24-21
Test: Rising Head - 2 of 2
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.064 minutes $\Delta H^*/\Delta H_0$: 0.37

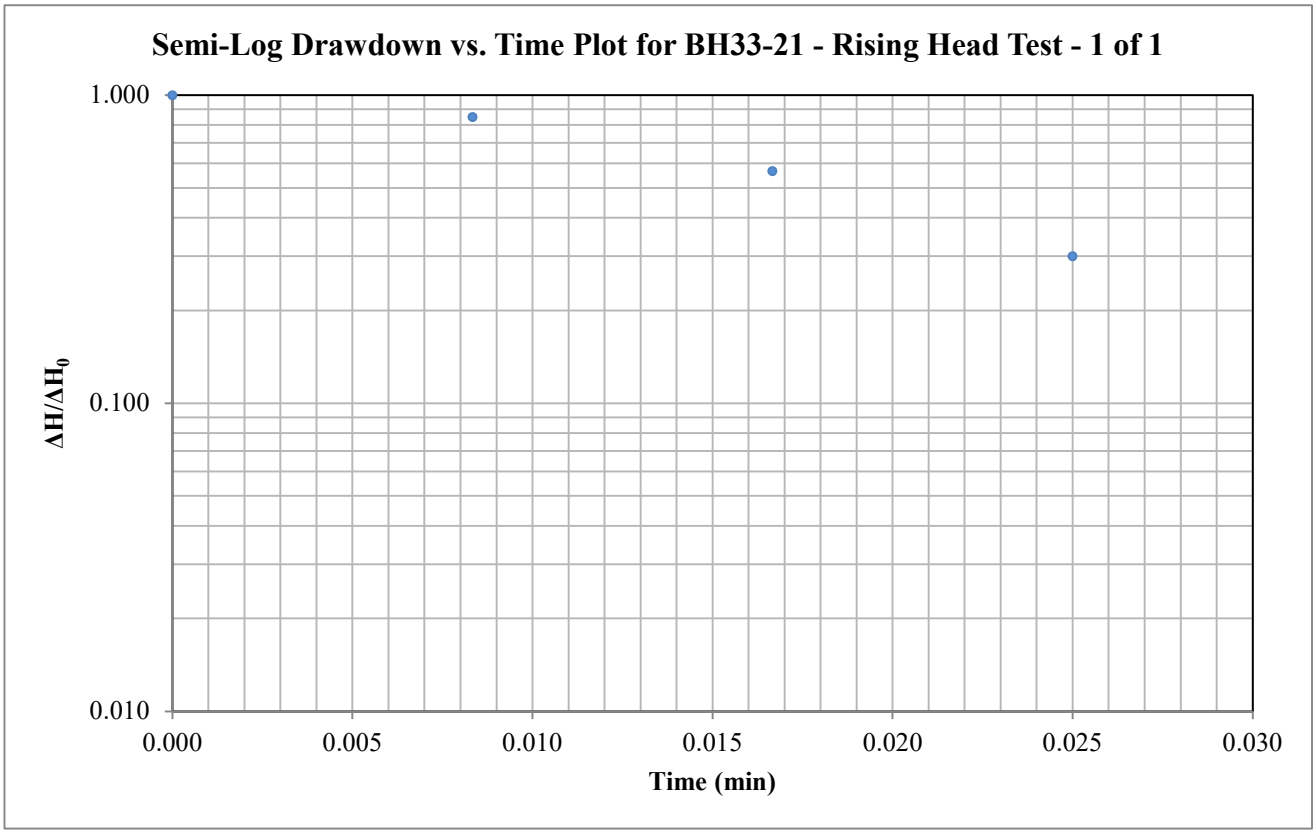
Horizontal Hydraulic Conductivity
K = 5.69E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: BH33-21
Test: Rising Head - 1 of 1
Date: October 11, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L	3	m	Saturated length of screen or open hole
D	0.03175	m	Diameter of well
r_c	0.01588	m	Radius of well

Data Points (from plot):

t*: 0.023 minutes $\Delta H^*/\Delta H_0$: 0.37

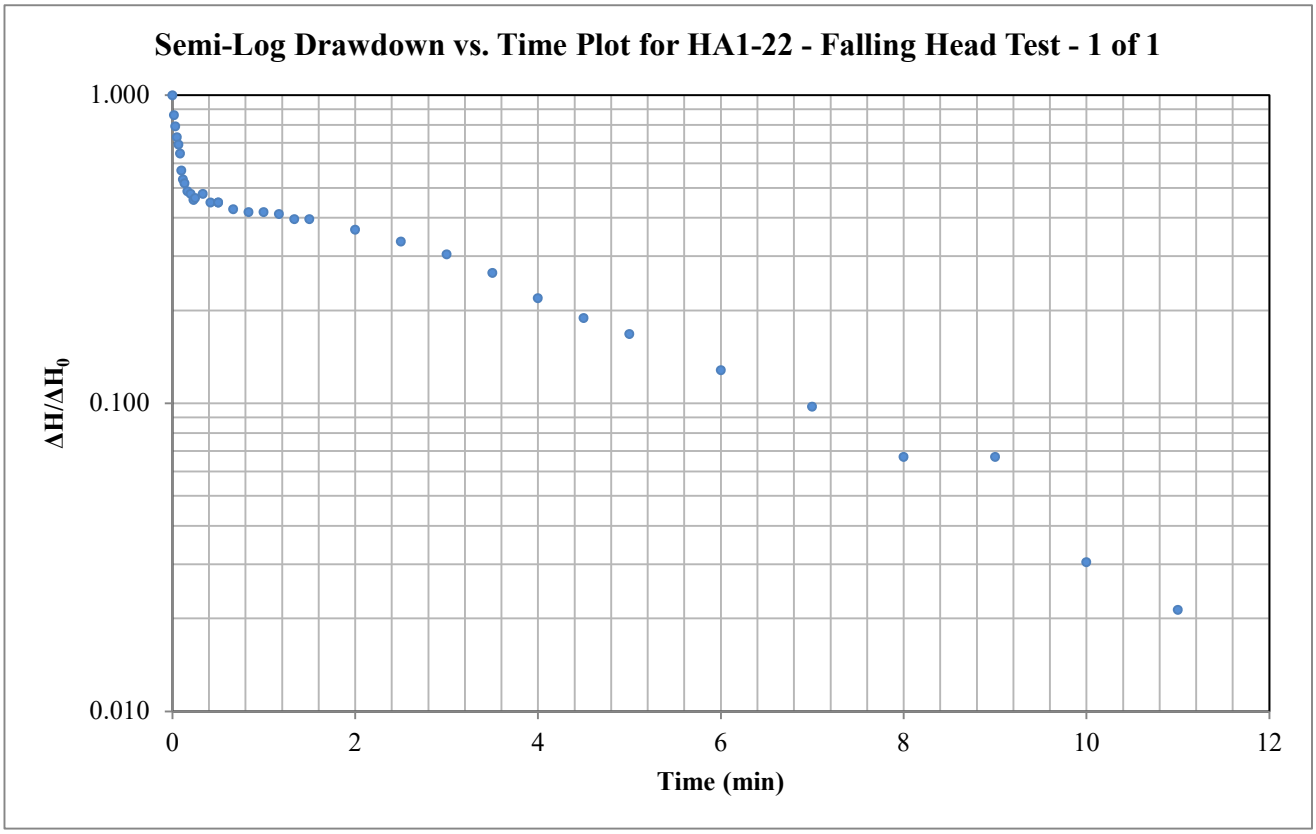
Horizontal Hydraulic Conductivity
K = 1.60E-04 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: HA1-22
Test: Falling Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 0.92098

Well Parameters:

L	0.4064	m	Saturated length of screen or open hole
D	0.0508	m	Diameter of well
r_c	0.0254	m	Radius of well

Data Points (from plot):

t*: 1.695 minutes $\Delta H^*/\Delta H_0$: 0.37

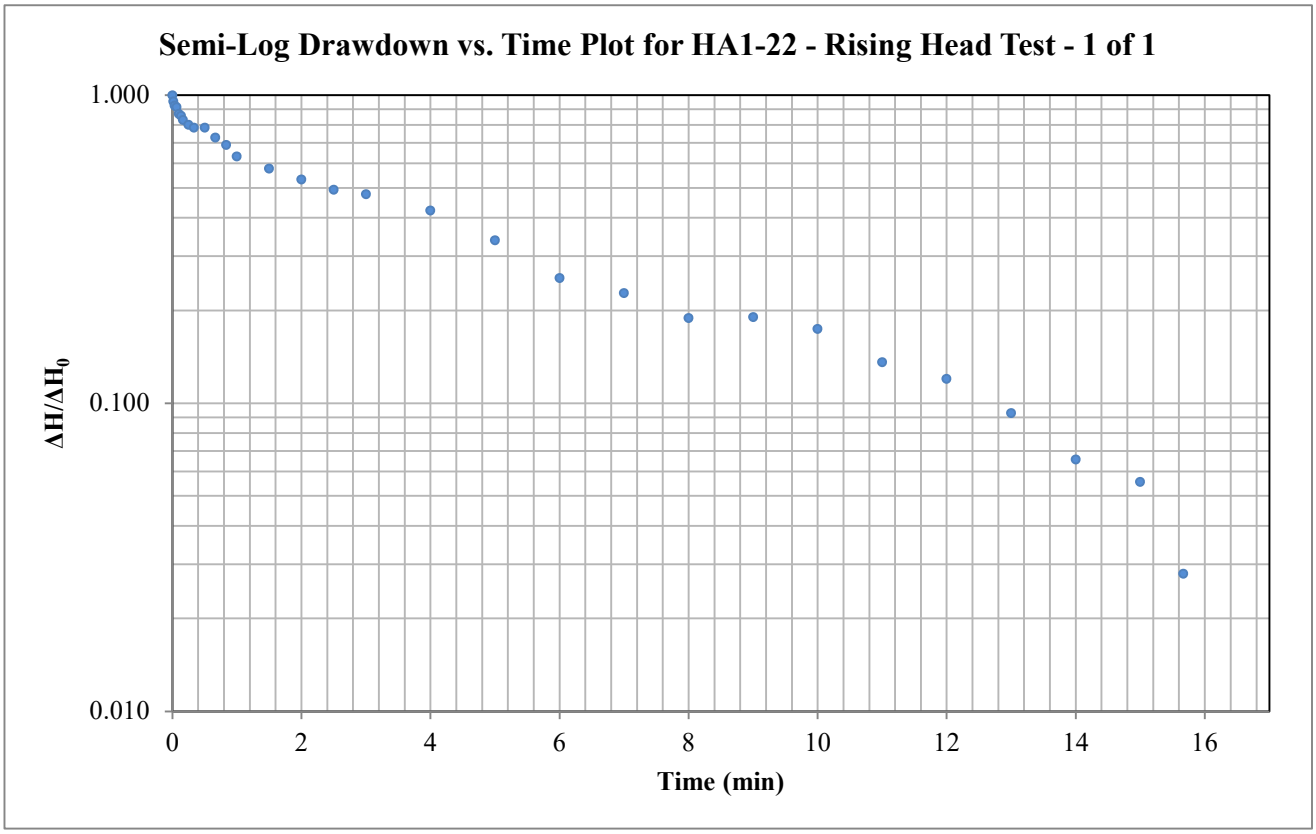
Horizontal Hydraulic Conductivity
K = 2.15E-05 m/sec

PATERSON GROUP

File: PH4625

Hvorslev Hydraulic Conductivity Analysis

Project: Caivan - 5993 and 6115 Flewellyn Road and 6030 and 6070 Fernbank Road
Test Location: HA1-22
Test: Rising Head - 1 of 1
Date: October 7, 2022



Hvorslev Horizontal Hydraulic Conductivity

$$K = \frac{\pi r_c^2}{F}\frac{1}{t^*}\ln\left(\frac{\Delta H^*}{\Delta H_0}\right)$$

Hvorslev Shape Factor

$$F = \frac{2\pi L}{\ln\left(\frac{2L}{D}\right)}$$

Valid for L>>D

Hvorslev Shape Factor F: 0.92098

Well Parameters:

L	0.4064	m	Saturated length of screen or open hole
D	0.0508	m	Diameter of well
r_c	0.0254	m	Radius of well

Data Points (from plot):

t*: 4.164 minutes $\Delta H^*/\Delta H_0$: 0.37

Horizontal Hydraulic Conductivity
K = 8.76E-06 m/sec

PATERSON GROUP

APPENDIX 5

MECP WATER WELL RECORDS

319/4e

551

UTM |1|8| Z |4|2|9|8|6|0| E

|5|8|5|0|1|1|1|0|0|7|0| N

Elev. |4| R |0|3|3|4|8|

Basin |2|5| | | | |

GROUND WATER BRANCH
JUN 5 1959 15
ONTARIO WATER RESOURCES COMMISSION

№ 2540

C

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District CARLTON Township, Village, Town or City GOULBOURN

[redacted] completed 16 (day) MAY month 59 year)

[redacted]ess STANLEY CORS

Casing and Screen Record	
Inside diameter of casing	4"
Total length of casing	43' 8"
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	4"

Pumping Test	
Static level	FLOWING
Test-pumping rate	10 G.P.M.
Pumping level	TOP
Duration of test pumping	1 HR
Water clear or cloudy at end of test	CLEAR
Recommended pumping rate	3 G.P.M.
with pumping level of	TOP

Well Log / **Water Record**

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
FINE SAND RED	0	20			
CLAY	20	30			
LIMESTONE	30	62	62	FLOWING	FRESH

For what purpose(s) is the water to be used? HOUSE

Is well on upland, in valley, or on hillside? ✓ (upland)

Drilling Firm W J KING

Address 48 KEMPSTER
BRITANNIA

Licence Number 70

Name of Driller SAME

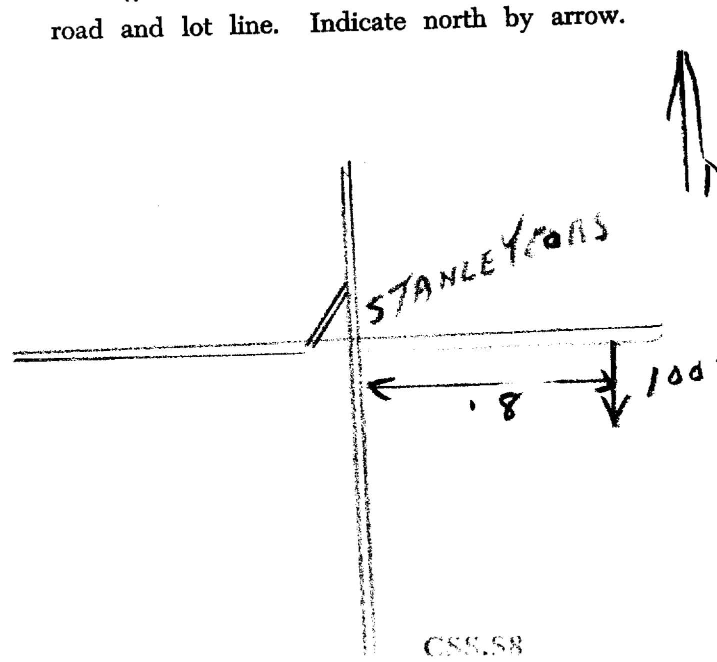
Address

Date MAY 27/59

W. J. King
(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.S8

Form 5
15M-58-4149

9 5?? 316/4e

UTM | 1 | 8 | Z | 4 | 2 | 9 | 4 | 1 | 0 | E
| 5 | R | 5 | 0 | 1 | 0 | 6 | 6 | 0 | N
Elev. | 4 | R | 0 | 3 | 3 | 0 |
Basin | 2 | 5 | | | |

ONTARIO

The Water-well Drillers Act, 1954

Department of Mines

15 № 2584

Water-Well Record

County or Territorial District *Carleton* Township, Village, Town or City *Goulbourn*

[redacted] Village, Town or City)

Address *Stittsville R.R. No 1*

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) *4"*
Length(s) *25'*
Type of screen
Length of screen

Pumping Test

Static level *20*
Pumping rate *375 G per hr.*
Pumping level *25 ft*
Duration of test *½ hr.*

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Soil	0	2			
Gravel	2	20			
Lime Stone	20	78	78	58	FRESh

For what purpose(s) is the water to be used? *Domestic*

Is water clear or cloudy? *Clear*

Is well on upland, in valley, or on hillside? *Hillside*

Drilling firm *Walter J. King*

Address

Name of Driller *Walter J. King*

Address *48 Kempster Ave. Britannia Heights P.O. Ottawa Ont*

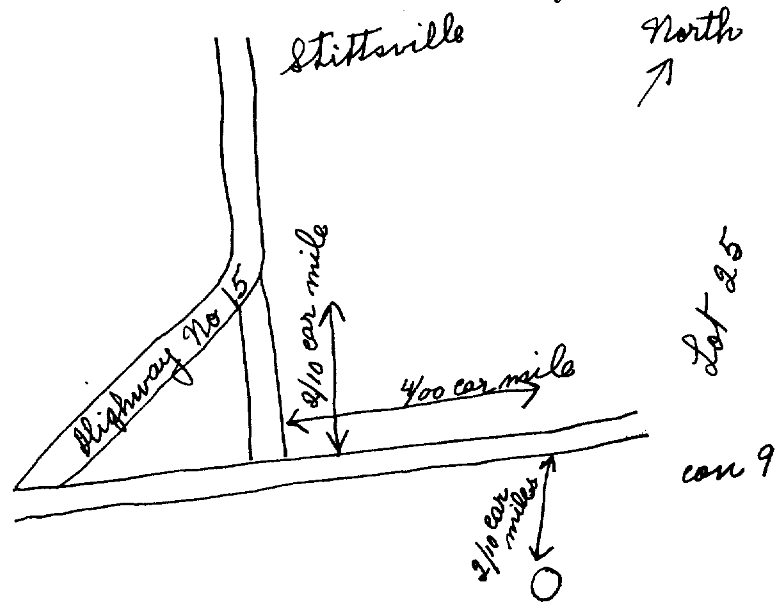
Licence Number *733*

I certify that the foregoing statements of fact are true.

Date *April 30/57* *Walter J. King*
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.85

Form 5

31G/4e

UTM | 1 | 8 | Z | 4 | 3 | 0 | 7 | 3 | 0 | E
| 5 | R | 5 | 0 | 1 | 0 | 8 | 3 | 0 | N

Elev. | 4 | R | 0 | 3 | 3 | 5 |

Basin | 2 | 5 | | | |

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

RECEIVED
15 - Nº 2585
GEOLOGICAL BRANCH
DEPARTMENT OF MINES

Water-Well Record

County or Territorial District Carleton Township, ~~Village, Town or City~~ Goulbourn

[redacted] Village, Town or City)

[redacted] ddress Stittsville Ont

Date completed [redacted] (day) [redacted] (month) [redacted] (year)

Pipe and Casing Record

Casing diameter(s) 4 inch
Length(s) 15 ft.
Type of screen No screen
Length of screen

Pumping Test

Static level 15 ft
Pumping rate 200 g.p.h.
Pumping level 20 ft.
Duration of test half hour

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) ~~at which water(s) found~~
gravel	0	15	Depth to water horizons
limestone rock	15	75	15 ft

Water Record

No. of feet water rises	Kind of water (fresh, salty, or sulphur)
60	fresh

For what purpose(s) is the water to be used?
1. Farm buildings
Is water clear or cloudy?
Is well on upland, in valley, or on hillside?

Drilling firm C. H. Sparks
Address Stittsville Ont.

Name of Driller C. H. Sparks
Address

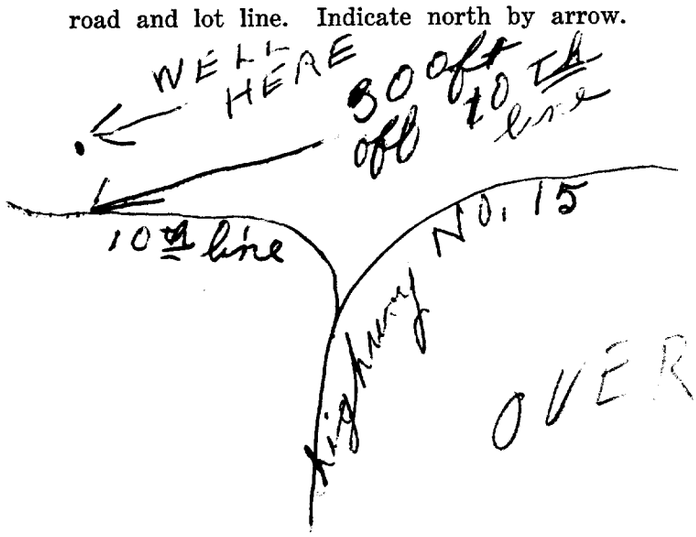
Licence Number 396

I certify that the foregoing statements of fact are true.

Date April 20 54 Clayton H. Sparks
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



OVER

Stittsville Ont.

Form 5

1 8 4 2 7 0 3 0

4 5 0 1 2 6 6 0

5 0 4 0 0

2 5

316/54

1510222

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Goulbourn

Con. 1K Lot 24 Date completed 4 (day) 9 month 69 year

[redacted] Address Stittsville Ont.

Casing and Screen Record

Inside diameter of casing 2"

Total length of casing 11'

Type of screen [illegible]

Length of screen [illegible]

Depth to top of screen [illegible]

Diameter of finished hole 4"

DIVISION OF WATER RESOURCES
OCT 30 1969
ONTARIO WATER RESOURCES COMMISSION

Pumping Test

Static level 15'

Test-pumping rate 5 G.P.M.

Pumping level 25'

Duration of test pumping 1/2 hrs.

Water clear or cloudy at end of test clear

Recommended pumping rate 5 G.P.M.

with pump setting of 30 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Sand gravel	0	8		
Shale rock	8	11		
Limestone	11	25	25-25	fresh

For what purpose(s) is the water to be used? Domestic

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm [illegible]

Address [illegible]

Licence Number [illegible]

Name of Driller or Borer [illegible]

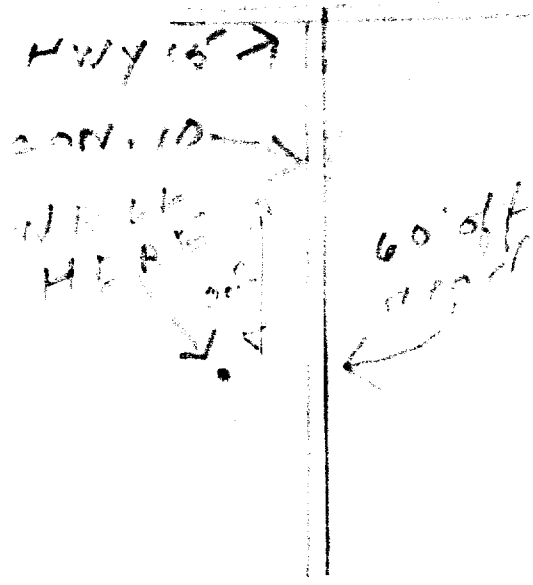
Address [illegible]

Date [illegible]

[illegible]
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7 5M 60-20912

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

3164e

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1510833 | MUNICIP. 15003 | CON. CON 09

COUNTY OR DISTRICT: Carl | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Goulburn | CON., BLOCK, TRACT, SURVEY, ETC.: 9 | LOT: 023

ADDRESS OF WELL LOCATION: [redacted] Woodroffe Ave Ottawa | DATE COMPLETED: DAY 09 MO 07 YR 70

UTM: 09 730 | RC: 4 | ELEVATION: 358 | RC: 4 | BASIN CODE: 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
brown	sand	gravel	packed	0	12
grey	limestone		soft	12	75

31 | 09136091 11 | 00752 15

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0073	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0019
05			19	75
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0075
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE: 0010 GPM. | DURATION OF PUMPING: 01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
010 FEET	025 FEET		015 FEET	020 FEET	025 FEET	025 FEET

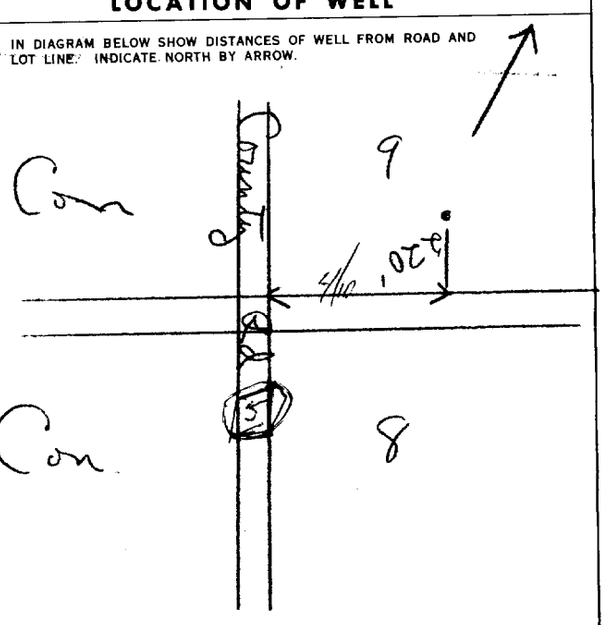
IF FLOWING, GIVE RATE: GPM. | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 060 FEET | RECOMMENDED PUMPING RATE: 0005 GPM.

50-53 0007 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL (54): 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE (55-56) 01: 1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING (57): 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd | LICENCE NUMBER: 1558

ADDRESS: 14 Ashford Dr Ottawa 6

NAME OF DRILLER OR BORER: E Maurice | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Walter Kavanagh | SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OWRC COPY

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 1558 | DATE RECEIVED 63-68: 280970

DATE OF INSPECTION | INSPECTOR: R/K

REMARKS:

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

31 9/4e

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1515196 | MUNICIP 15 0 03 | CON. CON | 08

COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. 8 | LOT 026

[redacted] x 455 Stittsville, Ontario | DATE COMPLETED DAY 07 MO. 01 YR. 76

RC. 4 | ELEVATION 334 | RC. 4 | BASIN CODE 26 | AUG 04, 1977 | 303

1515196 18 430888 5010845

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
				0	6
grey	clay			6	23
grey	hardpan	stones	packed	23	100
grey	limestone		medium	100	160
grey	limestone	streaks of red	soft		

31 | 32 | 0006|05 | 0023|21|4|279 | 0100|215 | 0160|215|85

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0135	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0156	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
6 6/8	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE	188	0	0025
5 15/16	4 ☒ OPEN HOLE		25	160
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0160
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE: 0030 GPM | DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
005 FEET	015 FEET		015 FEET	015 FEET	015 FEET	015 FEET

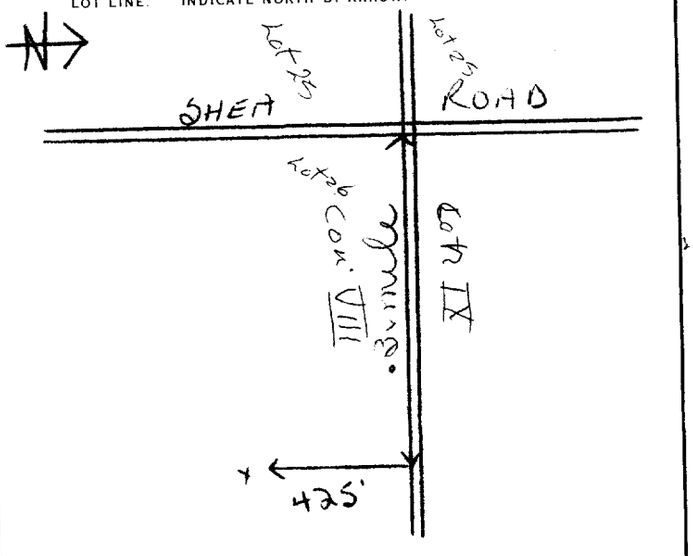
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 025 FEET | RECOMMENDED PUMPING RATE: 0005 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 3010

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 55-56: 01 — 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 57: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. | LICENCE NUMBER: 1558

ADDRESS: Box 490 Stittsville, Ontario

NAME OF DRILLER OR BORER: J. Moore | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE: DAY 8 MO. 1 YR. 76

OFFICE USE ONLY

DATA SOURCE 58 | CONTRACTOR 59-62: 1558 | DATE RECEIVED 63-68: 750376

DATE OF INSPECTION: July 13/76 | INSPECTOR: [signature]

REMARKS: | P | WI

MINISTRY OF THE ENVIRONMENT COPY

FORM

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

31 G/4E

Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1515292 | MUNICIP. 15003 | CON. CON 08

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT	DATE COMPLETED
Carleton	Goulbourn	[redacted] VIII X	023	DAY 23 MO. 05 YR. [redacted]
[redacted]	Stittsville Ont.			

RC.	ELEVATION	RC.	BASIN CODE			
09589	4	360	4	26	AUG 04, 1977	303

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Blue		& clay		0	30
Grey		Limestone		30	70

31 | 0003065 | 0007025

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
15-18	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
10-11	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			13-16
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			20-23
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 31-33	DIAMETER 34-38 INCHES	LENGTH 39-40 FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN 41-44 FEET	80

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33 80	

71 PUMPING TEST

PUMPING TEST METHOD 10: 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE 11-14: 0005 GPM

DURATION OF PUMPING 15-16 HOURS 01 17-18 MINS 30

STATIC LEVEL 19-21	WATER LEVEL END OF PUMPING 22-24	WATER LEVELS DURING 25: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES 26-28	30 MINUTES 29-31	45 MINUTES 32-34	60 MINUTES 35-37
003 FEET	[redacted] FEET		013 FEET	014 FEET	015 FEET	016 FEET

IF FLOWING, GIVE RATE 38-41 GPM

PUMP INTAKE SET AT FEET

WATER AT END OF TEST 42: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

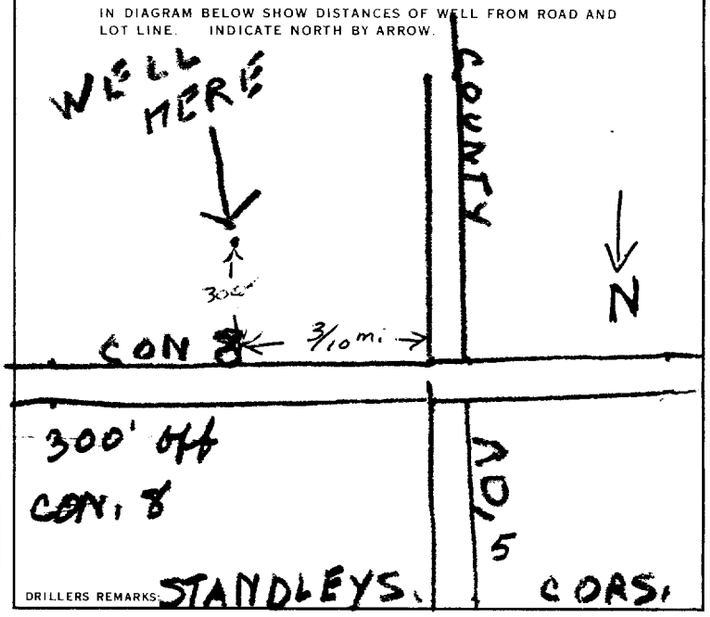
RECOMMENDED PUMP SETTING 43-45: 040 FEET

RECOMMENDED PUMPING RATE 46-49: 0005 GPM

50-53

LOCATION OF WELL 2909

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



FINAL STATUS OF WELL 54: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE 55-56: 02 — 1 ☐ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING 57: 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: E. H. Sparks — LICENCE NUMBER: 4847

ADDRESS: Stittsville Ont.

NAME OF DRILLER OR BORER: Same — LICENCE NUMBER: 4847

SIGNATURE OF CONTRACTOR: E. H. Sparks — SUBMISSION DATE: DAY 22 MO. 5 YR. 75

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 4847 — DATE RECEIVED 63-68: 050476 — 80

DATE OF INSPECTION: May 20, 1976 — INSPECTOR: AE Pentney

REMARKS:

CSS.SB

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

31G4E

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1518820 | MUNICIP. 15003 | CON. C.N | LOT 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT 25-27
Ottawa-Carleton	Goulbourn	Conc. 9	25

OWNER (SURNAME FIRST) 28-47 [redacted]

ADDRESS: c/o H. Steenbakkers, R.R.# 1; Stittsville, Ontario K0A 3G0

DATE COMPLETED 48-53: DAY 27 MO 02 YR 84

21 | UTM ZONE | EASTING | NORTHING | RC | ELEVATION | SOURCE CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Clay	Hardpan	Packed	0	3
Gray	Limestone		Broken layers	3	8
Gray	Limestone		Medium Hard	8	70

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
65'	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☒ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	188	0	19
6	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		19	70
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER (INCHES)	LENGTH (FEET)
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN (FEET)	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	12 GPM	1 HOURS

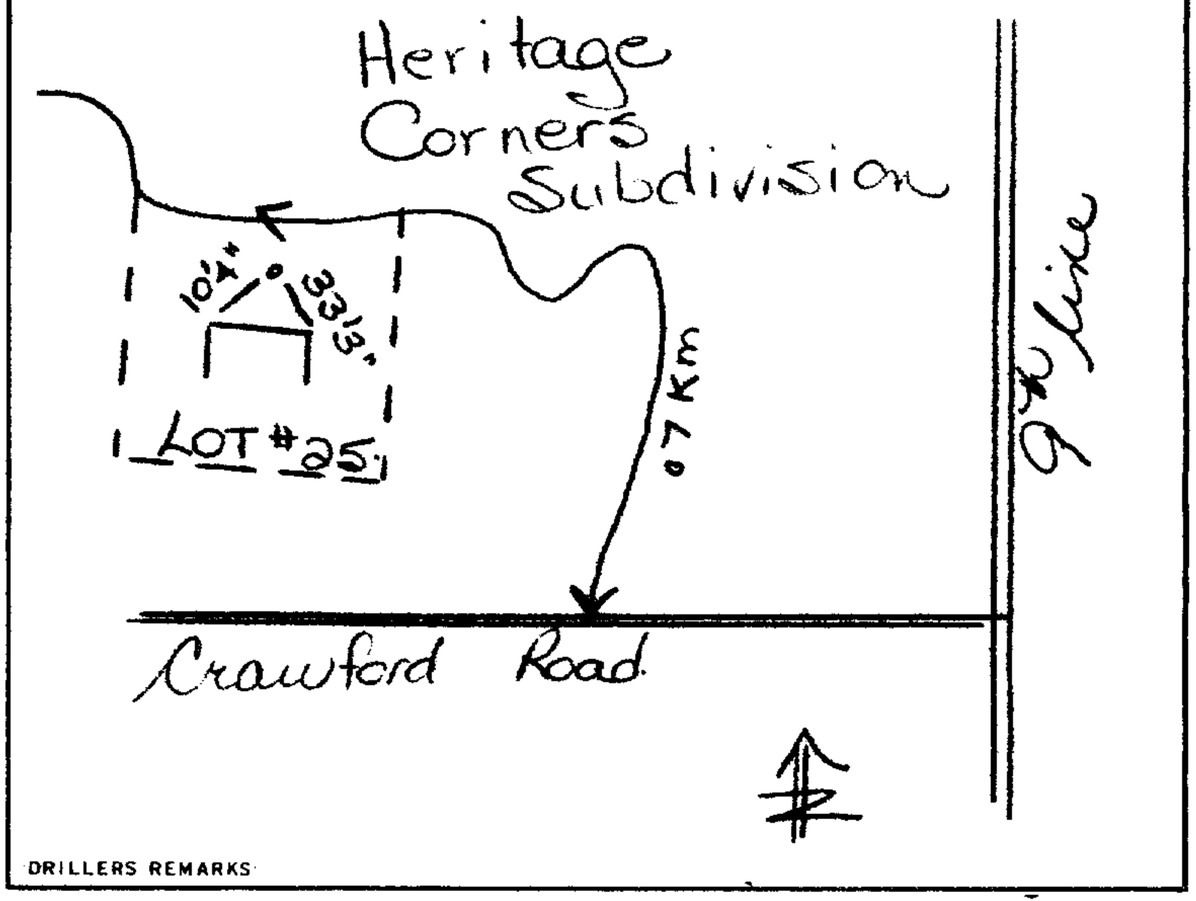
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
15 FEET	50 FEET		50 FEET	50 FEET	50 FEET	50 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	50 FEET	5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED POOR QUALITY; 7 ☐ UNFINISHED

WATER USE

1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING

1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Capital Water Supply Ltd.	1558
ADDRESS: Box 490; Stittsville, Ont. K0A 3G0	
NAME OF DRILLER OR BORER: B Moore	LICENCE NUMBER
SIGNATURE OF CONTRACTOR: W Kavanagh	SUBMISSION DATE: DAY 02 MO. 03 YR. 84

MINISTRY OF THE ENVIRONMENT COPY

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
	1558	120384
DATE OF INSPECTION	INSPECTOR	
REMARKS		

WDE

FORM NO. 0506—4—77 FORM 7

31G4e

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 1519301 1503 CON Heritage Corners 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT	DATE COMPLETED
[redacted]	Gloucester	Con 9	24	DAY 12 MO 10 YR 84

[redacted] 36, RR#1, Stittsville

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
grey	clay	stones		0	6
grey	limestone			6	105

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
50	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
100	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	22
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		22	105
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10	22	cement grouted

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	12 GPM	1 HOURS 0 MINS

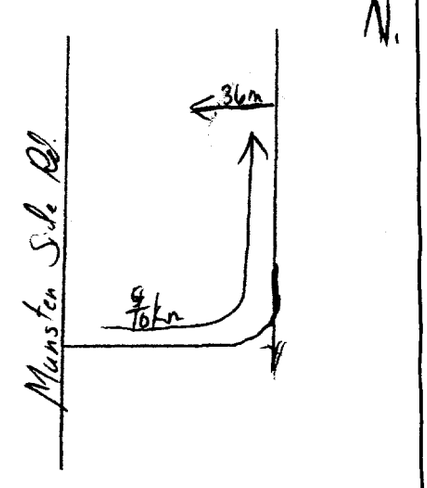
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
10 FEET	60 FEET		60 FEET	60 FEET	60 FEET	60 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	60 FEET	12 GPM

4908 LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE

1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Henry Maire Well Drilling — LICENCE NUMBER: 3644

ADDRESS: Box 326, Richmond Ont.

NAME OF DRILLER OR BORER: Henry Maire — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Henry Maire — SUBMISSION DATE: DAY 13 MO. 10 YR. 84

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 3644 — DATE RECEIVED: 25 10 84

DATE OF INSPECTION — INSPECTOR

REMARKS

WDE

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1522585 — MUNICIP 1,5,0,9,3 — CON.

COUNTY OR DISTRICT: Ottawa Carleton
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Goulbourn
CON., BLOCK, TRACT, SURVEY, ETC.: 9
LOT: 24
[redacted] 0 Fernbank Rd. Box 41 Stittsville KOA 3G0
DATE COMPLETED: DAY 05 MO 07 YR. 88
RC — ELEVATION — RC — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand			0	3
Gray	Sandy clay	Boulders		3	11
Gray	Limestone	Dark Layers		11	125

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
90	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
118	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	21
6 1/8	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		21	125
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

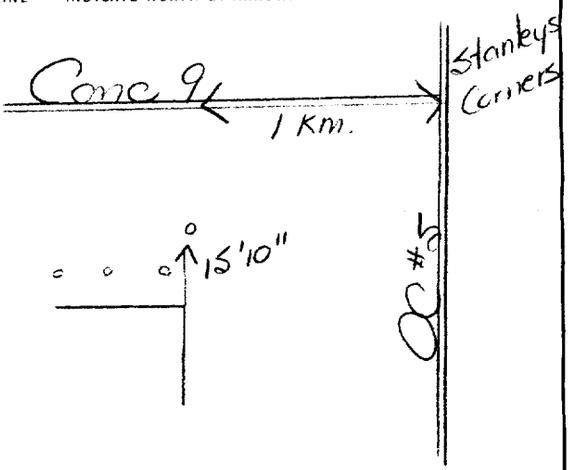
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 6 GPM
DURATION OF PUMPING: 1 HOURS ____ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☒ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
10 FEET	75 FEET		75 FEET	75 FEET	75 FEET	75 FEET

IF FLOWING, GIVE RATE: ____ GPM
PUMP INTAKE SET AT: 75 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 100 FEET
RECOMMENDED PUMPING RATE: 5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



38203

DRILLERS REMARKS

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE
1 ☐ DOMESTIC 2 ☒ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF CONSTRUCTION
1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: Box 490 Stittsville, Ontario K0A 3G0
NAME OF WELL TECHNICIAN: S. Miller
WELL TECHNICIAN'S LICENCE NUMBER:
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 05 MO. 07 YR. 88

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1558 | DATE RECEIVED SEP 01 1988
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1525795 — MUNICIP 15003 — CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Goulbourn	9	26

DATE COMPLETED: DAY 30 MO 09 YR 91

[redacted] #1 Stittsville, Ontario K2S 1B6

21 — RC — ELEVATION — RC — BASIN CODE — II — III — IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Clay	Boulders	Packed	0	8
Gray	Hardpan	Boulders	Hard	8	23
Gray	Limestone		Medium Hard	23	80
Gray	Limestone	Black Layers	Medium Hard	80	135

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
73	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
128	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	24
6 1/8	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		24	135
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
Grouted		Cement (3)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE: 10 GPM

DURATION OF PUMPING: 1 HOURS ___ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
20 FEET	80 FEET	50 FEET	70 FEET	80 FEET	80 FEET

IF FLOWING, GIVE RATE: ___ GPM

PUMP INTAKE SET AT: ___ FEET

WATER AT END OF TEST: 1 ☐ CLEAR 2 ☒ CLOUDY

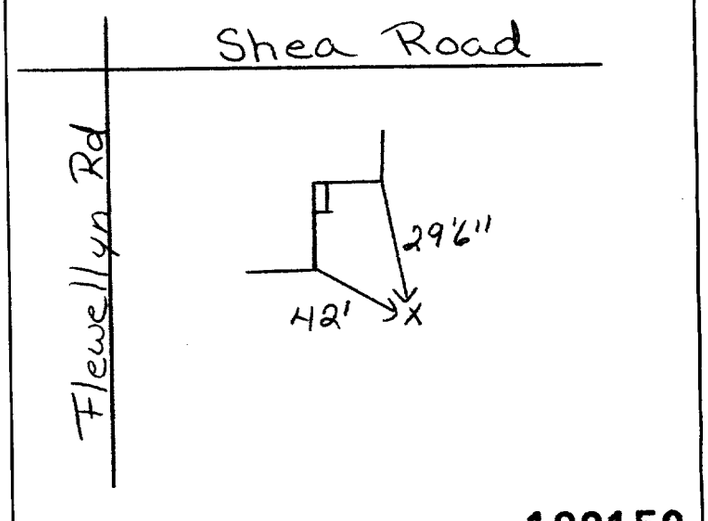
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

RECOMMENDED PUMP SETTING: 100 FEET

RECOMMENDED PUMPING RATE: 5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 100159

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE

1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☒ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 30 MO 9 YR 91

OFFICE USE ONLY

DATA SOURCE
CONTRACTOR: 1558
DATE RECEIVED: NOV 19 1991
DATE OF INSPECTION
INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1527413

1. PRINT ONLY IN SPACES PROVIDED
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11

MUNICIP 15003 CON. CON 09

COUNTY OR DISTRICT [redacted] | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Uxbridge | CON. BLOCK, TRACT, SURVEY, ETC Con 9 | LOT 25

[redacted] Lorwood Blvd Scarborough

DATE COMPLETED DAY 23 MO 8 YR 93

ELEVATION MNRM 2715

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
grey	sand loam			0	13
grey	limestone		shaley	13	143

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
138	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS — Not tested
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
6¼	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	22
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22	
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
0	22	cement grouted

PUMPING TEST

METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ AIR 2 ☐ BAILER	20 GPM	1 HOURS 0 MINS

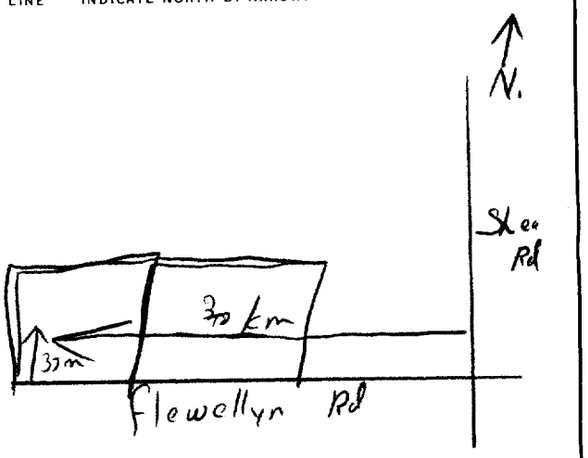
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☑ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
7 FEET	60 FEET		7 FEET	7 FEET	7 FEET	7 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☑ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☑ DEEP	60 FEET	10 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS Test Well No 3

76769

FINAL STATUS OF WELL
1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☑ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

WATER USE
1 ☑ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF CONSTRUCTION
1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☑ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR W. Mains Well Drilling | WELL CONTRACTOR'S LICENCE NUMBER 3644

ADDRESS Box 326, Richmond Ont

NAME OF WELL TECHNICIAN [redacted] | WELL TECHNICIAN'S LICENCE NUMBER [redacted]

SIGNATURE OF TECHNICIAN/CONTRACTOR [redacted] | SUBMISSION DATE DAY 23 MO 8 YR 93

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3644 | DATE RECEIVED SEP 10 1993

DATE OF INSPECTION | INSPECTOR

REMARKS

FORM NO. 0506 (11/86) FORM 9

MINISTRY OF THE ENVIRONMENT COPY

0000 0000 0429

ROLL #309 - SEP 30/93

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1527414

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

COUNTY OR DISTRICT: Carleton
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Goulbourn
CON: Con 9
LOT: 25
OWNER: [redacted]
ADDRESS: 54 Forward Scarborough M1M 2M5
DATE COMPLETED: DAY 19 MO 8 YR 93

21

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH FEET FROM	DEPTH FEET TO
grey	sandy loam	stone		0	19
grey	limestone		shaley	19	203

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER	
198	1 ☑ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERAL 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH FEET FROM	DEPTH FEET TO
6¼	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	188	0	25
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		25	203
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER (INCHES) | LENGTH (FEET)

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN (FEET)

61 PLUGGING & SEALING RECORD

DEPTH SET AT FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, CLAY PACKER, ETC.)
0	25	cement grouted

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☑ PUMP 2 ☐ BAILER
PUMPING RATE: 5 GPM
DURATION OF PUMPING: 1 HOURS 0 MINUTES

STATIC LEVEL	WATER LEVEL END OF PUMPING
FEET	180 FEET

WATER LEVELS DURING: 1 ☐ PUMPING 2 ☑ RECOVERY

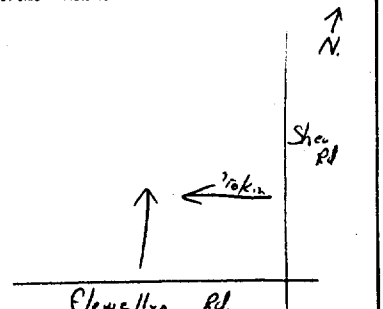
10 MINUTES	20 MINUTES	30 MINUTES	40 MINUTES
118 FEET	67 FEET	24 FEET	FEET

IF FLOWING GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☑ CLOUDY

RECOMMENDED PUMP TYPE: 1 ☐ SHALLOW 2 ☑ DEEP
RECOMMENDED PUMP SETTING: 180 FEET
RECOMMENDED PUMPING RATE: 5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL
1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☑ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 8 ☐ DEWATERING

WATER USE
1 ☑ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED 10 ☐ OTHER

METHOD OF CONSTRUCTION
1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ BOREDAY (AUG) 5 ☑ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING 10 ☐ DIGGING 11 ☐ OTHER

CONTRACTOR

WELL CONTRACTOR'S LICENCE NUMBER: 3644
NAME OF WELL CONTRACTOR: Ed Mains Well Drilling
ADDRESS: Box 326 Richmond Ont.
NAME OF WELL TECHNICIAN:
WELL TECHNICIAN'S LICENCE NUMBER: 7-0006
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 19 MO 8 YR 93

OFFICE USE ONLY

DATA SOURCE
CONTRACTOR NO. 3644
DATE RECEIVED: SEP 10 1993
DATE OF INSPECTION
INSPECTION
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/88) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1527414 — MUNICIP 15003 — CON. KON. 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT 25-27
[redacted]	Gilmour	Con 9	25

[redacted] Parkwood Scarborough M1M 2M5

DATE COMPLETED 48-53: DAY 19 MO 8 YR 93

NG — RC — ELEVATION — RC — BASIN CODE — II — III — IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
grey	sandy loam	stone		0	19
grey	limestone		shaley	19	203

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
198	1 ☐ FRESH 2 ☐ SALTY — Not tested — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	25
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		25	203
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
0	25	cement grouted

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	5 GPM	1 HOURS 0 MINS

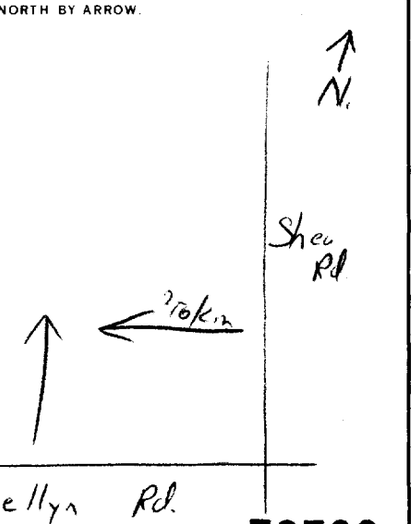
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
FEET	180 FEET		118 FEET	67 FEET	24 FEET	FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	180 FEET	5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



Test Well No 1
DRILLERS REMARKS

76768

FINAL STATUS OF WELL

1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☒ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

WATER USE

1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: A. Mains Well Drilling — WELL CONTRACTOR'S LICENCE NUMBER: 3644

ADDRESS: Box 326 Richmond Ont.

NAME OF WELL TECHNICIAN: [redacted] — WELL TECHNICIAN'S LICENCE NUMBER: T-0064

SIGNATURE OF TECHNICIAN/CONTRACTOR: [redacted] — SUBMISSION DATE: DAY 19 MO 8 YR 93

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 3644 — DATE RECEIVED: SEP 10 1993

DATE OF INSPECTION — INSPECTOR

REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1527415 — MUNICIP 15093 — CON. CON 09

COUNTY OR DISTRICT: Carleton
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Gloucester
CON., BLOCK, TRACT, SURVEY, ETC: Con 9
LOT: 25
[redacted]wood Blvd. Scarborough M1M 2M5
DATE COMPLETED: DAY 23 MO 8 YR 93
RC: ELEVATION: RC: BASIN CODE:

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
grey	sandy loam			0	13
grey	limestone		shaley	13	163

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
158	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS — Not tested
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	22
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		22	
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
0	22	cement grouted

71 PUMPING TEST

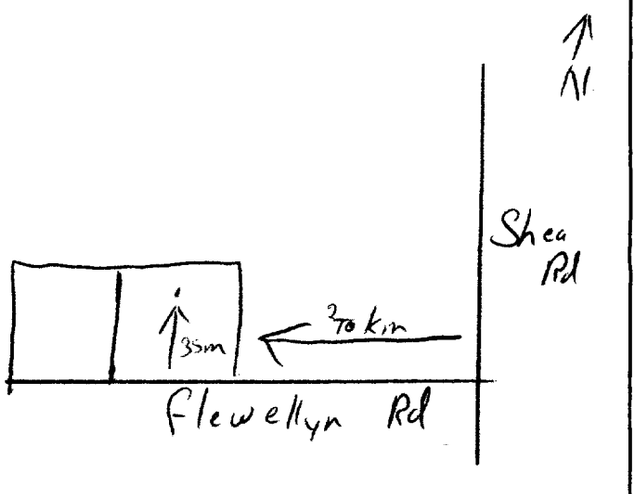
PUMPING TEST METHOD: 1 ☐ PUMP (Air) 2 ☐ BAILER
PUMPING RATE: 14 GPM
DURATION OF PUMPING: 1 HOURS 0 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☑ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
7 FEET	60 FEET		9 FEET	7 FEET	7 FEET	7 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☑ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP
RECOMMENDED PUMP SETTING: 60 FEET
RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



76770

DRILLERS REMARKS: Test Well No 2

FINAL STATUS OF WELL

1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☑ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

WATER USE

1 ☑ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☑ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Ed. Mans Well Drilling
WELL CONTRACTOR'S LICENCE NUMBER: 3644
ADDRESS: Box 326, Richmond Ont
NAME OF WELL TECHNICIAN:
WELL TECHNICIAN'S LICENCE NUMBER: 7-0064
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 23 MO. 8 YR. 93

OFFICE USE ONLY

DATA SOURCE: CONTRACTOR 3644
DATE RECEIVED: SEP 10 1993
DATE OF INSPECTION:
INSPECTOR:
REMARKS:

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

.0000 0000 0430

ROLL #309 - SEP 30/93

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1527415 | Municipality 15003 | Con. CON 09

County or District	Township, Borough, City, Town, Village	Con., Block, Tract, Survey, etc.	Lot
Carleton	Goulbourn	Con 9	25

Owner: [redacted]
Address: 54 Forward Blvd. Scarborough M1M 2M5
Date completed: Day 23 Mo 8 Yr 93

21 Zone | Easting | Northing | RC | Elevation | RC | Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

General Colour	Most Common Material	Other Materials	General Description	Depth – Feet From	To
grey	sandy loam			0	13
grey	limestone		shaley	13	163

31

32

41 WATER RECORD

Water found at – feet	Kind of water
158	Not tested

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – Feet From	To
6¼	Steel	.188	0	22
6	Open hole		22	

SCREEN

Size (s) of opening (slot no.) | Diameter | Length | Material and type | Depth to top of screen

61 PLUGGING & SEALING RECORD

Depth set at – feet From	To	Material and type (Cement grout, lead packer, etc.)
0	22	cement grouted

71 PUMPING TEST

Pumping test method: Air | Pumping rate: 14 GPM | Duration of pumping: 1 hours 0 mins

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
7 feet	60 feet	9 feet	7 feet	7 feet	7 feet

Water levels during: ☐ Pumping ☒ Recovery
If flowing give rate: — GPM | Pump intake set at: — feet | Water at end of test: ☐ Clear ☒ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep | Recommended pump setting: 60 feet | Recommended pumping rate: 10 GPM

FINAL STATUS OF WELL

☐ Water supply ☐ Observation well ☒ Test hole ☐ Recharge well ☐ Abandoned, insufficient supply ☐ Abandoned, poor quality ☐ Unfinished ☐ Dewatering

WATER USE

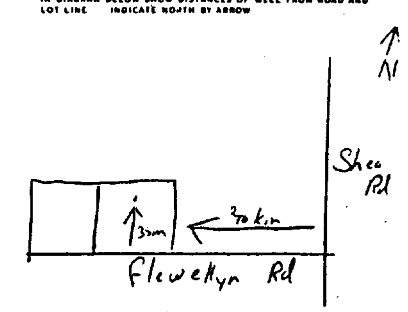
☒ Domestic ☐ Stock ☐ Irrigation ☐ Industrial ☐ Other ☐ Commercial ☐ Municipal ☐ Public supply ☐ Cooling or air conditioning ☐ Not used

METHOD OF CONSTRUCTION

☐ Cable tool ☐ Rotary (conventional) ☐ Rotary (reverse) ☐ Rotary (air) ☒ Air percussion ☐ Boring ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Other

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



76770

Drillers remarks: Test Well No. 2

CONTRACTOR

Name of well contractor: W. Mains Well Drilling | Well contractor's licence number: 3644
Address: Box 326 Richmond Ont
Name of well technician: [signature] | Well technician's licence number: T-0064
Signature of technician/contractor: [signature] | Submission date: Day 23 Mo 8 Yr 93

OFFICE USE ONLY

Data source | Contractor: 3644 | Date received: SEP 10 1993
Date of inspection | Inspector
Remarks

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1527697 | MUNICIP. 15003 | CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	Goulbourn	9	24

DATE COMPLETED: DAY 17 MO 3 YR 94

[redacted] Matheson Blvd. East Mississauga Ontario

M17

RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand & Gravel			0	21
Gray	Limestone	Black LAyers	Medium	21	64

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
33	2 SALTY
57	2 SALTY
	1 FRESH
	1 FRESH
	1 FRESH

NOT TESTED

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 STEEL	.188	0	21
6	4 OPEN HOLE		21	64

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
20	0	Grouted Cement (

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
2 ☒ BAILER	20 GPM	2 HOURS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
6 FEET	18 FEET	1 ☒ PUMPING	18 FEET	18 FEET	18 FEET	18 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☒ DEEP	50 FEET	5 GPM

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☒ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE

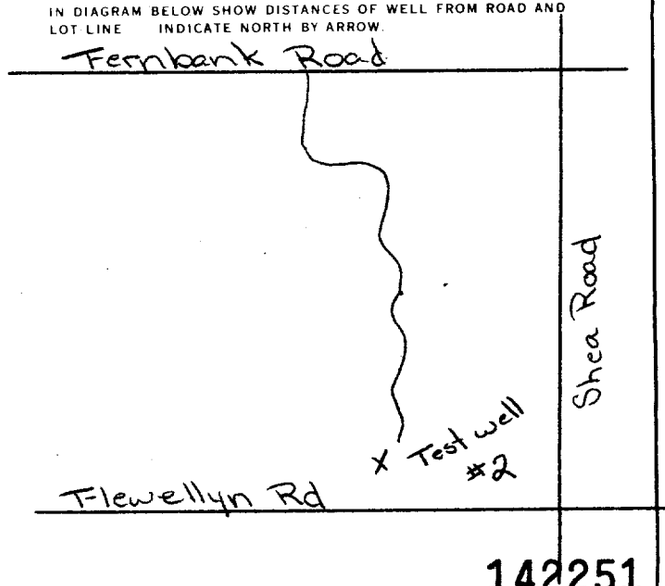
1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL 21-64; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☒ AIR PERCUSSION 0-21; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 142251

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supplu Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: S. Miller, J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0097/T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 24 MO 3 YR 94

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1558 | DATE RECEIVED APR 13 1994
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1527698 — MUNICIP. 15003 — CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	lbourn	9	24

DATE COMPLETED: DAY 02 MO 02 YR 94

[redacted] Matheson Blvd. East Mississauga, Ontario

4M7

RC. — ELEVATION — RC. — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sandy Clay			0	5
Gray	Sand	Gravel & Large Boulders		5	15
Gray	Limestone	Dark Layers	Medium	15	63

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
31	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
57-58 NOT TESTED	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	22.5
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22.5	63
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER (INCHES)	LENGTH (FEET)

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN (FEET)

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
21	0	Grouted Cement (10)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	20 GPM	1 HOURS ___ MINS

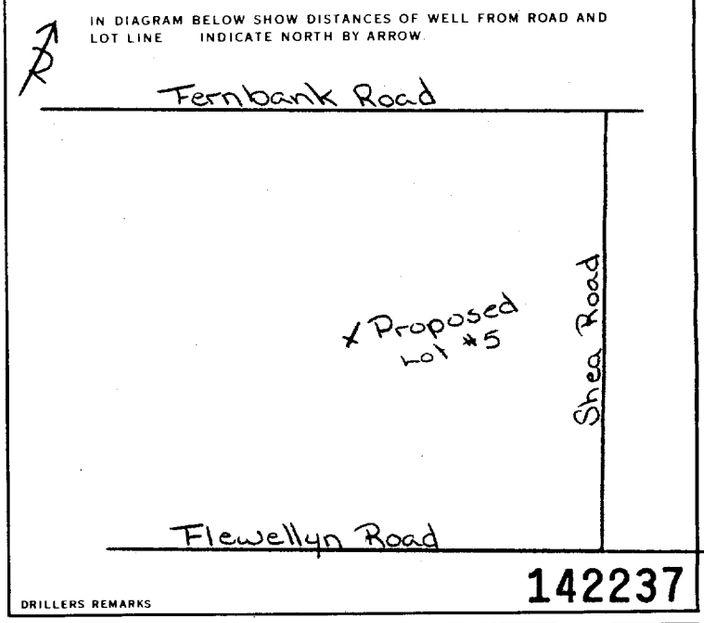
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
2 FEET	20 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	20 FEET	20 FEET	20 FEET	20 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	45 FEET	5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 142237

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

WATER USE

1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL 22.5-63 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 0-22.5 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: P.O. Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: S. Miller/ J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0097/T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature]
SUBMISSION DATE: DAY 14 MO 2 YR 94

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 1558 — DATE RECEIVED: APR 13 1994
DATE OF INSPECTION — INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1527911 | MUNICIP. 15003 | CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	Goulbourn	9	24

DATE COMPLETED: DAY 26 MO 3 YR 94

ADDRESS OF WELL: Matheson Bld. east Mississauga, Ontario

UTM | RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand	Silt and Stones	Wet	0	8
Gray	Sand	Silt and Boulders	Wet	8	17
Gray	Hardpan	Boulders	Packed	17	20
Gray	Limestone	Black Layers	Medium HArd	20	113

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
78	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
96	NOT TESTED

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	24
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		24	113
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
23	0	Grouted Cement (7)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	1 GPM	HOURS MINS

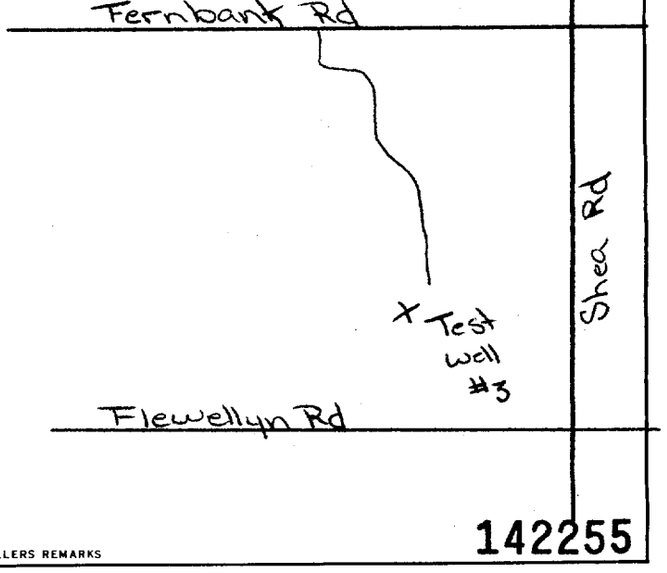
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
3 FEET	FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☐ DEEP	FEET	GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 142255

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☒ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☒ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE

1 ☐ DOMESTIC; 2 ☒ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: P.O. Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 31 MO 3 YR 94

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR: 1558 | DATE RECEIVED: MAY 24 1994
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 | 1528069 | MUNICIP 15003 | CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Goulbourn	9	24

[redacted] Matheson Blvd.east Mississauga,Ontario

DATE COMPLETED: DAY 30 MO 6 YR 94

RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sandy Loom			0	5
Brown	Sand			5	12
Gray	Sand & Gravel & Boulders			12	17
Gray	Limestone			17	90

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☐ STEEL 2 ☒ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	22
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22	90
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
21	0	Grouted Cement (15)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER | PUMPING RATE GPM | DURATION OF PUMPING HOURS MINS

STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING 1 ☐ PUMPING 2 ☐ RECOVERY: 15 MINUTES FEET, 30 MINUTES FEET, 45 MINUTES FEET, 60 MINUTES FEET

IF FLOWING, GIVE RATE GPM | PUMP INTAKE SET AT FEET | WATER AT END OF TEST 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING FEET | RECOMMENDED PUMPING RATE GPM

FINAL STATUS OF WELL

1 ☐ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☒ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED
☐ DEWATERING

WATER USE

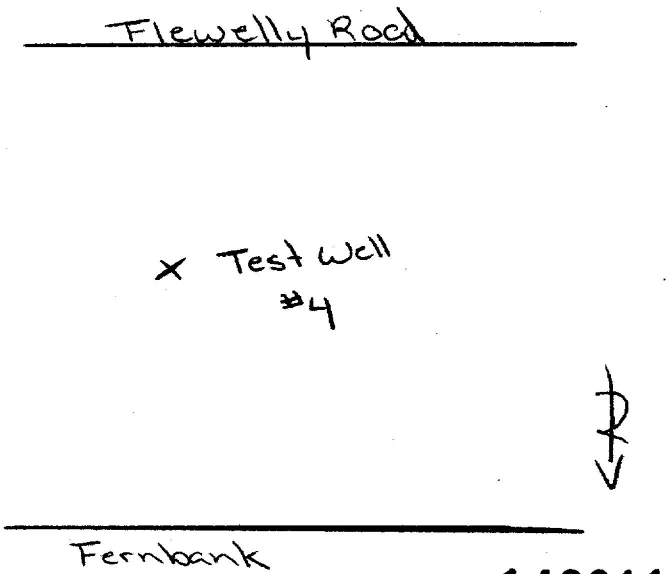
1 ☒ DOMESTIC
2 ☐ STOCK
3 ☐ IRRIGATION
4 ☐ INDUSTRIAL
☐ OTHER
5 ☐ COMMERCIAL
6 ☐ MUNICIPAL
7 ☐ PUBLIC SUPPLY
8 ☐ COOLING OR AIR CONDITIONING
9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL 20-90
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☐ ROTARY (AIR)
5 ☒ AIR PERCUSSION 0-20
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING
☐ DIGGING
☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW



DRILLERS REMARKS

142311

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. | WELL CONTRACTOR'S LICENCE NUMBER: 1558

ADDRESS: Box 490 Stittsville, Ontario K2S 1A6

NAME OF WELL TECHNICIAN: S.Miller/ J. Moore | WELL TECHNICIAN'S LICENCE NUMBER: T0097/T0096

SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature] | SUBMISSION DATE: DAY 7 MO 7 YR. 94

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1558 | DATE RECEIVED AUG 24 1994
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1528202 — MUNICIP. 1,5,0,3 — CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	Goulbourn	9	24

[redacted] #4 Pakenham, Ontario K0A 2X0

DATE COMPLETED: DAY 13 MO 9 YR 94

ING | RC | ELEVATION | RC | BASIN CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sandy Clay		Wet	0	6
Gray	Sandy Clay	Gravel	Wet	6	16
Gray	Limestone			16	85

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
48	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☐ STEEL 2 ☒ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	22
5 7/8	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22	85
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
20'6"	0	Grouted Cement (6)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	3 GPM	1 HOURS ____ MINS

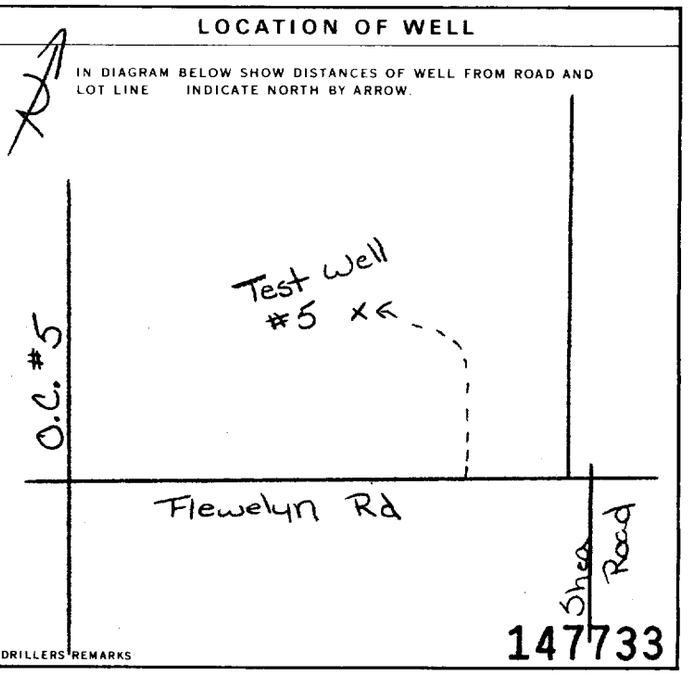
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
2 FEET	67 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	67 FEET	67 FEET	67 FEET	67 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	75 FEET	3 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 147733

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE

1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL 20.5-85; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☒ AIR PERCUSSION 0-20.5; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: P.O. Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: S.Miller/J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0097/T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature]
SUBMISSION DATE: DAY 15 MO 10 YR 94

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1558 | DATE RECEIVED OCT 07 1994
DATE OF INSPECTION | INSPECTOR
REMARKS

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FORM NO. 0506 (11/86) FORM 9

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529417 — Municipality 15003 — Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions Inc.		850-36 Antares Dr. Nepean, Ontario K2E 7W5	24 day 5 month 97 year

21 — UTM Zone — Easting — Northing — RC — Elevation — RC — Basin Code — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand		Fill	0	2
Brown	Sand	Gravel	Packed	2	5
Gray	Limestone		Broken	5	8
Gray	Limestone		Hard	8	129

31

32

41 WATER RECORD

Water found at – feet	Kind of water
26	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
92	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
125	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	129
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type	Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	1	Grouted Cement 1 bag
		HolePlug 1 bag

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☒ Bailer — Pumping rate: 5 GPM — Duration of pumping: 1 Hours ..... Mins

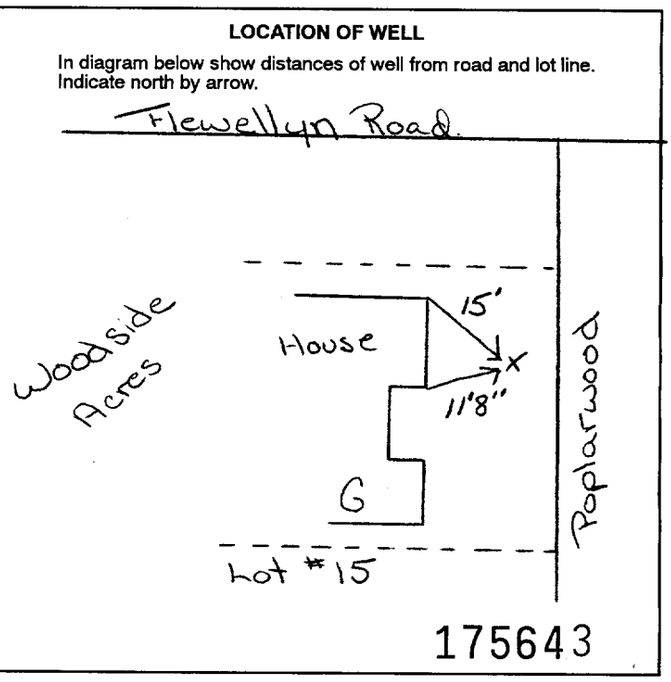
Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
10 feet	70 feet	37 feet	60 feet	20 feet	70 feet

If flowing give rate	Pump intake set at	Water at end of test	
GPM	feet	☐ Clear	☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	120 feet	4 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



175643

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☒ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
W. Kavanagh	T0095

Signature of Technician/Contractor: [signature] — Submission date: day 26 mo 5 yr 97

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JUN 27 1997

Date of inspection: — Inspector: — Remarks:

2 - MINISTRY OF ENVIRONMENT & ENERGY COPY

0506 (07/94) Front Form 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1529428

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11

MUNICIP 15003 CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
OTTAWA-CARLETON	TWP. OF GOULBOURN	CONCESSION 9	24

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
TECHNICAL DIMENSIONS INC.	850-36 Antares, Nepean, Ont. K2E 7W5	DAY 30 MO 10 YR 96

21 ZONE EASTING NORTHING RC ELEVATION RC BASIN CODE SUBDIVISION SUBLOT #3

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	SAND	SANDY CLAY FILL		0	5
GREY	SAND	BOULDERS		5	12
GREY	TILL	BOULDERS		12	20
GREY	LIMESTONE	SHALE		20	73

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
40	2 SALTY — NOT TESTED
60	2 SALTY — NOT TESTED.

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼"	1 STEEL	.188	+1'6"	20
5 1/16	4 OPEN HOLE		20	73

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
4	30	Grout

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	5 GPM	1 HOURS 30 MINS

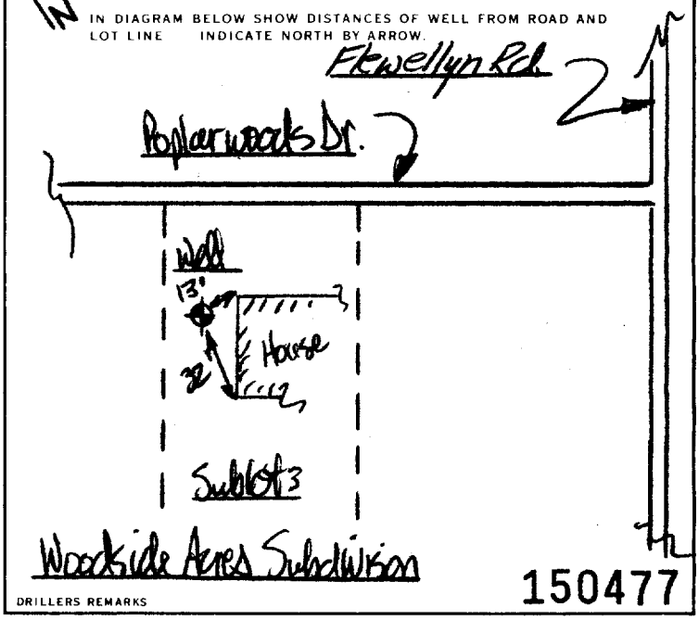
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
5 FEET	21 FEET		18 FEET	20 FEET	21 FEET	21 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
— GPM	60 FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	60 FEET	to 5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS 150477

FINAL STATUS OF WELL	WATER USE	METHOD OF CONSTRUCTION
1 ☒ WATER SUPPLY	1 ☒ DOMESTIC	1 ☒ CABLE TOOL
2 ☐ OBSERVATION WELL	2 ☐ STOCK	2 ☐ ROTARY (CONVENTIONAL)
3 ☐ TEST HOLE	3 ☐ IRRIGATION	3 ☐ ROTARY (REVERSE)
4 ☐ RECHARGE WELL	4 ☐ INDUSTRIAL	4 ☐ ROTARY (AIR)
5 ☐ ABANDONED, INSUFFICIENT SUPPLY	5 ☐ COMMERCIAL	5 ☐ AIR PERCUSSION
6 ☐ ABANDONED, POOR QUALITY	6 ☐ MUNICIPAL	6 ☐ BORING
7 ☐ UNFINISHED	7 ☐ PUBLIC SUPPLY	7 ☐ DIAMOND
☐ DEWATERING	8 ☐ COOLING OR AIR CONDITIONING	8 ☐ JETTING
	9 ☐ NOT USED	9 ☐ DRIVING
	☐ OTHER	☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
STANTON DRILLING INC	4875

ADDRESS	
BOX 29, Pakenham, Ont. K0A 2X0	

NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER
Peter Stanton	7666

SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE
Peter Stanton	DAY 31 MO 10 YR 96

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
	4875	JUN 24 1997

DATE OF INSPECTION — INSPECTOR

REMARKS

CSS. S

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 — 1529429 — MUNICIP. 15003 — CON. CON — 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON, BLOCK, TRACT, SURVEY, ETC.	LOT
OTTAWA-CARLETON	TWP. OF GOULBOURN	CONCESSION 9	24

OWNER (SURNAME FIRST): TECHNICAL DIMENSIONS INC.
ADDRESS: 850-36 Antares, Nepean, Ont. K2E 7W5
DATE COMPLETED: DAY 25 MO 10 YR 96

21 — UTM: ZONE — EASTING — NORTHING — RC — ELEVATION — SUBDIVISION: SUBLOT #8

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	SAND			0	7
GREY	SAND	BOULDERS		7	14
GREY	TILL	BOULDERS		14	21
GREY	LIMESTONE	SHALE	BROKEN (23')	21	71

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
53	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS — NOT TESTED
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	+3	31
5⅞	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		31	71
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE: — DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)
4	31	Grout

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	5 GPM	2 HOURS 0 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
+2 FEET	14 FEET		12 FEET	13 FEET	14 FEET	14 FEET

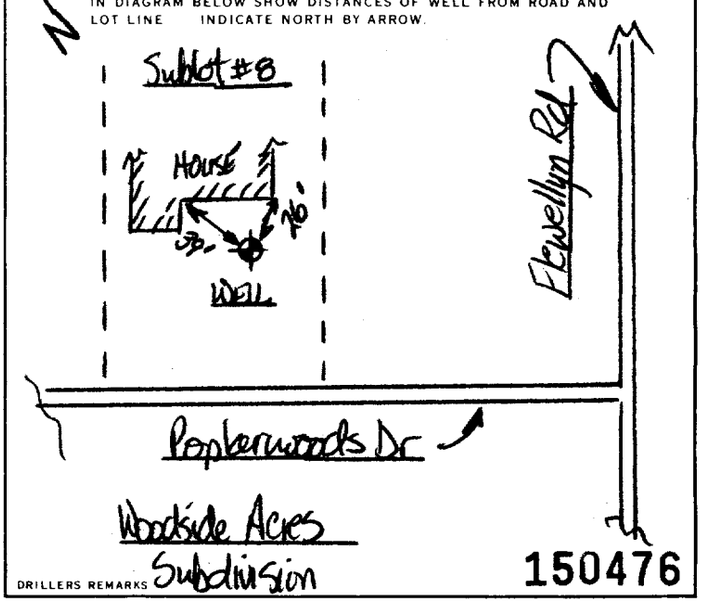
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	60 FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	60 FEET	5 GPM

FINAL STATUS OF WELL	WATER USE	METHOD OF CONSTRUCTION
1 ☒ WATER SUPPLY	1 ☒ DOMESTIC	1 ☒ CABLE TOOL
2 ☐ OBSERVATION WELL	2 ☐ STOCK	2 ☐ ROTARY (CONVENTIONAL)
3 ☐ TEST HOLE	3 ☐ IRRIGATION	3 ☐ ROTARY (REVERSE)
4 ☐ RECHARGE WELL	4 ☐ INDUSTRIAL	4 ☐ ROTARY (AIR)
5 ☐ ABANDONED, INSUFFICIENT SUPPLY	5 ☐ COMMERCIAL	5 ☐ AIR PERCUSSION
6 ☐ ABANDONED, POOR QUALITY	6 ☐ MUNICIPAL	6 ☐ BORING
7 ☐ UNFINISHED	7 ☐ PUBLIC SUPPLY	7 ☐ DIAMOND
☐ DEWATERING	8 ☐ COOLING OR AIR CONDITIONING	8 ☐ JETTING
	9 ☐ NOT USED	9 ☐ DRIVING
	☐ OTHER	☐ DIGGING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 150476

CONTRACTOR

NAME OF WELL CONTRACTOR: STANTON DRILLING INC — WELL CONTRACTOR'S LICENCE NUMBER: 4875
ADDRESS: BOX 29, Pakenham, Ont. K0A 2X0
NAME OF WELL TECHNICIAN: Peter Stanton — WELL TECHNICIAN'S LICENCE NUMBER: 7666
SIGNATURE OF TECHNICIAN/CONTRACTOR: — SUBMISSION DATE: DAY 31 MO 10 YR 96

OFFICE USE ONLY

DATA SOURCE 58 — CONTRACTOR 59-62: 4875 — DATE RECEIVED 63-68: JUN 24 1997
DATE OF INSPECTION — INSPECTOR
REMARKS: CSS. S

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 1529448 — MUNICIP. 15003 — CON. CON 09

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
OTTAWA-CARLETON	TWP. OF GOULBOURN	CONCESSION 9	24

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
TECHNICAL DIMENSIONS INC	850-36 Antares, Nepean, Ont. K2E 7W5	DAY 10 MO 01 YR 97

21 — ZONE — EASTING — NORTHING — ELEVATION — BASIN CODE

Ref Woodside Acres, Sublot #12

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN-GREY	SAND			0	8
BROWN	TILL			8	10
GREY	LIMESTONE			10	120
RED-GREY	SHALE			120	152
GREEN					

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
45 (¼ gpm)	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS — NOT TESTED
108 (½ gpm)	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS
148 (5 gpm)	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188"	+2	20
5⅞"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC	—	20	152
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
3	20	Grout

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	6 GPM	1 HOURS 0 MINS

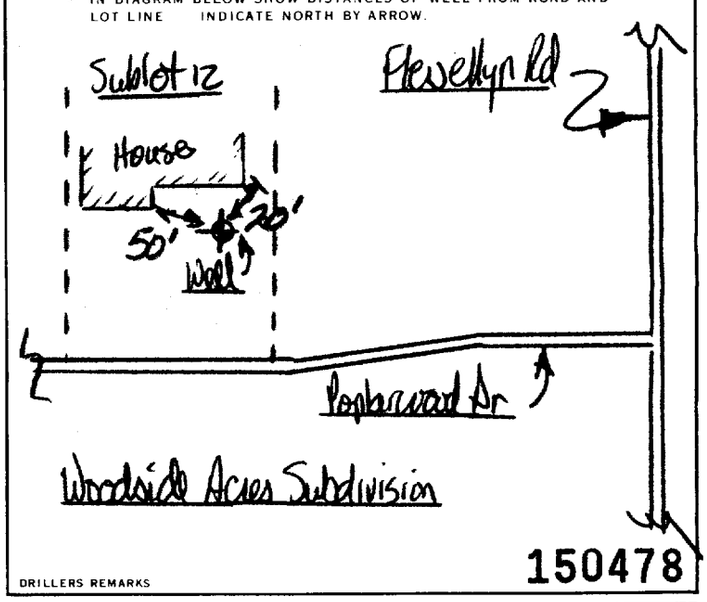
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
28 FEET	41 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	35 FEET	37 FEET	39 FEET	41 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
— GPM	120 FEET	1 ☐ CLEAR 2 ☒ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	120 FEET	5 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

150478

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE

1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
STANTON DRILLING INC	4875

ADDRESS	
Box 219, Pakenham, Ont. K0A 2X0	

NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER
Peter J.A. Stanton	T-0006

SIGNATURE OF TECHNICIAN/CONTRACTOR — SUBMISSION DATE DAY 11 MO 01 YR 97

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
	4875	JUN 24 1997

DATE OF INSPECTION — INSPECTOR

REMARKS

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529457

Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions		850-36 Antares Drive Nepean, Ontario K2E 7W5	3 day 6 month 97 year

21 — Zone — Easting — Northing — RC — Elevation — RC — Basin Code — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	SAnd		Fill	0	2
Brown	Sand	Gravel	Packed	2	5
Gray	Limestone		HArd	5	110
Brown	Limestone		Medium	110	139
Gray	Limestone		Hard	139	155

31

32

41 WATER RECORD

Water found at – feet	Kind of water
92	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
143	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
152	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☐ Steel 2 ☒ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	25
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		25	155
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type	Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	0	Grouted Cement (1)
		Hole Plug (1)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer
Pumping rate: 6 GPM
Duration of pumping: 1 Hours Mins

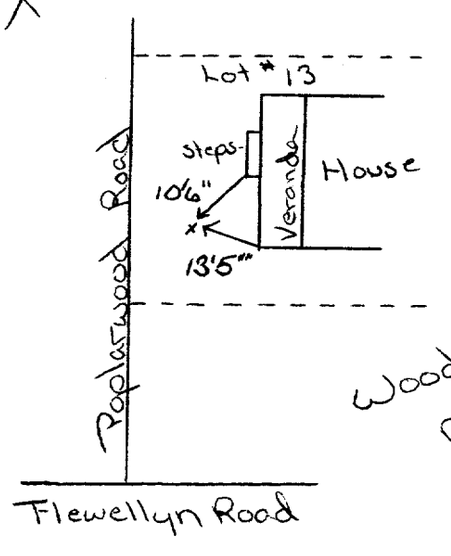
Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
27 feet	80 feet	58 feet	67 feet	78 feet	80 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	130 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



175650

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other

METHOD OF CONSTRUCTION

1 ☒ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
W. Kavanagh	T0095

Signature of Technician/Contractor

Submission date: day 4 mo 6 yr 97

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JUL 15 1997

Date of inspection | Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529462

Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	23

Owner's surname [redacted] First name

Address: 850-36 Antares Drive Nepean,Ontario

Date completed: day 18 month 6 year 97

21 — Zone | Easting | Northing | RC | Elevation | RC | Basin Code | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand		Fill	0	2
Brown	Hardpan	Boulders	Packed	2	5
Gray	Limestone		Hard	5	57
Gray	Limestone		Medium	57	155

31

32

41 WATER RECORD

Water found at – feet	Kind of water
54	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
96	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
149	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	155
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	5	Grouted Cement (2)
		Hole Plug (1)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer

Pumping rate: 4-5 GPM

Duration of pumping: 1 Hours ..... Mins

Water levels during: 1 ☒ Pumping 2 ☐ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
12 feet	100 feet	45 feet	68 feet	98 feet	100 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☒ Cloudy

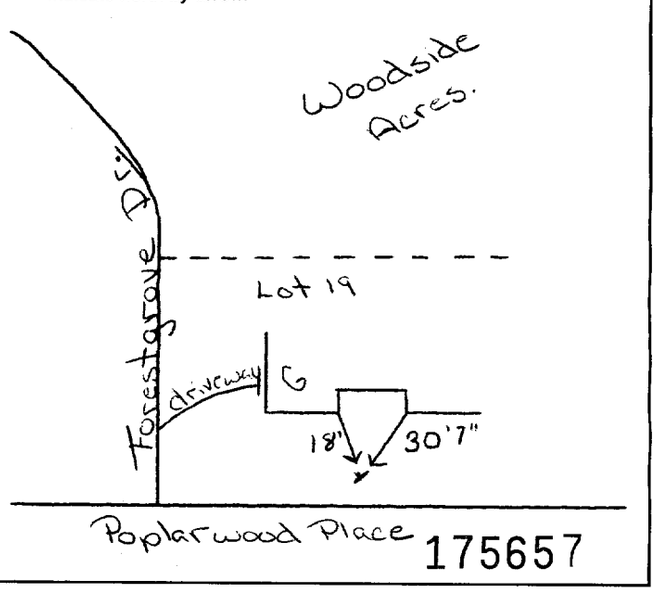
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 130 feet

Recommended pump rate: 4 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



175657

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☒ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
W. Kavanagh	T0095

Signature of Technician/Contractor

Submission date: day 18 mo 6 yr 97

MINISTRY USE ONLY

Data source | Contractor: 1558 | Date received: JUL 15 1997

Date of inspection | Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529489 — Municipality 15003 — Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions		850 – 36 Antares Dr. Nepean Ont.	23 day 7 month 97 year

21 — Zone — Easting K2E 7W5 — Northing — RC — Elevation — RC — Basin Code — i — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand	Gravel	fill	0	4
Brown	loam		loose	4	5
Grey	limestone		hard	5	48
Grey	limestone	brown layers	medium	48	130

31
32

41 WATER RECORD

Water found at – feet	Kind of water
90	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
125	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas — NOT TESTED
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	20
6 1/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	130
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type — Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	0	Grouted cement (3)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer
Pumping rate: 10 GPM
Duration of pumping: 1 Hours ..... Mins

Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
18 feet	41 feet	39 feet	41 feet	41 feet	41 feet

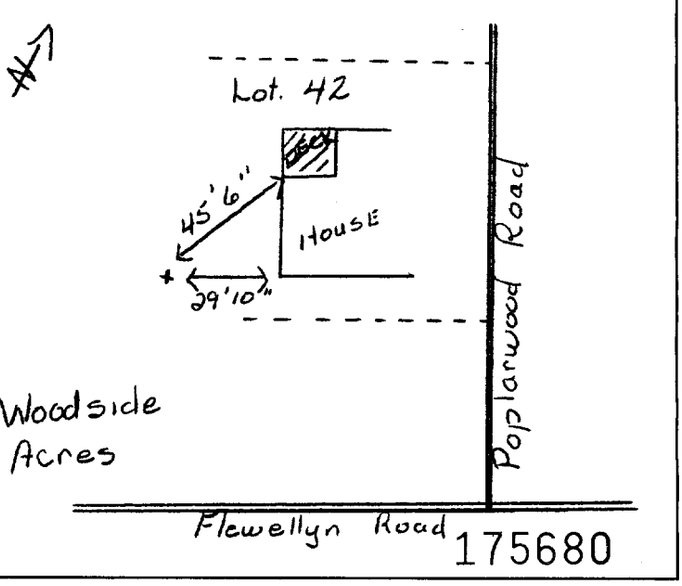
If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☐ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	100 feet	5 GPM

LOCATION OF WELL

PO # 493

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other

METHOD OF CONSTRUCTION

1 ☒ Cable tool 20–130 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 6 ☒ Air percussion 0–20 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: Box 490, Stittsville, Ont. K2S 1A6	
Name of Well Technician: W. Kavanagh	Well Technician's Licence No.: T0095
Signature of Technician/Contractor	Submission date: day 22 mo 7 yr 97

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	AUG 14 1997
Date of inspection	Inspector	
Remarks		

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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11 — 1529569

Municipality 15003 — Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions		850-36 Antares Drive Nepean, Ontario	7 day 8 month 97 year

21 — Zone — Easting K2E — Northing 7W5 — RC — Elevation — RC — Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand		Fill	0	2
Brown	Loam	Gravel	Packed	2	7
Gray	Limestone		Hard	7	47
Gray	Limestone	Brown Layers	Medium	47	175

31

32

41 WATER RECORD

Water found at – feet	Kind of water
96	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
142	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
169	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22
6 1/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	175
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type — Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	0	Grouted Cement (3)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer — Pumping rate: 10 GPM — Duration of pumping: 1 Hours ..... Mins

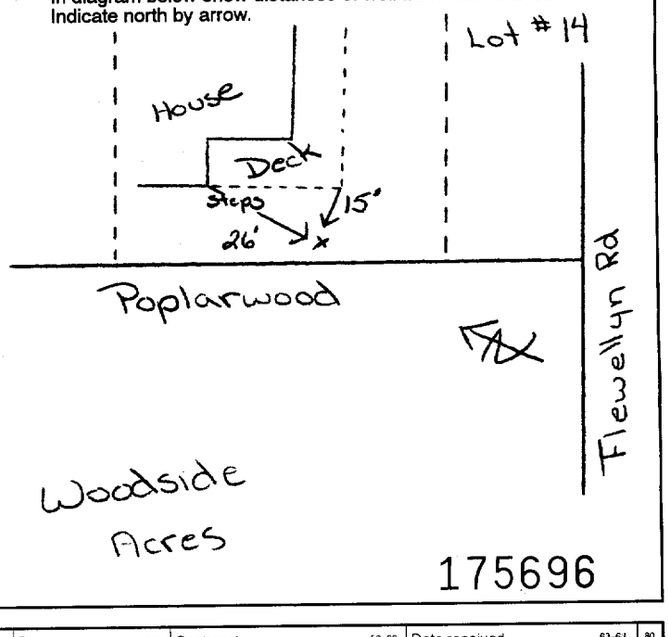
Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
37 feet	55 feet	44 feet	53 feet	55 feet	55 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	100 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



175696

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☒ Cable tool 20-175 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☒ Air percussion 0-20 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W. Kavanagh	T0097/T0095

Signature of Technician/Contractor — Submission date: day 8 mo 8 yr 97

MINISTRY USE ONLY

Data source — Contractor 1558 — Date received SEP 15 1997

Date of inspection — Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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11 (1–2) **1529575**

Municipality 15003 (10–14) Con. CON 09 (15–22, 23–24)

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25–27)
Ottawa Carleton	Goulbourn	9	23

[redacted]

Address: 850-36 Antares Drive Nepean,Ontario K2E 7W5

Date completed (48–53): 27 day 8 month 97 year

21 (1–2) D/T/M Zone (10) Easting (12–17) Northing (18–24) RC (25) Elevation (26–30) RC Basin Code (31) ii iii iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	SAnd, Loom	Stones	Fill	0	6
Brown	Sand ,Clay			6	10
Gray	Hardpan	Boulders		10	20
Gray	Gravel	Gray Sand		20	22
Gray	Limestone			22	87

31 (10–14, 15–21, 22–32, 33–43, 44–54, 55–65, 66–75, 76–80)

32 (10–14, 15–21, 22–32, 33–43, 44–54, 55–65, 66–75, 76–80)

41 WATER RECORD

Water found at – feet	Kind of water
65 (10–13)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
81 (15–18)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
(20–23)	NOT TESTED 1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25–28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30–33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4 (10–11)	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	27
6 1/8 (17–18)	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		27	30 (20–23)
6 (24–25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		30	87 (27–30)

SCREEN

Sizes of opening (Slot No.) (31–33)	Diameter (34–38) inches	Length (39–40) feet
Material and type	Depth at top of screen (41–44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
25 (10–13)	0 (14–17)	Grouted Cemnth (5)
(18–21)	(22–25)	
(26–29)	(30–33) (60)	

71 PUMPING TEST

Pumping test method (10): 1 ☒ Pump 2 ☒ Bailer

Pumping rate (11–14): 15 GPM

Duration of pumping (15–16): 1 Hours (17–18) Mins

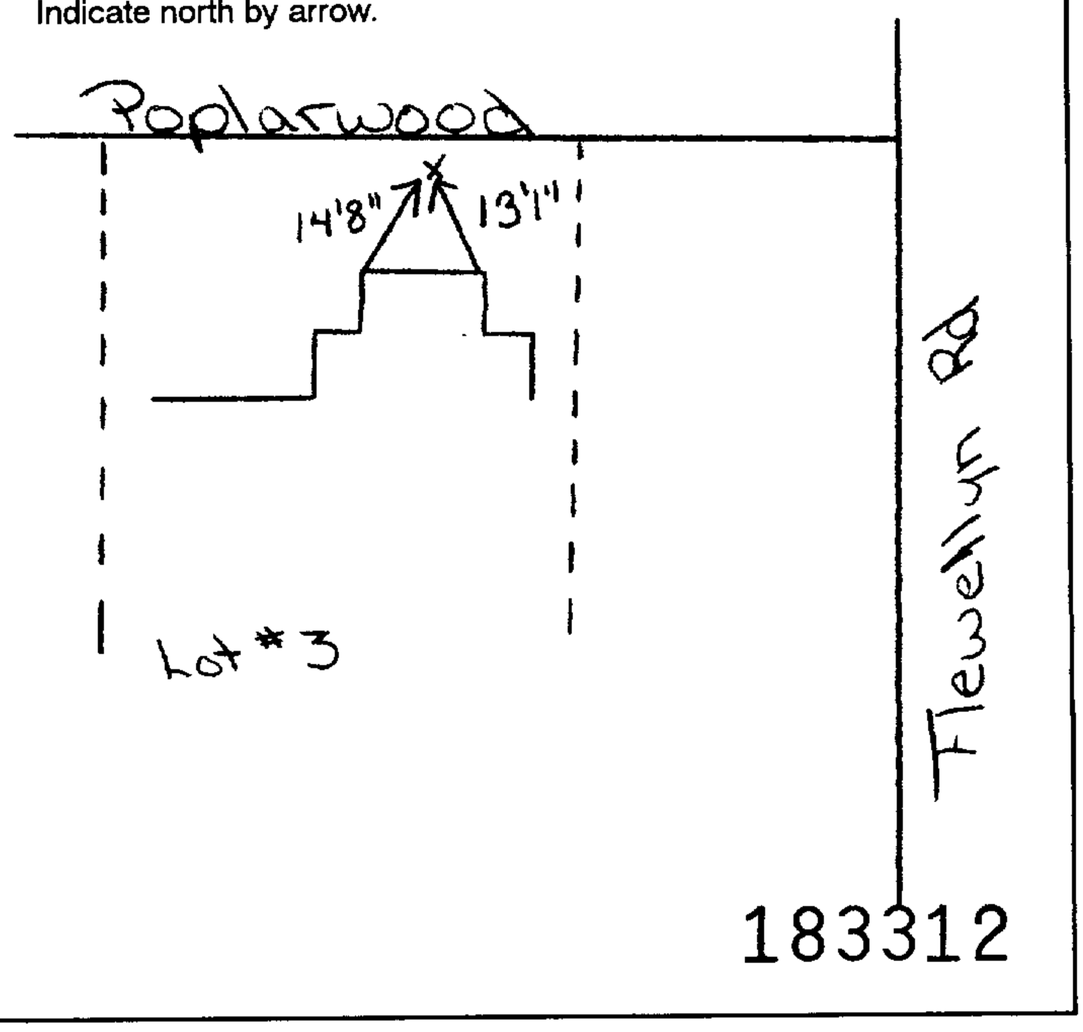
Static level (19–21)	Water level end of pumping (22–24)	Water levels during (25): 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes (26–28)	30 minutes (29–31)	45 minutes (32–34)	60 minutes (35–37)
17 feet	22 feet	22 feet	22 feet	22 feet	22 feet

If flowing give rate (38–41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy
Recommended pump type	**Recommended pump setting (43–45)**	**Recommended pump rate (46–49)**
☐ Shallow ☒ Deep	60 feet	5 GPM

(50–53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL (54)

1 ☐ Water supply
2 ☒ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE (55–56)

1 ☐ Domestic
2 ☒ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not used
10 ☐ Other .....

METHOD OF CONSTRUCTION (57)

1 ☒ Cable tool 30–87
2 ☒ Rotary (conventional) 0–30
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☐ Air percussion
6 ☒ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville,Ontario K2S 1A6	
Name of Well Technician: S. Miller/W.Kavanagh	Well Technician's Licence No.: T0097/T0095
Signature of Technician/Contractor	Submission date: day 28 mo 8 yr 97

MINISTRY USE ONLY

Data source (58)	Contracctor (59–62)	Date received (63–68) (80)
	1558	SEP 15 1997
Date of inspection	Inspector	
Remarks		

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529714 — Municipality 15003 — Con CON 09

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
[redacted]	Goulbourn		9			23

Address: 100 Herzberg Rd.,P.O. Box 13000 Kanata Ontario K2K 2A6

Date completed: 21 day 10 month 97 year

21 — Northing — RC — Elevation — RC — Basin Code — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand	Stones (Shale)	Packed	0	6
Gray	Limestone			6	20
Gray	Limestone		HArd	20	48
Gray	Limestone		Medium	48	79
Brown	Limestone		Medium	79	141
Gray	Limestone		Medium	141	165
Brown	Limestone		Medium	165	172
Gray	Limestone		Medium	172	190

31

32

41 WATER RECORD

Water found at – feet	Kind of water
147	1 Fresh 2 Salty 3 Sulphur 4 Minerals 6 Gas
165	1 Fresh 2 Salty 3 Sulphur 4 Minerals 6 Gas
183	1 Fresh 2 Salty 3 Sulphur 4 Minerals 6 Gas
	1 Fresh NOT TESTED 2 Salty 3 Sulphur 4 Minerals 6 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 6 Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	2 Galvanized	.188	0	22.5
5 15/16	4 Open hole		22.5	190

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type: | Depth at top of screen feet:

61 PLUGGING & SEALING RECORD

X Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted Cement (3)

71 PUMPING TEST

Pumping test method: 1 X Pump 2 ☐ Bailer
Pumping rate: 13 GPM
Duration of pumping: 1 Hours ..... Mins

Water levels during: 1 X Pumping 2 ☐ Recovery

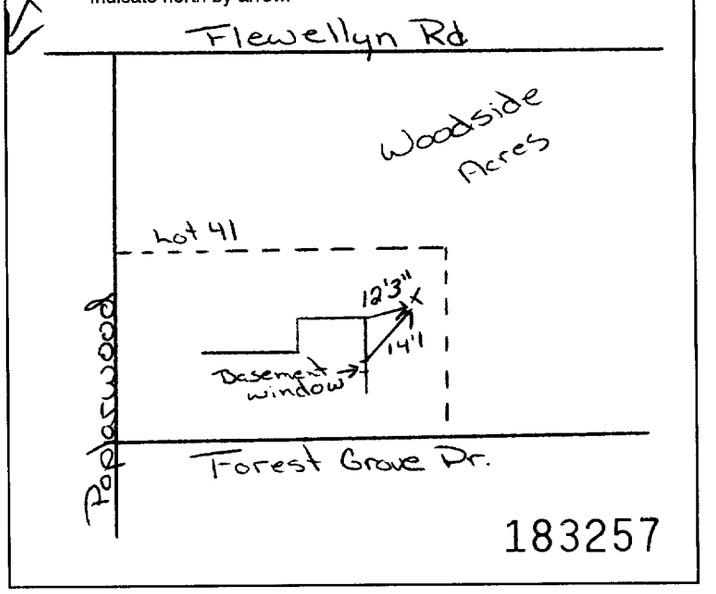
Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
33 feet	46 feet	38 feet	44 feet	46 feet	46 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear X Cloudy

Recommended pump type: ☐ Shallow X Deep
Recommended pump setting: 140 feet
Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



183257

FINAL STATUS OF WELL

1 ☐ Water supply
2 X Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE

1 ☐ Domestic
2 X Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not used
10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☐ Cable tool
2 X Rotary (conventional) 20–190
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☐ Air percussion
6 X Boring 0–20
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W. Kavanagh	T0097/T0095

Signature of Technician/Contractor

Submission date: day 21 mo 10 yr 97

MINISTRY USE ONLY

Data source | Contractor 1558 | Date received DEC 22 1997

Date of inspection | Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1529791

Municipality 15003 — Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions Inc		850-36 Antares Dr. Nepean,Ontario K2E 7W5	4 day 12 month 97 year

21 — Zone — Easting — Northing — RC — Elevation — RC — Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand		Fill	0	5
Brown	Hardpan	Boulders	Packed	5	11
Gray	Limestone		Hard	11	132
Brown	Limestone		Soft	132	145

31

32

41 WATER RECORD

Water found at – feet	Kind of water
65	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
126	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
142	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
NOT TESTED	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	☒ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	.188	0	22.5
6 1/8	☐ Steel ☐ Galvanized ☐ Concrete ☒ Open hole ☐ Plastic		22.5	145
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type — Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	0	Grouted Cement (3)

71 PUMPING TEST

Pumping test method: ☐ Pump ☒ Bailer
Pumping rate: 10 GPM
Duration of pumping: 1 Hours ..... Mins

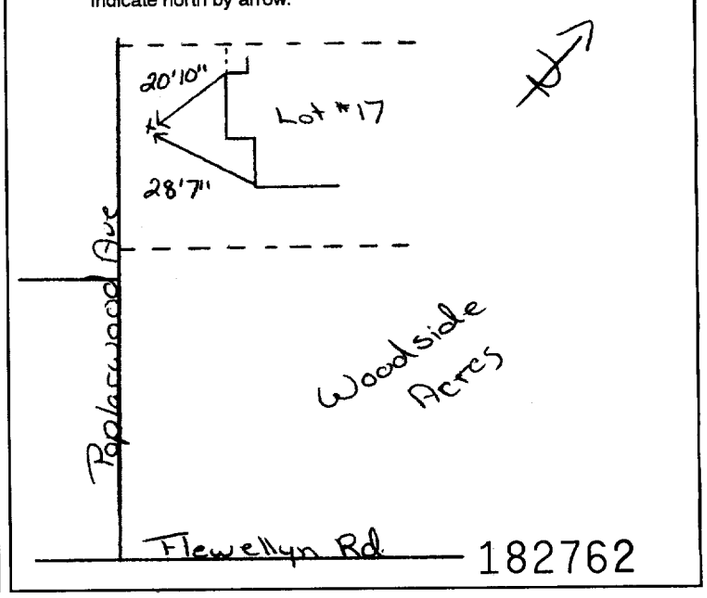
Static level	Water level end of pumping	Water levels during ☒ Pumping ☐ Recovery	15 minutes	30 minutes	45 minutes	60 minutes
12 feet	60 feet		34 feet	47 feet	60 feet	60 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	100 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL

☒ Water supply ☐ Observation well ☐ Test hole ☐ Recharge well ☐ Abandoned, insufficient supply ☐ Abandoned, poor quality ☐ Abandoned (Other) ☐ Dewatering ☐ Unfinished ☐ Replacement well

WATER USE

☒ Domestic ☒ Stock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☐ Public supply ☐ Cooling & air conditioning ☐ Not used ☐ Other

METHOD OF CONSTRUCTION

☒ Cable tool 20-145 ☐ Rotary (conventional) ☐ Rotary (reverse) ☐ Rotary (air) ☒ Air percussion 0-20 ☐ Boring ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W. Kavanagh	T0097/T0095

Signature of Technician/Contractor

Submission date: day 5 mo 12 yr 97

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JAN 0 8 1998

Date of inspection — Inspector

Remarks

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 — 1529793 — Municipality 15003 — Con. CON — 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	23

Owner's surname	First name	Address	Date completed
Technical Dimensions Ltd.		850-36 Antares Dr. Nepean, Ontario K2E 7W5	day 28 month 12 year 97

21 — Zone — Easting — Northing — RC — Elevation — RC — Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand & Stones		Fill	0	3
Brown	sandy Clay		Dry	3	9
Gray	Limestone			9	33
Gray	Limestone		Medium	33	125

31 — 32

41 WATER RECORD

Water found at – feet	Kind of water
85	1 Fresh, 2 Salty, 3 Sulphur, 4 Minerals, 5 Gas
121	1 Fresh, 2 Salty, 3 Sulphur, 4 Minerals, 5 Gas
NOT TESTED	1 Fresh, 2 Salty, 3 Sulphur, 4 Minerals, 5 Gas
	1 Fresh, 2 Salty, 3 Sulphur, 4 Minerals, 5 Gas
	1 Fresh, 2 Salty, 3 Sulphur, 4 Minerals, 5 Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 Steel, 2 Galvanized, 3 Concrete, 4 Open hole, 5 Plastic	.188	0	44
5 15/16	1 Steel, 2 Galvanized, 3 Concrete, 4 Open hole, 5 Plastic		44	125
	1 Steel, 2 Galvanized, 3 Concrete, 4 Open hole, 5 Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type	Depth at top of screen feet

61 PLUGGING & SEALING RECORD

Annular space — Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
21	4	Grouted – Cement

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 Pump, 2 X Bailer	15 GPM	1 Hours ..... Mins

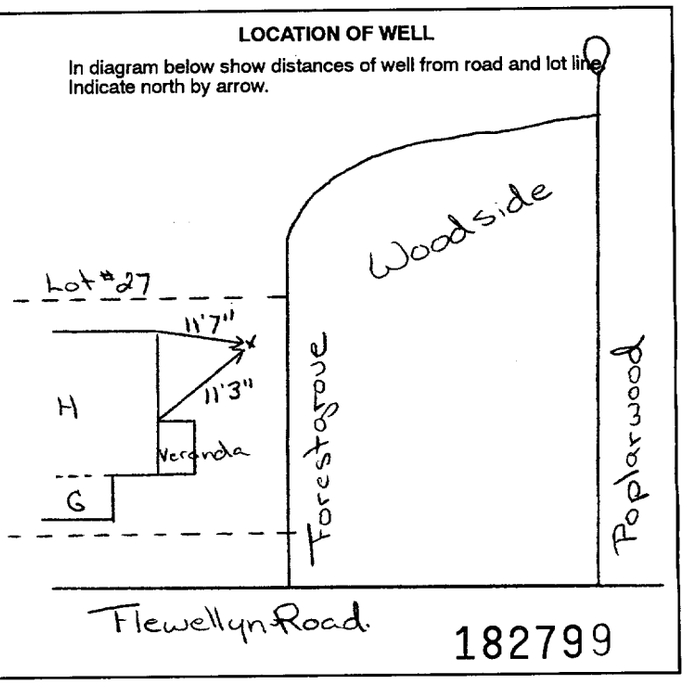
Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
12 feet	16 feet	1 X Pumping, 2 Recovery	16 feet	16 feet	16 feet	16 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	Clear, Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
Shallow, X Deep	90 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



FINAL STATUS OF WELL

1 X Water supply; 2 Observation well; 3 Test hole; 4 Recharge well; 5 Abandoned, insufficient supply; 6 Abandoned, poor quality; 7 Abandoned (Other); 8 Dewatering; 9 Unfinished; 10 Replacement well

WATER USE

1 X Domestic; 2 Stock; 3 Irrigation; 4 Industrial; 5 Commercial; 6 Municipal; 7 Public supply; 8 Cooling & air conditioning; 9 Not used; 10 Other

METHOD OF CONSTRUCTION

1 X Cable tool 44-125; 2 Rotary (conventional); 3 Rotary (reverse); 4 Rotary (air); 5 X Air percussion 0-444; 6 Boring; 7 Diamond; 8 Jetting; 9 Driving; 10 Digging; 11 Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address
P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W.Kavanagh	T0097/T0095

Signature of Technician/Contractor	Submission date
	day 24 mo 12 yr 97

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JAN 0 8 1998

Date of inspection	Inspector

Remarks

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WATER WELL RECORD

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1529795

Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	23

Owner's surname	First name	Address	Date completed
Technical Dimensions		850-36 Antares Dr. Nepean, Ontario K2E 7W5	18 day 12 month 97 year

21 Zone Easting Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Gray	Hardpan	Slab Rocks	Fill	0	20
Gray	Limestone		Hard	20	54
Gray	Limestone		Medium	54	83
Light Gray	Limestone		Medium	83	128
Brown	Limestone		Soft	128	147
Gray	Limestone		Soft	147	200

31
32

41 WATER RECORD

Water found at - feet	Kind of water
68	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
135	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
196	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22
6 1/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	200
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
20	4	Grouted Cement (3)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer
Pumping rate: 8 GPM
Duration of pumping: 1 Hours ..... Mins

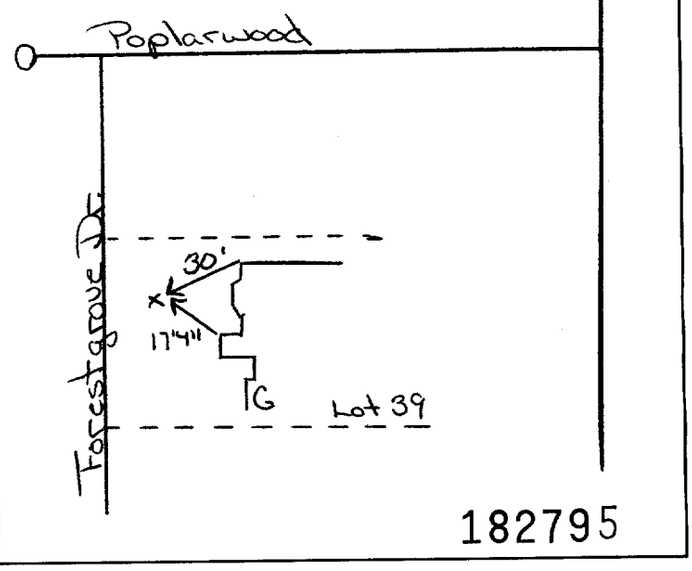
Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☒ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
27 feet	65 feet	40 feet	61 feet	65 feet	65 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	125 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



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FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☒ Cable tool 20-200 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☒ Air percussion 0-20 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W. Kavanagh	T0097/T0095

Signature of Technician/Contractor

Submission date: day 19 mo 12 yr 97

MINISTRY USE ONLY

Data source | Contractor 1558 | Date received JAN 0 8 1998

Date of inspection | Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 1530039 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
Ottawa Carleton	Goulbourn		9			23

Address: 38 Argue Dr.,suit 245 Nepean,Ontario K2E 8A5

Date completed: day 29 month 5 year 98

21 T M Northing RC Elevation RC Basin Code ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sandy Clay	Stones	Packed	0	5
Brown	Sand		Wet	5	23
Gray	Hardpan	Boulders	Packed	23	29
Gray	Limestone		Medium Hard	29	115

31
32

41 WATER RECORD

Water found at – feet	Kind of water
65	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
111	NOT TESTED
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	40
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		40	115
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
39	0	Grouted Cement (8)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer
Pumping rate: 20 GPM
Duration of pumping: 1 Hours ..... Mins

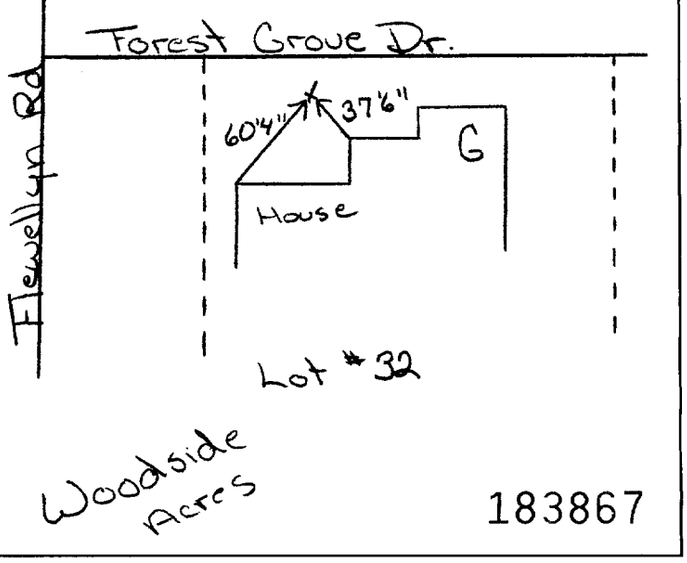
Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
10 feet	16 feet	16 feet	16 feet	16 feet	16 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear ☒ Cloudy

Recommended pump type: ☐ Shallow ☒ Deep
Recommended pump setting: 80 feet
Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



183867

FINAL STATUS OF WELL

1 ☐ Water supply 2 ☒ Observation well 3 ☐ Test hole 4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering
9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☒ Stock 3 ☐ Irrigation 4 ☐ Industrial
5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning
9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☒ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air)
5 ☐ Air percussion 6 ☒ Boring 7 ☐ Diamond 8 ☐ Jetting
9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

0-40 40-115

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W.Kavanagh	T0097/T0095

Signature of Technician/Contractor: M Miller
Submission date: day 29 mo 6 yr 98

MINISTRY USE ONLY

Data source 58 | Contractor 1558 59-62 | Date received JUL 22 1998 63-68 80
Date of inspection | Inspector
Remarks: CSS. SG

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 (1 2) **1530043**

Municipality (10–14): 15003 | Con. (15–22 23 24): CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa Carleton	Goulbourn	9	25

[redacted]

Address: 11 Forest Heights Stittsville, Ontario K2S 1C3

Date completed (48-53): 29 day 6 month 98 year

21 (1 2) | T M (10) | Northing (12–17) | RC (18) | Elevation (24–25) | RC (26) | Basin Code (30) | ii (31) | iii (32–46) | iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand		Dry	0	6
Brown	Sandy Clay		Packed	6	12
Gray	Sandy Clay		Stoned	12	18
Gray	Limestone			18	73

31 (10 14 15 21) | 32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at – feet	Kind of water	
24	1 ☐ Fresh 2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
69	1 ☐ Fresh 2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22.5
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22.5	73
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
21	6	Grouted Cement (3)
6	3	Hole Plug (1)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 ☒ Pump 2 ☐ Bailer	20 GPM	1 Hours ... Mins

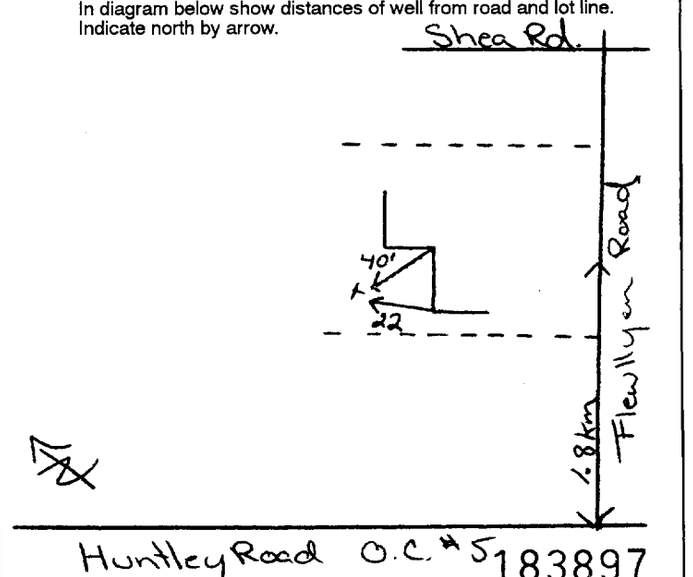
Static level	Water level end of pumping	Water levels during	1 ☐ Pumping 2 ☐ Recovery		
		15 minutes	30 minutes	45 minutes	60 minutes
10'6" feet	15'4" feet	12'4" feet	13'10" feet	15'1" feet	15'4" feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	30 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL (54)

1 ☐ Water supply
2 ☒ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE (55-56)

1 ☐ Domestic
2 ☒ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not used
10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☐ Cable tool
2 ☐ Rotary (conventional)
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☐ Air percussion
6 ☒ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097

Signature of Technician/Contractor

Submission date: day 30 mo 6 yr 98

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	JUL 22 1998

Date of inspection | Inspector

Remarks: CSS. SG

0506 (07/94) Front Form 9

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 — 1530046 — Municipality 15003 — Con. CON — Lot 24

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First name	Address	Date completed
Technical Dimensions Ltd.		850 - 36 Antares Dr. Nepean,Ontario	18 day 6 month 98 year

21 — Zone — Easting — Northing — RC — Elevation — RC — Basin Code: i ii iii iv — K2E 7W5

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sandy Soil	Stones	Dry	0	9
Gray	Limestone	Dark Layers	Medium	9	130

31

32

41 WATER RECORD

Water found at – feet	Kind of water
73	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
127	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas — NOT TESTED
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22.4
6 1/16	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22.4	30
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		30	130

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type	Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
21	3	Grouted - Cement (6)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 ☒ Pump 2 ☐ Bailer	15 GPM	1 Hours ..... Mins

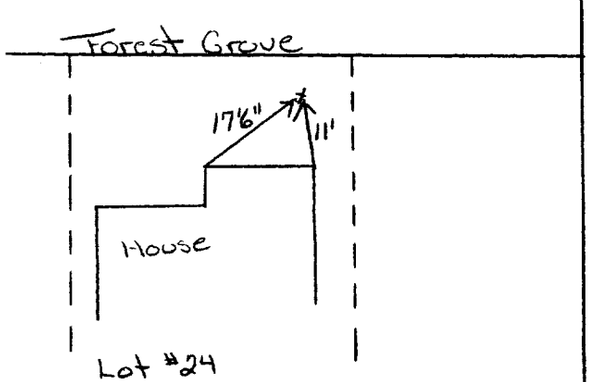
Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
18 feet	25 feet	1 ☒ Pumping 2 ☐ Recovery	25 feet	25 feet	25 feet	25 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	75 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



183883

FINAL STATUS OF WELL

1 ☐ Water supply 2 ☒ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☒ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☒ Cable tool 30–130 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☒ Air percussion 0–30 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/W. Kavanagh	T0097/T0095

Signature of Technician/Contractor: W. Kavanagh

Submission date: day 22 mo 6 yr 98

MINISTRY USE ONLY

Data source — Contractor 1558 — Date received JUL 22 1998

Date of inspection — Inspector

Remarks: CSS. S9

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 (1 2) **1530217**

Municipality (10–14): 15003 Con. (15–22 23 24): CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25–27)
[redacted]	Goulbourn	99	24
	Address: P.O. Box 98 Greely, Ontario K0A 1Z0	Date completed (48–53): 15 day 8 month 98 year	

21 (1 2) T M (10) Northing (12–17) (18–24) RC (25) Elevation (26–30) RC Basin Code (31–47) ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand	Stones	Dry	0	5
Brown	Hardpan	Boulders	Packed	5	16
Gray	Hardpan	Boulders	Packed	16	25
Gray	Limestone		Hard	25	105

31 (10 14 15 21 32 43 54 65 75 80)

32 (10 14 15 21 32 43 54 65 75 80)

41 WATER RECORD

Water found at – feet	Kind of water
65	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
103	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas — NOT TESTED
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	40
6 1/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic		40	50
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic		50	105

SCREEN

Sizes of opening (Slot No.) (31–33)	Diameter (34–38) inches	Length (39–40) feet
Material and type	Depth at top of screen (41–44) feet	(30)

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
39	0	Grouted Cement (5)

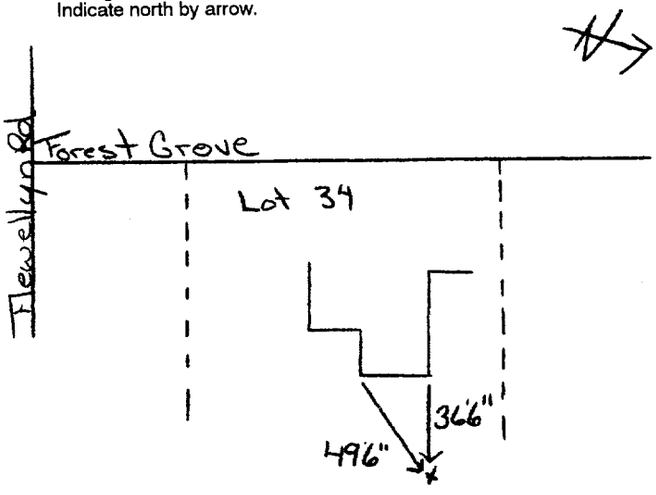
71 PUMPING TEST

Pumping test method (10): 1 ☐ Pump 2 ☐ Bailer	Pumping rate (11–14): 15 GPM	Duration of pumping (15–16): 1 Hours (17–18) Mins	
Static level: 8 feet	Water level end of pumping: 10 feet	Water levels during (25): 1 ☐ Pumping ☒ 2 ☐ Recovery	
15 minutes (26–28): 10 feet	30 minutes (29–31): 10 feet	45 minutes (32–34): 10 feet	60 minutes (35–37): 10 feet
If flowing give rate (38–41): GPM	Pump intake set at: feet	Water at end of test (42): ☐ Clear ☒ Cloudy	
Recommended pump type: ☐ Shallow ☒ Deep	Recommended pump setting (43–45): 75 feet	Recommended pump rate (46–49): 5 GPM	

(50–53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



194707

FINAL STATUS OF WELL (54)

1 ☐ Water supply 2 ☒ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55–56)

1 ☐ Domestic 2 ☒ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☐ Cable tool 2 ☒ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☒ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

50–105 0–50

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Millette/ W. Kavanagh	Well Technician's Licence No.: T0097/T0095
Signature of Technician/Contractor: Walter Kavanagh	Submission date: day 17 mo 8 yr 98

MINISTRY USE ONLY

Data source (58)	Contractor (59–62): 1558	Date received (63–68): OCT 15 1998 (80)
Date of inspection	Inspector	
Remarks: CSS. ES9		

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Ontario

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WATER WELL RECORD

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11 1530297

Municipality 15003 Con. CON 09

Couldburn

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
Ottawa-Carleton	West Carleton		9			23

[redacted]

Address: RR#1 Carp Ont

Date completed: 2 (day) 7 (month) 98 (year)

21 30 T M | Northing | RC | Elevation | RC | Basin Code | i | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Grey	Limestone	Dolomite		85	120

31

32

41 WATER RECORD

Water found at – feet	Kind of water
114	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
	1 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)

71 PUMPING TEST

Pumping test method: 1 ☑ Pump 2 ☐ Bailer

Pumping rate: 10 GPM

Duration of pumping: ..... Hours ..... Mins

Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☑ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
6 feet	100 feet	6 feet	6 feet	6 feet	6 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☑ Cloudy

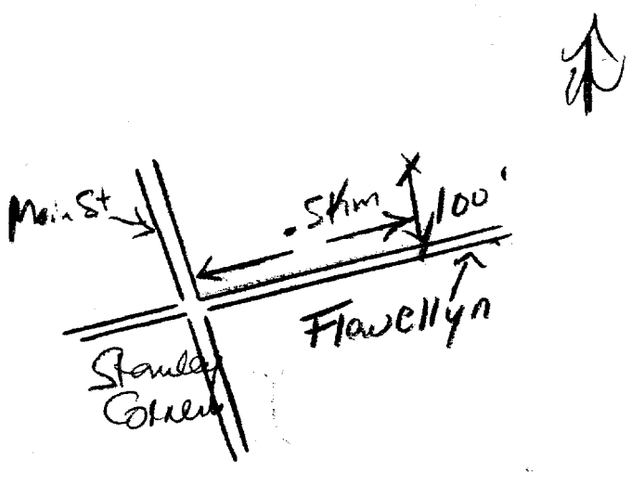
Recommended pump type: ☐ Shallow ☑ Deep

Recommended pump setting: 100 feet

Recommended pump rate: 10 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



192750

FINAL STATUS OF WELL

1 ☑ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☑ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☑ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Air-Rock Drilling Ltd	1119
Address: RR# 2 Jasper Ont	
Name of Well Technician: Shannon Purcell	Well Technician's Licence No. T2122
Signature of Technician/Contractor: [signature]	Submission date: 13 07 98 (day mo yr)

MINISTRY USE ONLY

Data source	Contractor	Date received
	1119	NOV 2 6 1998

Date of inspection | Inspector

Remarks

CSS. ES9

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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11 1530491 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
[redacted] Ottawa Carleton	Goulbourn	9				24

Address: Technical Dimension Homes 36 Antares Nepean, Ontario K2E 7W5

Date completed: day 22 month 2 year 99

21 T M Northing RC Elevation RC Basin Code i ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand	Gravel	Backfill	0	3
Gray	Hardpan	Gravel	Packed	3	6
Gray	Limestone		Medium	6	74
Dark Gray	Limestone		Medium	74	123
Ligh Reddish	Limestone		Medium	123	140
Gray	Limestone		Medium	140	200

31
32

41 WATER RECORD

Water found at – feet	Kind of water
90	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
165	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
195	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	25
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		25	200
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type: | Depth at top of screen feet:

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
23.5	3	Grouted - Hole Plug (4)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☒ Bailer
Pumping rate: 13 GPM
Duration of pumping: 1 Hours ..... Mins

Water levels during: 1 ☒ Pumping 2 ☐ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
22 feet	60 feet	40 feet	51 feet	60 feet	60 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear ☒ Cloudy

Recommended pump type: ☐ Shallow ☒ Deep
Recommended pump setting: 150 feet
Recommended pump rate: 5 GPM

FINAL STATUS OF WELL

1 ☐ Water supply 2 ☒ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☐ Domestic 2 ☒ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other

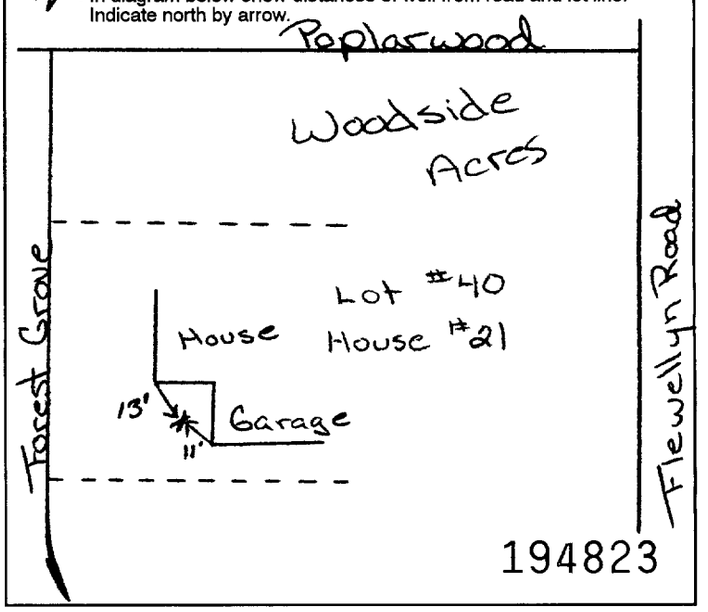
METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☒ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☒ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

25-200 0-25

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



194823

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
W. Kavanagh	T0095

Signature of Technician/Contractor: Walter Kavanagh
Submission date: day 23 mo 2 yr 99

MINISTRY USE ONLY

Data source | Contractor 1558 | Date received APR 13 1999
Date of inspection | Inspector
Remarks: CSS.ES9

2 - MINISTER OF ENVIRONMENT & ENERGY COPY

0506 (07/94) Front Form 9

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 1530518 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
Ottawa Carleton	Goulbourn	9				24

Address: 6 Eagle Rock Way Stittsville, Ontario
Date completed: day 5 month 99 year 1999

21 Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown	Sand & gravel		Fill	0	5
Gray	Limestone		Medium	5	97
Brown	Limestone		Medium	97	147
Gray	Sandstone		Hard	147	177

31
32

41 WATER RECORD

Water found at – feet	Kind of water
109	2 Salty
173	2 Salty NOT TESTED

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	2 Galvanized	.188	0	22
5 7/8	5 Open hole		22	177

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20	4	Grouted – Cement

71 PUMPING TEST

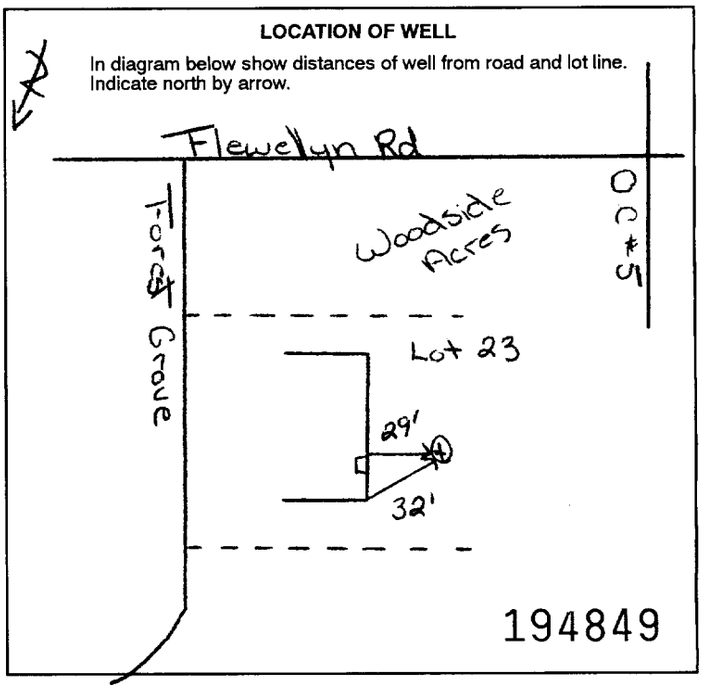
Pumping test method: 1 ☐ Pump 2 ☒ Bailer
Pumping rate: 15+ GPM
Duration of pumping: 1 Hours ..... Mins

Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
30 feet	36 feet	36 feet	36 feet	36 feet	36 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear ☒ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep
Recommended pump setting: 100 feet
Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



194849

FINAL STATUS OF WELL

1 ☐ Water supply
2 ☒ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE

1 ☒ Domestic
2 ☐ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not used
10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☐ Cable tool
2 ☒ Rotary (conventional) 20–177
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☐ Air percussion 0–22
6 ☒ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 19 mo 5 yr 99

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JUN 14 1999
Date of inspection	Inspector	
Remarks: CSS.ES9		

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Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 1530702 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	Goulbourn	9	24

Address: P.O. Box 955 Stittsville, Ontario K2S 1B1

Date completed: 17 day 8 month 99 year 99

21 U/M Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Sand			0	5
Gray	Limestone		Medium	5	60
Gray	Limestone		Hard	60	90
Black	Stone	Shale		90	110

31

32

41 WATER RECORD

Water found at - feet	Kind of water
106	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22.5
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		22.5	60
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		60	110

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted - Cement

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer
Pumping rate: 15 GPM
Duration of pumping: 1 Hours ..... Mins

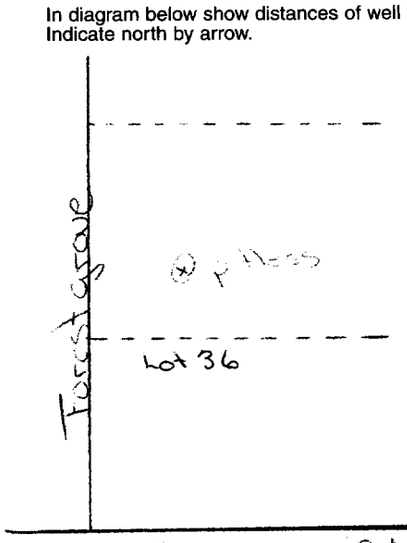
Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
18 feet	40 feet	40 feet	40 feet	40 feet	40 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear ☒ Cloudy

Recommended pump type: ☐ Shallow ☒ Deep
Recommended pump setting: 75 feet
Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



208435

FINAL STATUS OF WELL 54

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering
9 ☐ Unfinished 10 ☐ Replacement well

WATER USE 55-56

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial
5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning
9 ☐ Not use 10 ☐ Other .....

METHOD OF CONSTRUCTION 57

1 ☒ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air)
5 ☒ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting
9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

0222105 0-22

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor: Kelly Kowalchuk	Submission date: day 18 mo 8 yr 99

MINISTRY USE ONLY

Data source 58 | Contractor 1558 59-62 | Date received SEP 15 1999 63-68 80
Date of inspection | Inspector
Remarks: CSS.ES0

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Ontario. Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 **1530890** Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con / block / tract / survey, etc.	Lot
[redacted]	Goulbourn	9	24

Address: Box 190 Carp, Ontario K0A 1L0

Date completed: 30 day 10 month 99 year 99

21 UTM Northing RC Elevation RC Basin Code I II III IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Soil	Broken Rock		0	6
Gray	Limestone		Medium Soft	6	75

31

32

41 WATER RECORD

Water found at - feet	Kind of water
54	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas — NOT TESTED
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22
6 1/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22	50
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		50	75

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	**Depth at top of screen feet**	

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted - Cement (3)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer

Pumping rate: 25 GPM

Duration of pumping: 1 Hours ..... Mins

Water levels during: 1 ☒ Pumping 2 ☐ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
18'1" feet	19'2" feet	19 feet	19'1" feet	19'2" feet	19'2" feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☒ Cloudy

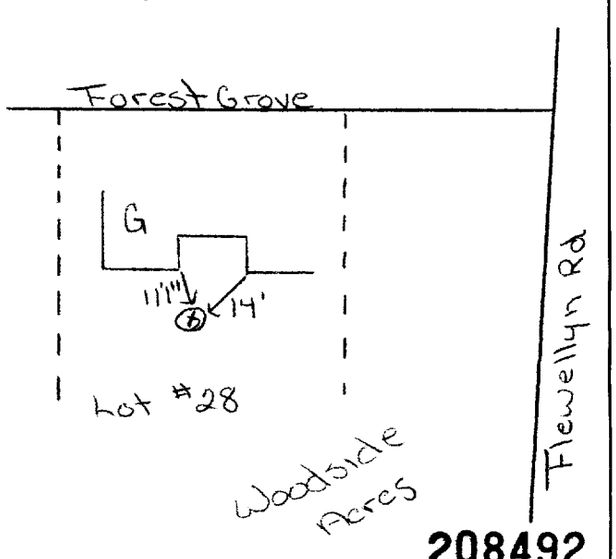
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 50 feet

Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



208492

FINAL STATUS OF WELL 54

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE 55-56

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other .....

METHOD OF CONSTRUCTION 57

1 ☒ Cable tool 50-75 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 0-50 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address	
P.O. Box 490 Stittsville,Ontario K2S 1A6	
Name of Well Technician	**Well Technician's Licence No.**
S. Miller	T0097
Signature of Technician/Contractor	**Submission date** day 30 mo 10 yr 99

MINISTRY USE ONLY

Data source 58 Contractor 1558 59-62 Date received DEC 07 1999 63-68 80

Date of inspection Inspector

Remarks

CSS.ES0

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0506 (11/98) Front Form 9

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 (1 2) **1531026**

Municipality (10 14) 15003 Con (15 22 23 24) CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa-Carleton	Goulbourn	9	22+23

Owner's surname (28-47)	First name	Address	Date completed (day / month / year)
John Gerard Homes		Stittsville Ont	22 / 12 / 99

21 (1 2) — Zone (U T M 10) — Easting (12 17) — Northing (18 24) — RC (25) — Elevation (26 30) — RC (30) — Basin Code (31 47) — ii — iii — iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
	Sandy Clay & gravel			0	12
grey	limestone			12	70

31 (10 14 15 21 32 43 54 65 75 80)

32

41 WATER RECORD

Water found at – feet (10-13)	Kind of water (14)		
65	1 ☒ Fresh	2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
(15-18)	1 ☐ Fresh	2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (19)
(20-23)	1 ☐ Fresh	2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (24)
(25-28)	1 ☐ Fresh	2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (29)
(30-33)	1 ☐ Fresh	2 ☐ Salty	3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
(10-11) 6¼	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	0	(13-16) 22
(17-19) 8¾	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		0	(20-23) 20
(24-25) 6	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		20	(27-30) 70

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From (10-13)	To (14-17)	Material and type (Cement grout, bentonite, etc.)
2	22	cement grout
(18-21)	(22-25)	
(26-29)	(30-33) (60)	

71 PUMPING TEST

Pumping test method (10)	Pumping rate (11-14)	Duration of pumping (15-16 Hours, 17-18 Mins)
1 ☒ Pump 2 ☐ Bailer	20 GPM	1 Hours

Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25) 1 ☐ Pumping 2 ☒ Recovery			
		15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
6 feet	feet	6 feet	6 feet	6 feet	6 feet

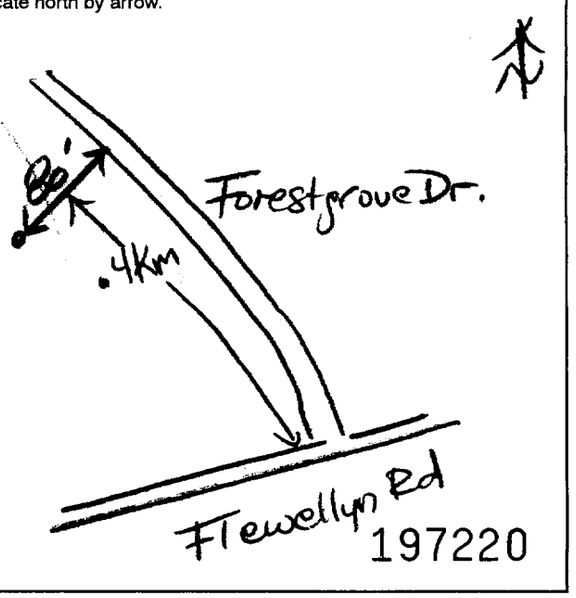
If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☒ Deep	60 feet	20 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL (54)

1 ☒ Water supply
2 ☐ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE (55-56)

1 ☒ Domestic
2 ☐ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not used
10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☒ Cable tool
2 ☐ Rotary (conventional)
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☒ Air percussion
6 ☐ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Air-Rock Drilling Ltd	1119
Address: RR #2 Jasper Ont	
Name of Well Technician: Shannon Purcell	Well Technician's Licence No. T2122
Signature of Technician/Contractor:	Submission date: 14 day 01 mo 00 yr

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1119	FEB 10 2000
Date of inspection	Inspector	
Remarks		CSS.ES0

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Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 **1531192** Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	23

Owner's surname	First Name	Address	Date completed
Maple Mountain Homes		Box 730 Richmond, Ontario K0A 2Z0	day 6 month 00 year 17

21 Zone Easting Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
brown	Sandy Soil	Stones		0	5
Gray	Limestone		Medium Hard	5	172

31

32

41 WATER RECORD

Water found at - feet	Kind of water
27	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
160	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas — NOT TESTED
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic	.188	0	22
6	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic		22	172
	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type	Depth at top of screen feet

61 PLUGGING & SEALING RECORD

Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted - Cement (3)

71 PUMPING TEST

Pumping test method: ☐ 1 Pump ☒ 2 Bailer
Pumping rate: 7 GPM
Duration of pumping: 1 Hours Mins

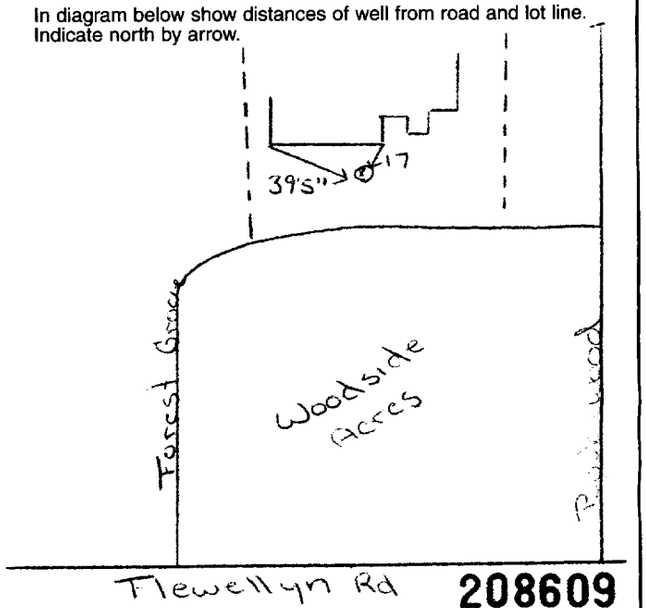
Static level	Water level end of pumping	Water levels during: ☒ 1 Pumping ☐ 2 Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
8 feet	125 feet	65 feet	90 feet	110 feet	125 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	150 feet	7 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL

☒ 1 Water supply ☐ 2 Observation well ☐ 3 Test hole ☐ 4 Recharge well ☐ 5 Abandoned, insufficient supply ☐ 6 Abandoned, poor quality ☐ 7 Abandoned (Other) ☐ 8 Dewatering ☐ 9 Unfinished ☐ 10 Replacement well

WATER USE

☒ 1 Domestic ☐ 2 Stock ☐ 3 Irrigation ☐ 4 Industrial ☐ 5 Commercial ☐ 6 Municipal ☐ 7 Public supply ☐ 8 Cooling & air conditioning ☐ 9 Not use ☐ 10 Other

METHOD OF CONSTRUCTION

☒ 1 Cable tool 50-172 ☐ 2 Rotary (conventional) ☐ 3 Rotary (reverse) ☐ 4 Rotary (air) ☒ 5 Air percussion 0-50 ☐ 6 Boring ☐ 7 Diamond ☐ 8 Jetting ☐ 9 Driving ☐ 10 Digging ☐ 11 Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address	
P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician	**Well Technician's Licence No.**
S. Miller	T0097
Signature of Technician/Contractor	**Submission date**
[signature]	day 19 mo 6 yr 00

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JUL 17 2000
Date of inspection	Inspector	
Remarks		

CSS.ES0

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Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 1531197 — Municipality 15003 — Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	23

[redacted]

Address: 193 Winding Way Nepean,Ontario

Date completed: 16 day 6 month 00 year

21 — UTM — Northing — RC — Elevation — RC — Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Clay			0	10
Brown	Hardpan	Boulders		10	30
Gray	Hardpan			30	65
Gray	Sand & Gravel			65	71
Gray & White	Sandstone		Very Hard	71	90

31

32

41 WATER RECORD

Water found at - feet	Kind of water
85	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	73
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		73	90
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type — Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
60	0	Grouted -Bentonite (3)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer

Pumping rate	Duration of pumping
25 GPM	1 Hours ..... Mins

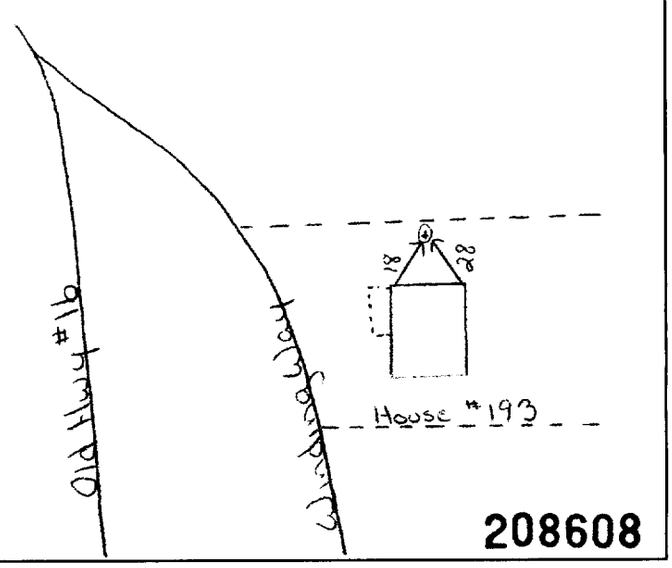
Static level	Water level end of pumping	Water levels during: 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
21'0"	35 feet	85 feet	60 feet	50 feet	35 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☒ Deep	50 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



208608

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other .....

METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 5 ☒ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097

Signature of Technician/Contractor — Submission date: day 19 mo 6 yr 00

MINISTRY USE ONLY

Data source — Contractor: 1558 — Date received: JUL 17 2000

Date of inspection — Inspector

Remarks: CSS.ES0

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Ontario Ministry of the Environment

The Ontario Water Resources Act

WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 **1531200** Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First Name	Address	Date completed
Amsted Construction		P.O. Box 129 Stittsville,Ontario K2S 1A2	28 day 6 month 00 year

21 Zone Easting Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Soil	Rock		0	10
Gray	Limestone		Medium Soft	10	88

31

32

41 WATER RECORD

Water found at - feet	Kind of water
82	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
NOT TESTED	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas
	1 Fresh 2 Salty 3 Sulphur 4 Minerals 5 Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic	.188	0	22
6 1/8	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic		22	50
6	1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic		50	88

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted-Cement (4)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 Pump 2 Bailer	8 GPM	1 Hours Mins

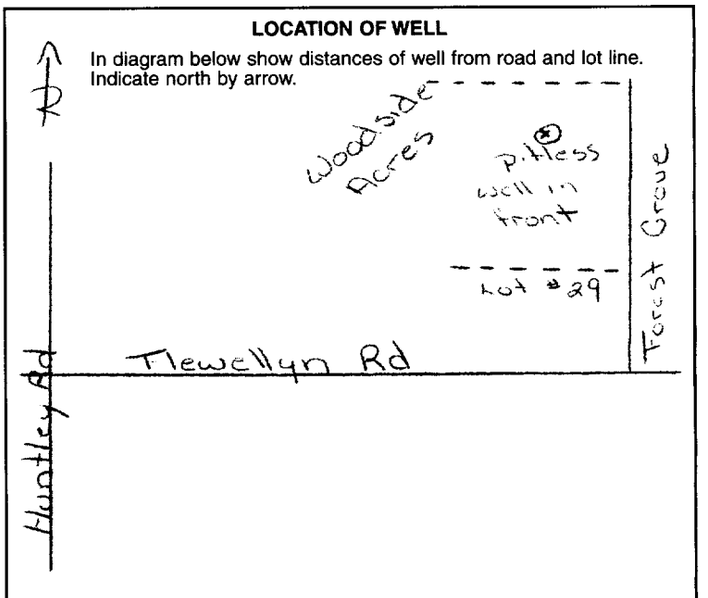
Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
8 feet	16 feet	1 Pumping 2 Recovery	18 feet	18 feet	17 feet	16 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	Clear Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
Shallow Deep	40 feet	5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



208624

FINAL STATUS OF WELL

1 Water supply 2 Observation well 3 Test hole 4 Recharge well 5 Abandoned, insufficient supply 6 Abandoned, poor quality 7 Abandoned (Other) 8 Dewatering 9 Unfinished 10 Replacement well

WATER USE

1 Domestic 2 Stock 3 Irrigation 4 Industrial 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air conditioning 9 Not use 10 Other

METHOD OF CONSTRUCTION

1 Cable tool 50-88 2 Rotary (conventional) 3 Rotary (reverse) 4 Rotary (air) 0-50 5 Air percussion 6 Boring 7 Diamond 8 Jetting 9 Driving 10 Digging 11 Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Suuply Ltd	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller/P. Stanton	T0097

Signature of Technician/Contractor: Kelly Stanton

Submission date: day 30 mo 6 yr 00

MINISTRY USE ONLY

Data source 58 | Contractor 1558 59-62 | Date received JUL 17 2000 63-68 80

Date of inspection | Inspector

Remarks: CSS.ES0

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Ontario **Ministry of the Environment**

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 (1 2) **1531659** Municipality 15003 (10 14) Con. CON (15 22 23 24) 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa Carleton	Goulbourn	9	23

Address: P.O. Box 190 Carp,Ontario K0A 1L0

Date completed (48-53): 20 day 11 month 00 year

21 (1 2) UTM (10) Northing (12 17) (18 24) RC (25) Elevation (26) RC (30) Basin Code (31) ii iii iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Sandy Soil		Very Wet	0	7
Gray	Limestone		Medium Hard	7	102

31 (10 14 15 21)

32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet (10-13)	Kind of water (14)	(60)
65	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas	
91	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas	
NOT TESTED (20-23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)	
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)	
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34)	

51 CASING & OPEN HOLE RECORD

Inside diam inches (10-11)	Material (12)	Wall thickness inches	Depth - feet From (15-16)	Depth - feet To (20-23)
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22.5
6 1/16 (17-18)	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic (19)		22.5	102
(24-25)	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic (26)			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From (10-13)	Depth set at - feet To (14-17)	Material and type (Cement grout, bentonite, etc.)
22.5	0	Grouted - Cement (4)
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10): 1 ☐ Pump 2 ☒ Bailer

Pumping rate (11-14): 8 GPM

Duration of pumping (15-16 Hours, 17-18 Mins): 1 Hours

Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25): 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
6 feet	14 feet	9 feet	12 feet	14 feet	14 feet

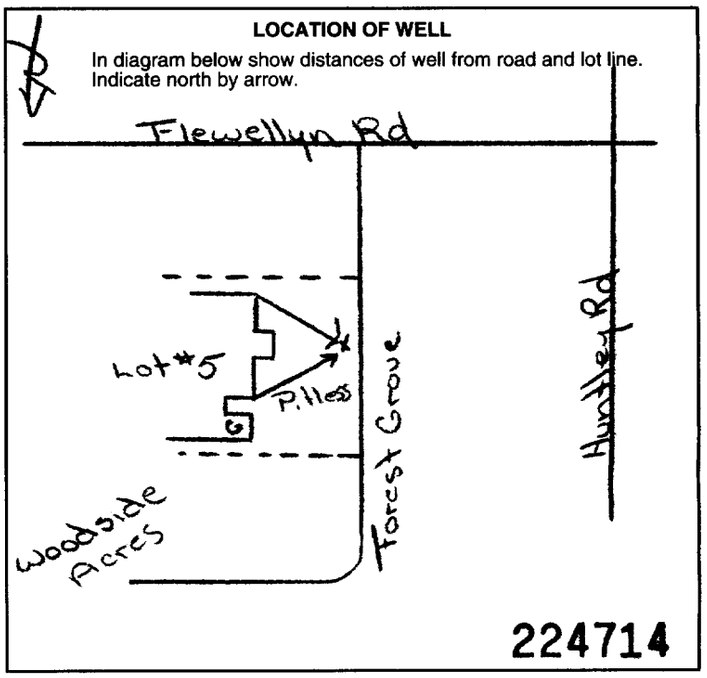
If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☒ Deep	60 feet	5 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



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FINAL STATUS OF WELL (54)

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55-56)

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☒ Cable tool 55-102 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 0-55 5 ☒ Air percussion 0-55 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address	
P.O. Box 490 Stittsville,Ontario K2S 1A6	
Name of Well Technician	**Well Technician's Licence No.**
S. Miller	T0097
Signature of Technician/Contractor	**Submission date**
	day 21 mo 11 yr 00

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	JAN 30 2001
Date of inspection	Inspector	
Remarks		CSS.ES1

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Ontario **Ministry of the Environment**

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 (1-2) **1531905** Municipality 15003 (10-14) Con. CON (15-22) 08 (23-24)

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot (25-27)
Ottawa Carleton	Goulbourn	8				23

[redacted]

Address: 41 Delamere Dr., Stittsville, ON. K2S 1R2

Date completed (48-53): 08 day 05 month 01 year

21 (1-2) | UTM (10) | Northing (12-17) | (18-24) | RC (25) | Elevation (26) | RC (30) | Basin Code (31) | ii | iii | iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	Soil	Stoned		0	5
Brown	Sand		wet	5	10
Grey	Sand	Stones		10	24
Grey	Limestone		med soft	24	70

31 (1-2) | 32 (10-14, 15-21, 32-43, 54-65, 75-80)

41 WATER RECORD

Water found at - feet	Kind of water
69 (10-13)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas 6 ☐ (14) NOT TESTED
(15-18)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas 6 ☐ (19)
(20-23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas 6 ☐ (24)
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas 6 ☐ (29)
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas 6 ☐ (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 (10-11) 1/4	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	27 (13-16)
(17-18) 6	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		27	70 (20-23)
(24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
(10-13) 27	(14-17) 0	Grouted-cement(4)
(18-21)	(22-25)	
(26-29)	(30-33)	(80)

71 PUMPING TEST

Pumping test method (10): 1 ☒ Pump 2 ☐ Bailer

Pumping rate (11-14): 50 GPM

Duration of pumping (15-16): 1 Hours (17-18) Mins

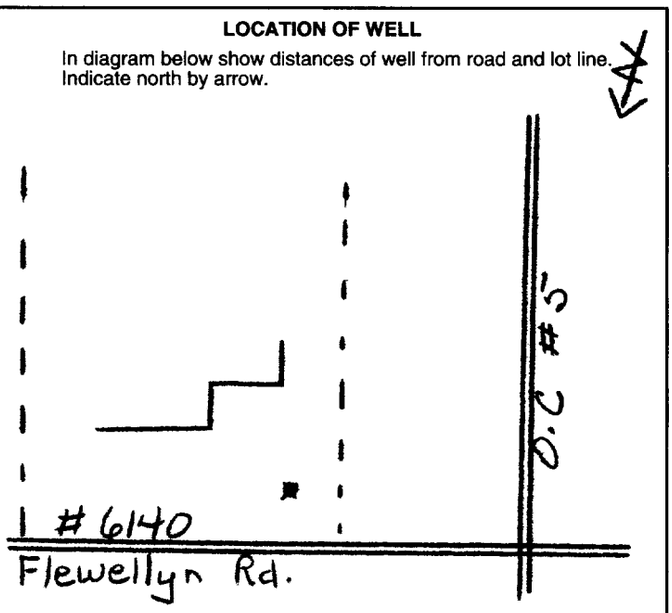
Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25): 1 ☒ Pumping 2 ☐ Recovery			
		15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
5'6" feet	30 feet	60 feet	50 feet	40 feet	30 feet

If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep	Recommended pump setting (43-45): 40 feet	Recommended pump rate (46-49): 5 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



230090

FINAL STATUS OF WELL (54)

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55-56)

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 5 ☒ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: Box 490, Stittsville, ON. K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 09 mo 05 yr 01

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	JUN 15 2001
Date of inspection	Inspector	
Remarks: CSS.ES1		

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Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 (1 2) **1532031** Municipality 15003 (10 14) Con. CON 09 (15 22 23 24)

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa Carleton	Gopalbourn	9	23

[redacted]

Address: 63 Barrow Crescent, Kanata ON/ K2L 2K9

Date completed (48-53): 25 day 06 month 01 year

21 (1 2) UTM (10) Northing (12 17 18 24) RC (25) Elevation (26) RC (30) Basin Code (31) ii iii iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
Brown	sand	stones		0	11
Grey	limestone		med hard	11	50
Grey	limestone			50	64
	NOTE:	casing was left 1 ft. above ground level			
		at time of drilling.			

31

32 (10 14 15 21 32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet	Kind of water
58 (10-13)	1 ☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals 2 ☐ Salty 6 ☐ Gas (14) NOT TESTED
(15-18)	1 ☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals 2 ☐ Salty 6 ☐ Gas (19)
(20-23)	1 ☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals 2 ☐ Salty 6 ☐ Gas (24)
(25-28)	1 ☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals 2 ☐ Salty 6 ☐ Gas (29)
(30-33)	1 ☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals 2 ☐ Salty 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4 (10)	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	21'6"
6 1/8 (17-18)	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		21'6"	50 (20-23)
5 3/4 (24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		50	64 (27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21'6" (10-13)	0 (14-17)	Grouted-cement (4)
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10)	Pumping rate (11-14)	Duration of pumping (15-16 Hours, 17-18 Mins)
ai Pump 2 ☒ Bailer	16 GPM	1 Hours

Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25): 1 ☐ Pumping 2 ☒ Recovery			
		15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
7 feet	12 feet	8 feet	7 feet	7 feet	7 feet

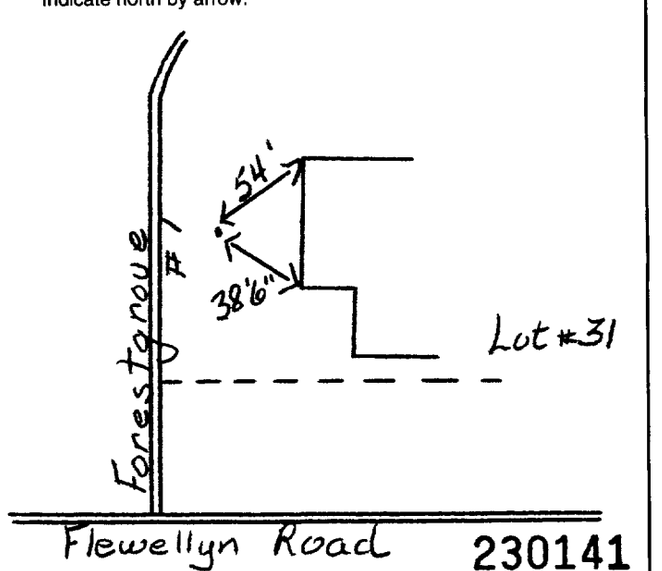
If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☒ Deep	40 feet	5 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL (54)

1 ☒ Water supply
2 ☐ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE (55-56)

1 ☒ Domestic
2 ☐ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not use
10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☒ Cable tool 50-64
2 ☐ Rotary (conventional)
3 ☐ Rotary (reverse)
4 ☒ Rotary (air)
5 ☒ Air percussion
6 ☐ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: Box 490, Stittsville ON. K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller P. STANTON	T0097 T0086

Signature of Technician/Contractor: [signature]

Submission date: day 27 mo 06 yr 01

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	JUL 18 2001

Date of inspection | Inspector

Remarks

CSS.ES1

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Ontario **Ministry of the Environment**

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 (1 2) **1532642**

Municipality (10–14) 15003 Con. (15–22) CON (23 24) 08

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
[redacted]	Goulbourn	8	25
	Address: Stittsville, Ont	Date completed (48-53): 8 day 02 month 02 year	

21 (1 2) UTM (10) Northing (12–17) (18–24) RC (25) Elevation (26–29) RC (30) Basin Code (31–47) ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
	Sand & Gravel			0	16
Grey	limestone			16	61

31 (10 14 15 21) 32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet	Kind of water
33 (10-13)	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (14)
53 (15-18)	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (19)
54 (20-23)	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (24)
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (29)
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4 (10-11)	1 ☐ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	0	22 (13-16)
8 3/4 (17-18)	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		0	20 (20-23)
6 (24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		20	61 (27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	**Depth at top of screen (41-44) feet**	(30)

61 PLUGGING & SEALING RECORD

☑ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
2 (10-13)	22 (14-17)	cement grout
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10): 1 ☑ Pump 2 ☐ Bailer
Pumping rate (11-14): 26 GPM
Duration of pumping (15-16) Hours (17-18) Mins: 1 hour

Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25): 1 ☐ Pumping 2 ☑ Recovery			
		15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
4 feet	50 feet	4 feet	4 feet	4 feet	4 feet

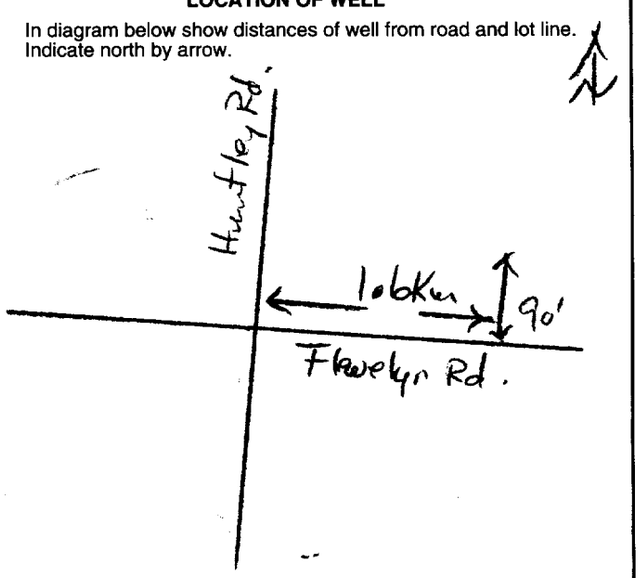
If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☑ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☑ Deep	50 feet	26 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



237772

FINAL STATUS OF WELL (54)

1 ☑ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55-56)

1 ☑ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☑ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Air-Rock Drilling Ltd	1119
Address: RR # 2 Jasper Ont	
Name of Well Technician: Shannon Purcell	Well Technician's Licence No.: T2122
Signature of Technician/Contractor	Submission date: 15 day 02 mo 02 yr

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1119	FEB 25 2002
Date of inspection	Inspector	
Remarks: CSS.ES2		

0506 (07/00) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 1533027 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	Goulbourn	9	24

Owner's surname	First Name	Address	Date completed
Maple Mountain Homes		P.O. Box 730 Richmond, Ontario K0A 2Z0	2 day 7 month 02 year

21 UTM Zone | Easting | Northing | RC | Elevation | RC | Basin Code | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
	Previously Drilled and Plugged			0	
	Open Hole			0	6
	Hole Plug			6	120

31

32

41 WATER RECORD

Water found at - feet	Kind of water
10-13	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
15-18	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
20-23	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
25-28	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
30-33	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
10-11	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			13-16
17-18	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			20-23
24-25	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			27-30

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer

Pumping rate: 20 GPM

Duration of pumping: 1 Hours ..... Mins

25 Water levels during ☒ Pumping 2 ☐ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
6'2" feet	20 feet	115 feet	90 feet	60 feet	20 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☒ Cloudy

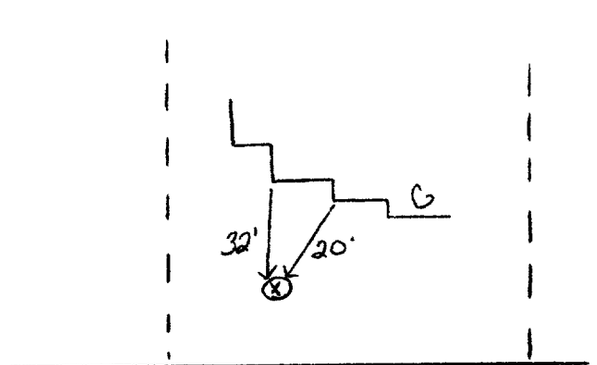
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 50 feet

Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



238194

FINAL STATUS OF WELL 54

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE 55-56

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other .....

METHOD OF CONSTRUCTION 57

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☒ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097

Signature of Technician/Contractor

Submission date: day 5 mo 7 yr 02

MINISTRY USE ONLY

Data source 58 | Contractor 1558 59-62 | Date received AUG 13 2002 63-68 80

Date of inspection | Inspector

Remarks

CSS.ES2

0506 (07/00) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 1533078 Municipality 15003 Con. CON 09

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
Ottawa Carleton	Goulbourn	9				23

[redacted]

Address: Box 190 Carp, Ontario K0A 1L0

Date completed: 12 day 08 month 02 year

21 | UTM | Northing | RC | Elevation | RC | Basin Code | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
brown	soil	&stones		0	8
grey	limestone		med hard	8	181
	Note: Casing was left 1 foota above ground level at time of drilling.				

31

32

41 WATER RECORD

Water found at - feet	Kind of water
125	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
145	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
176	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
not tested	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	21'6"
5 7/8	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		21'6	48
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		48	181

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21'6	0	grouted cement (4)

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☒ Bailer

Pumping rate: 12 GPM

Duration of pumping: 1 Hours ... Mins

Static level: 24 feet

Water level end of pumping: 50 feet

Water levels during: ☒ Pumping 2 ☐ Recovery

15 minutes	30 minutes	45 minutes	60 minutes
42 feet	45 feet	48 feet	50 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☒ Cloudy

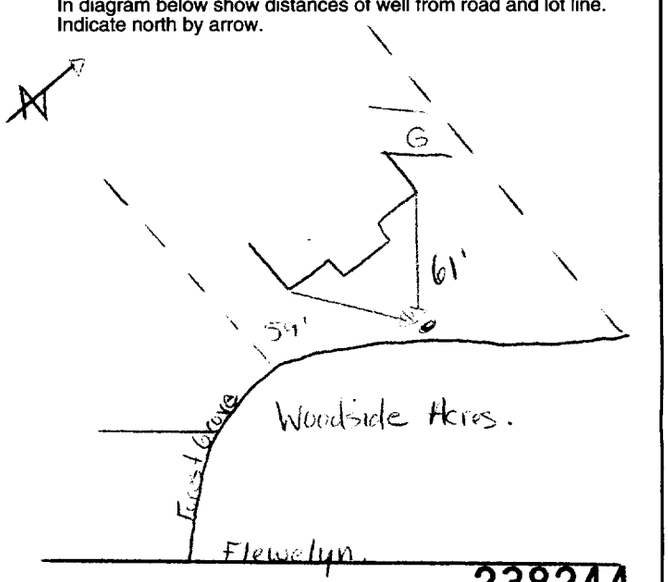
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 75 feet

Recommended pump rate: 5 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



238244

FINAL STATUS OF WELL

1 ☒ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION

1 ☒ Cable tool 50-181 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☒ Air percussion 0-50 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: B. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 13 mo 08 yr 02

MINISTRY USE ONLY: Data source | Contractor 1558 | Date received SEP 16 2002

Date of inspection | Inspector

Remarks: CSS.EC2

2 - MINISTRY OF THE ENVIRONMENT COPY

0506 (07/00) Front Form 9

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* A119663 **A119663**

Well Record

...tion 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
14 Poplarwood (Lot 43)	Goulbourn	23	9

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa Carleton	Stittsville	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	429114	5010184		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Previously Drilled			0	33.52
				33.52	83.20

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)

Method of Construction

- ☐ Cable Tool
- ☒ Rotary (Conventional)
- ☐ Rotary (Reverse)
- ☐ Boring
- ☒ Air percussion
- ☐ Diamond
- ☐ Jetting
- ☐ Driving
- ☐ Digging
- ☐ Other, *specify* _____

Well Use

- ☐ Public
- ☒ Domestic
- ☐ Livestock
- ☐ Irrigation
- ☐ Industrial
- ☐ Commercial
- ☐ Municipal
- ☐ Test Hole
- ☐ Cooling & Air Conditioning
- ☐ Not used
- ☐ Dewatering
- ☐ Monitoring
- ☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

- ☒ Water Supply
- ☐ Replacement Well
- ☐ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, *specify*
- ☐ Other, *specify*

Water Details

Water found at Depth	Kind of Water	
67.35 (m/ft) ☐ Gas	☐ Fresh ☒ Untested ☐ Other, *specify*	
81.98 (m/ft) ☐ Gas	☐ Fresh ☒ Untested ☐ Other, *specify*	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
33.52	83.20	15.23

Results of Well Yield Testing

After test of well yield, water was:
☒ Clear and sand free ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at (m/ft): 60.95

Pumping rate (l/min / GPM): 45.5

Duration of pumping: 1 hrs + _____ min

Final water level end of pumping (m/ft): 27.32

If flowing give rate (l/min / GPM):

Recommended pump depth (m/ft): 39.62

Recommended pump rate (l/min / GPM): 45.5

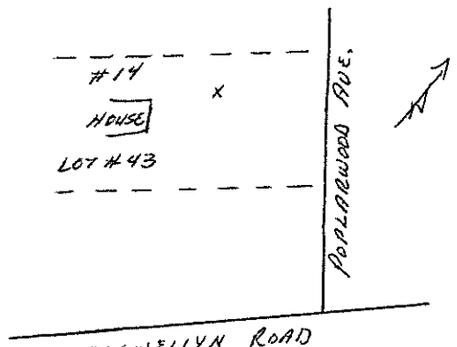
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	9.89		
1	11.10	1	24.57
2	12.12	2	22.26
3	13.35	3	19.18
4	14.49	4	18.98
5	15.41	5	16.58
10	19.12	10	11.78
15	19.62	15	9.26
20	20.59	20	8.32
25	23.96	25	8.48
30	24.80	30	8.44
40	25.52	40	8.31
50	26.03	50	8.26
60	27.32	60	8.24

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Business Address (Street Number/Name)	Municipality
Box 490	Stittsville

Province	Postal Code	Business E-mail Address
Ontario	K2S 1A6	office@capitalwater.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
613 836 1766	Miller, Stephen	0097		2011 11 02

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2011 11 02	2011 11 02

Ministry Use Only

Audit No. Z139723

Received FEB 09 2012

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)*: A136701 MW 14+801/12-20

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Measurements recorded in: ☒ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☒ Well Constructed by Well Owner
	CITY OF OTTAWA		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
100 CONSTELLATION CRESCENT	OTTAWA	ON	K2G6J8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
FLEWELLYN ROAD / SHEA ROAD			

County/District/Municipality	City/Town/Village	Province	Postal Code
		Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	430515	5010899		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
GREY	FILL	GRAVELLY SAND, TRACE SILT		0	0.6
	TILL	SANDY SILT, GRAVEL	LOOSE TO DENSE	0.6	4.1
GREY	TILL	SILTY SAND, GRAVEL	VERY DENSE	4.1	5.1

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.6	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, *specify* HSA

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.08	PVC	SCHED 40	0	3.6

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
5.8	PVC	10	3.6	5.1

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth (m/ft) From	Hole Diameter Depth (m/ft) To	Hole Diameter (cm/in)
☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			
☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			
☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

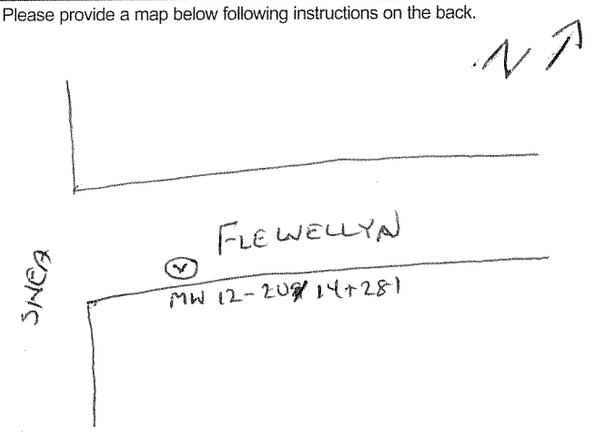
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

MW 12-20, SEE ATTACHED ALSO

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEORGE DOWNING ESTATE DRILLING	1814

Business Address (Street Number/Name)	Municipality
410 RUE PRINCIPALE	GRENVILLE-SUR-LA-ROUGE

Province	Postal Code	Business E-mail Address
QC	J0V1B0	downing@hawk

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
		2013/08/01

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2013/05/23

Ministry Use Only

Audit No. Z 161278

Received AUG 07 2013

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Ministry's Copy

Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* N/A

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed Well Owner
	J.P. Chenier Company Ltd c/o	1384341 Ontario Ltd.	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
9094 Cavanagh Road	Ashton	ON	K0A 1B0	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
6279 Fembank Road	Goulbourn	P/L 3	10

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa-Carleton	Stittsville	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	18	428097	5011040.		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	1 1/4" PVC	DRILLED WELL		0'	27'
	Monitoring Well				

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
27'	6'	3/8 Hole Plug	1 Bag
6'	0'	Back fill	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

New Construction

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☒ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter *(cm/in)*

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* Not tested

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

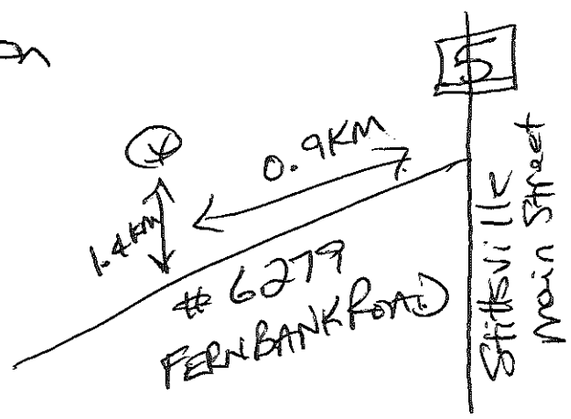
Disinfected?
☒ Yes ☐ No

	Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Flow

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Air Rock Drilling Co. Ltd.	7119

Business Address (Street Number/Name)	Municipality
6659 Frankford Road	Richmond

Province	Postal Code	Business E-mail Address
ON	K0A 2Z0	air.rock@sympatico.ca

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
6138382170	Desaulniers, Ken

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
7119		2016 09 30

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No	[redacted]	2016 07 26

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Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A215716

Well Record

Regulation 903 Ontario Water Resources Act

5-21799 Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Davidson Co - Tenancy / c/o Tartan Lands Consultants Inc.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
237 Somerset St. W	Ottawa	ON	K2P 0J3	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
~~Shea and Fernbank~~ Flewellyn			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Stittsville	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	429941	5016554		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	top soil		soft	0	.31
BRN	sand	silt, stones	soft	.31	2.44
GRY	silt,	stones	dense	2.44	4.57
GRY	shale		layered	4.57	10.06

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
0	.31	concrete/monument	
.31	5.49	bentonite	
5.49	10.06	filter sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☑ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.20	PVC	.340	0	7.01

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.03	PVC	10	7.01	10.06

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, *specify*
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	6.1	11.43
6.1	10.06	7.62

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7214

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3R8V2	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9059407919	Beath, Brian

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2018/04/18

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
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3			3	
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Map of Well Location

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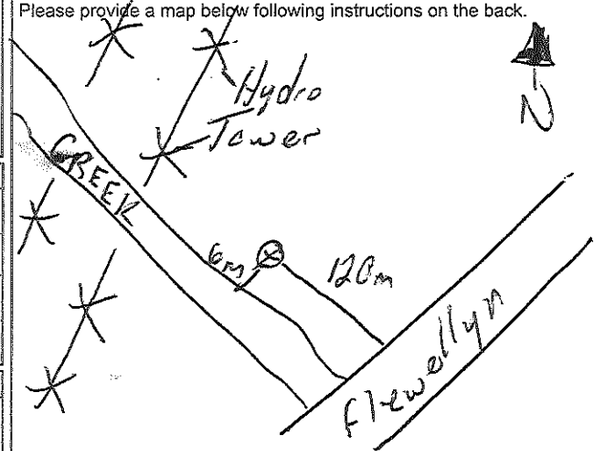

Comments:

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2018 04 03

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Audit No. Z277801

AUG 20 2018

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