

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 dated August 7, 2024



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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)
П	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, BH3-22, BH3-22, 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

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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 x 10⁻⁷ to 6.4 x 10⁻⁶ m/sec at a depth of 0.3 m and \leq 8.3 x 10⁻⁹ to 5.9 x 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 (²H) and oxygen-18 (¹⁸O), are a useful tool to trace the water cycle and identify potential groundwater recharge and/or discharge zones. The ²H and ¹⁸O signature of local meteoric water will vary seasonally, apposed to the ²H and ¹⁸O 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 (²H) and oxygen-18 (¹⁸O), 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.

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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 aguifer 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 manmade 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 aguifer 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 $\le 8.3 \times 10^{-9}$ 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 aguifer 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 ¹⁸O

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 ²H and ¹⁸O 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 ²H and ¹⁸O signature that is similar to the ²H and ¹⁸O isotopes associated with that specific event. However, groundwater will generally have a ²H and ¹⁸O signature similar to the average ²H and ¹⁸O value of the LMWL. Therefore, it is expected that precipitation derived water ²H and ¹⁸O 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 ²H and ¹⁸O 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 ²H and ¹⁸O 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 aguifer 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,

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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.

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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 - GROUNDWATER LEVEL MEASUREMENT SUMMARY

TABLE 2- SINGLE WELL RESPONSE TEST RESULTS SUMMARY

TABLE 3 - OVERBURDEN FIELD SATURATED HYDRAULIC CONDUCTIVITY RESULTS AND ESTIMATED INFILTRATION RATES

TABLE 4 & 4b - HORIZONTAL HYDRAULIC GRADIENT SUMMARY

TABLE 5 - VERTICAL HYDRAULIC GRADIENT SUMMARY

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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
	undwater (GW) easurements														
11-Jan-22	GW Level (m bgs) GW Elevation (m asl)	1.22 103.07	0.82 106.37	0.89 107.52	2.49 100.49	0.67 102.40	1.84 102.86	Wells Were Not Installed At This Time							
11-Oct-22	GW Level (m bgs) GW Elevation (m asl)	1.12 103.17	1.16 106.03	0.90 107.51	2.61 100.37	0.60 102.47	2.12 102.59	0.31 106.48	1.33 105.99	1.44 105.87	1.52 102.06	0.84 101.42	0.81 101.44	3.62 102.10	1.62 104.09
28-Oct-22	GW Level (m bgs) GW Elevation (m asl)	1.01 103.28	0.95 106.25	0.92 107.49	N/A N/A	0.46 102.61	1.98 102.72	0.28 106.51	1.35 105.97	1.43 105.88	1.52 102.06	0.61 101.64	0.40 101.85	3.65 102.07	1.64 104.06
04-Apr-23	GW Level (m bgs) GW Elevation (m asl)	0.09 104.21	0.33 106.87	0.52 107.89	1.77 101.21	-0.03 103.10	1.20 103.51	0.14 106.64	0.83 106.48	0.94 106.38	0.59 102.99	0.11 102.15	0.00 102.25	3.08 102.64	0.90 104.80
31-May-23	GW Level (m bgs) GW Elevation (m asl)	0.97 103.33	0.87 106.32	0.84 107.57	2.72 100.26	0.74 102.34	2.22 102.49	0.29 106.49	1.35 105.96	1.46 105.86	1.31 102.27	0.93 101.32	0.99 101.26	3.48 102.23	1.56 104.14



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				
			1.2x10 ⁻⁵	Falling Head					
			1.5x10 ⁻⁵	Falling Head	1				
BH1-22	107.31	7.5 - 9.0	1.6x10 ⁻⁵	Falling Head	Bedrock				
5 22			1.9x10 ⁻⁵	Rising Head	1				
			1.5x10 ⁻⁵	Rising Head	1				
BH2-22	102.50	75.00	8.9x10 ⁻⁶	Falling Head	Dodrook				
DП2-22	103.58	7.5 - 9.0	9.1x10 ⁻⁶	Rising Head	- Bedrock				
DI IO OO	100.05	75.00	6.0x10 ⁻⁵	Falling Head	Dodrook				
BH3-22	102.25	7.5 - 9.0	6.6x10 ⁻⁵	Rising Head	Bedrock				
DUOA OO	102.25	1.7 - 3.2	4.2x10 ⁻⁶	Falling Head	Silty Sand to Sandy Silt &				
BH3A-22	102.25		4.8x10 ⁻⁶	Rising Head	Glacial Till				
D114.00	105.71	7.5 - 9.0	8.7x10 ⁻⁷	Falling Head	Daduada				
BH4-22			9.1x10 ⁻⁷	Rising Head	- Bedrock				
	105.70	7.5 - 9.0	1.2x10 ⁻⁵	Falling Head	Dadradi				
DUE 00			2.0x10 ⁻⁵	Falling Head	- Bedrock				
BH5-22			1.4x10 ⁻⁵	Rising Head	Dodrook				
			1.5x10 ⁻⁵	Rising Head	Bedrock				
HA1-22	106.78	0.4 - 0.7	2.2x10 ⁻⁵	Falling Head	Silty Sand				
ΠΑ1-22	100.76	0.4 – 0.7	8.8x10 ⁻⁶	Rising Head	Silly Sanu				
BH1-21	104.29	2.8 - 5.8	1.4x10 ⁻⁴	Falling Head	Bedrock				
DI11-21	104.23	2.0 - 5.0	1.1x10 ⁻⁴	Rising Head	Deditock				
			4.0x10 ⁻⁵	Falling Head					
BH2-21	107.19	2.6 - 5.6	4.0x10 ⁻⁵	Falling Head	Bedrock				
DI 12-21	107.19	2.0 - 3.0	3.9x10 ⁻⁵	Rising Head	Deditock				
			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				
			6.0x10 ⁻⁵	Falling Head					
BH24-21	103.07	4.9 - 7.9	7.3x10 ⁻⁵	Falling Head	Bedrock				
DI 124-21	100.07	7.3 - 7.3	5.8x10 ⁻⁵	Rising Head	Dealock				
			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
DITT 21	103.63	Brown Silty Sand	1.9x10 ⁻⁶	56
BH2-21	106.95	Brown Silty Sand	6.4x10 ⁻⁶	76
DITE ET	106.65	Brown Silty Sand	5.3x10 ⁻⁷	39
BH7-21	106.74	Brown Silty Sand	1.1x10 ⁻⁶	47
DITT ET	106.44	Brown Silty Sand	1.6x10 ⁻⁶	52
BH11-21	104.68	Brown Silty Sand	2.7x10 ⁻⁶	60
DI111-21	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
DH13-21	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
DI117-21	106.44 Brown Silty Sand to Sand		4.1x10 ⁻⁶	67
BH22-21	102.58	Brown Silty Sand	1.1x10 ⁻⁶	47
ם חבב-בו	102.28	Brown Silty Sand	1.6x10 ⁻⁶	52
BH23-21	102.33	Brown Silty Clay w/ Sand	5.3x10 ⁻⁷	39
DH23-21	101.70	Brown Silty Clay	< 8.1x10 ⁻⁹	≤ 13
BH26-21	102.74	Brown Silty Clay w/ Sand	1.1x10 ⁻⁷	26
DH20-21	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
סחבא-בו	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
ם ו-2 ו	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
DN3/-21	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 \geq 3.5.

Table 4 -	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

FIGURE 3: BH3-21 - MONITORING WELL WATER ELEVATIONS

FIGURE 4: BH22-21 - MONITORING WELL WATER ELEVATIONS

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

FIGURE 8: BH2-22 - MONITORING WELL WATER ELEVATIONS

FIGURE 9: BH3-22 & BH3A-22 - MONITORING WELL WATER ELEVATIONS

FIGURE 10: BH4-22 - MONITORING WELL WATER ELEVATIONS

FIGURE 11: BH5-22 - MONITORING WELL WATER ELEVATIONS

FIGURE 12: HA1-22 - MONITORING WELL WATER ELEVATIONS

FIGURE 13: BH1-22 δ²H/δ¹⁸O RESULTS

FIGURE 14: BH2-21 δ^2 H/ δ^{18} O RESULTS

FIGURE 15: BH5-22 δ²H/δ¹⁸O RESULTS

FIGURE 16: BH1A-22 δ²H/δ¹⁸O RESULTS

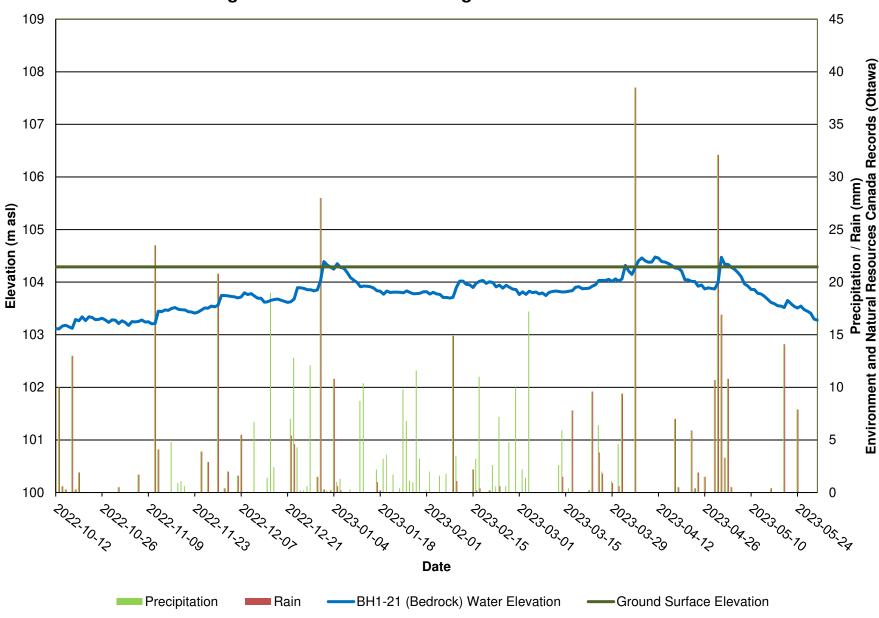


Figure 1: BH1-21 - Monitoring Well Water Elevations



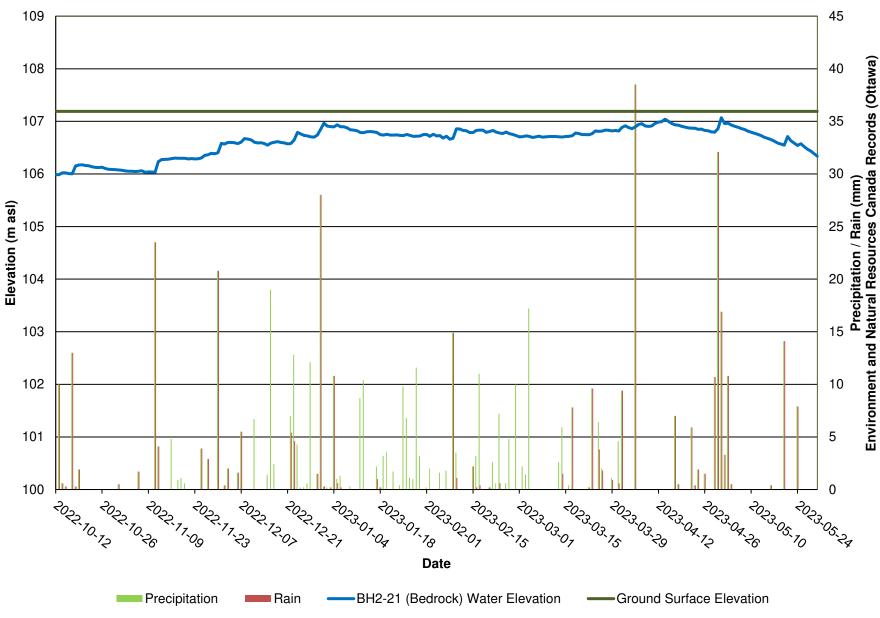


Figure 2: BH2-21 - Monitoring Well Water Elevations



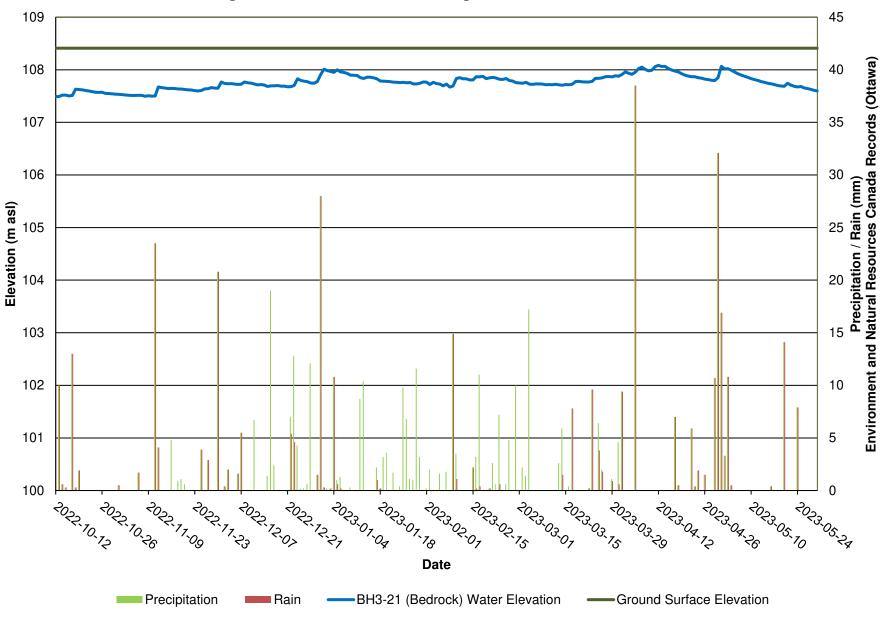


Figure 3: BH3-21 - Monitoring Well Water Elevations



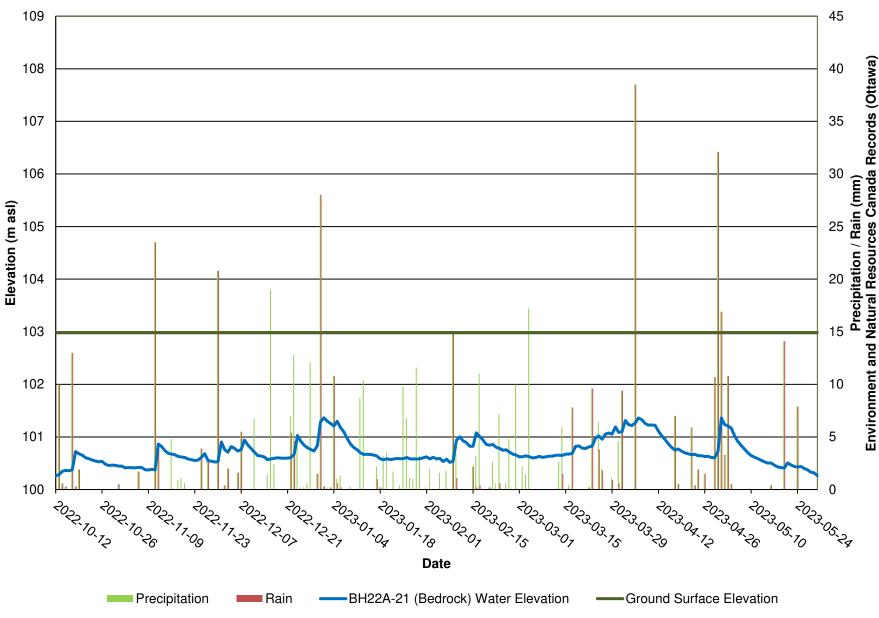


Figure 4: BH22A-21 - Monitoring Well Water Elevations



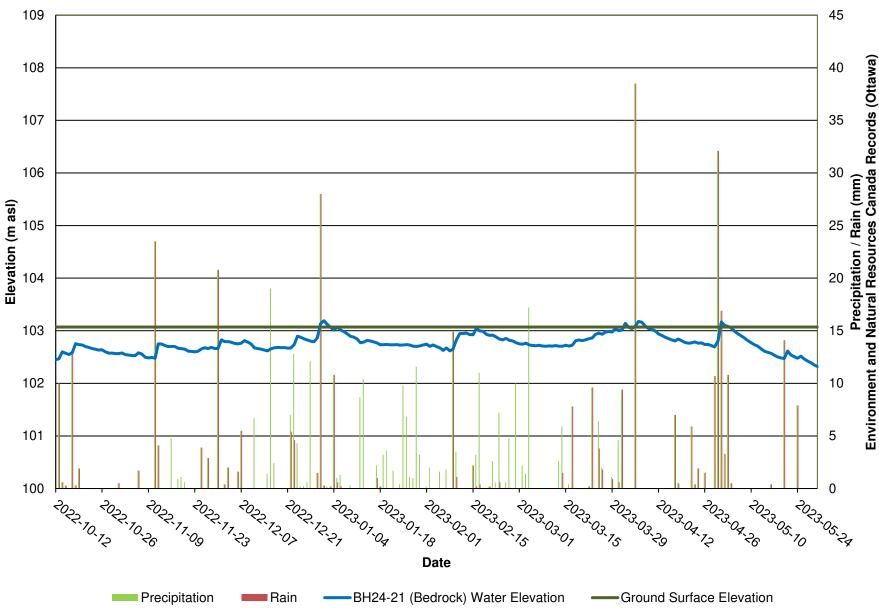


Figure 5: BH24-21 - Monitoring Well Water Elevations



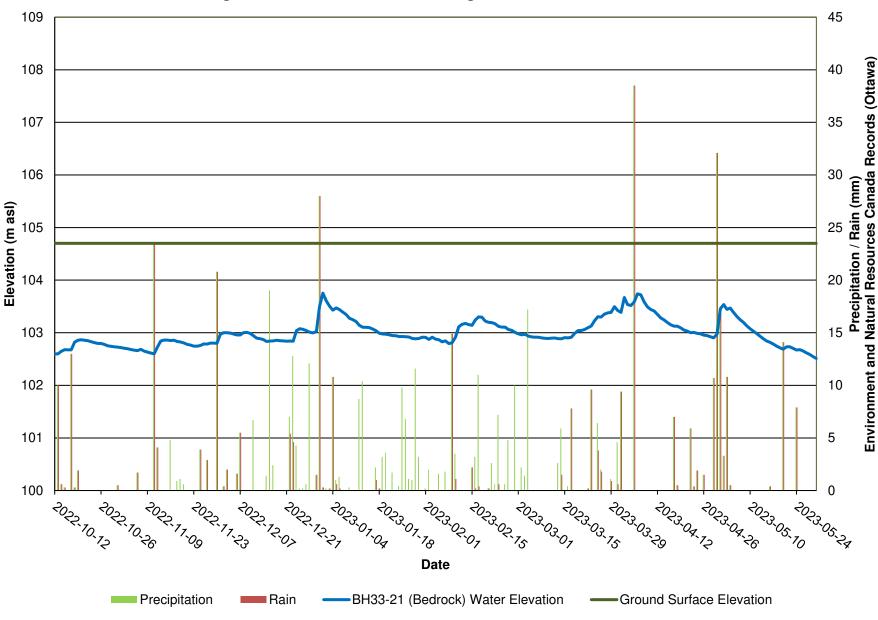
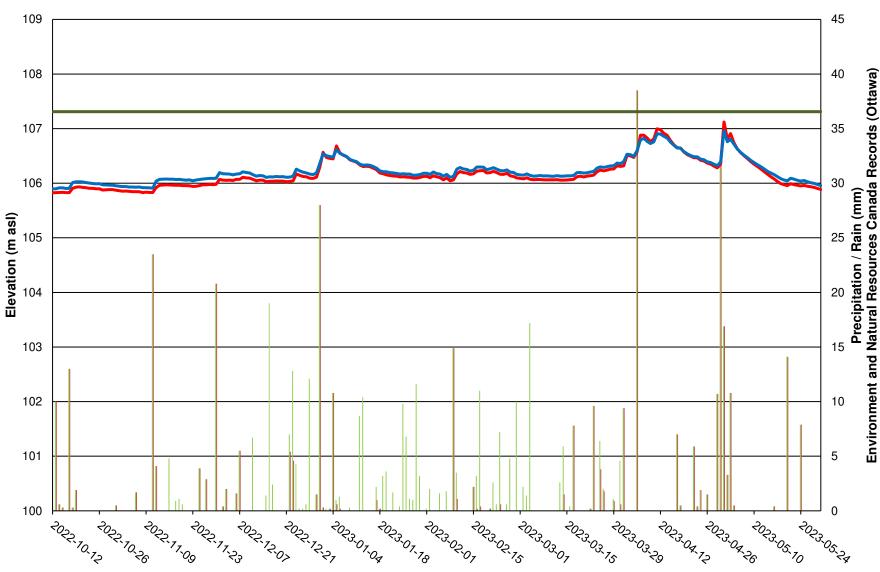


Figure 6: BH33-21 - Monitoring Well Water Elevations





BH1A-22 (Overburden) Water Elevation —BH1-22 (Bedrock) Water Elevation —

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



— Ground Surface Elevation

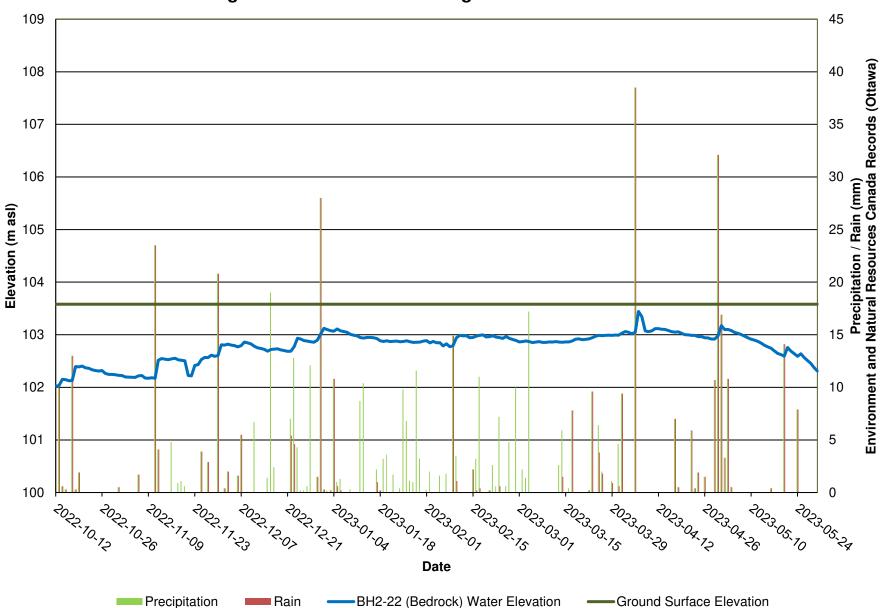
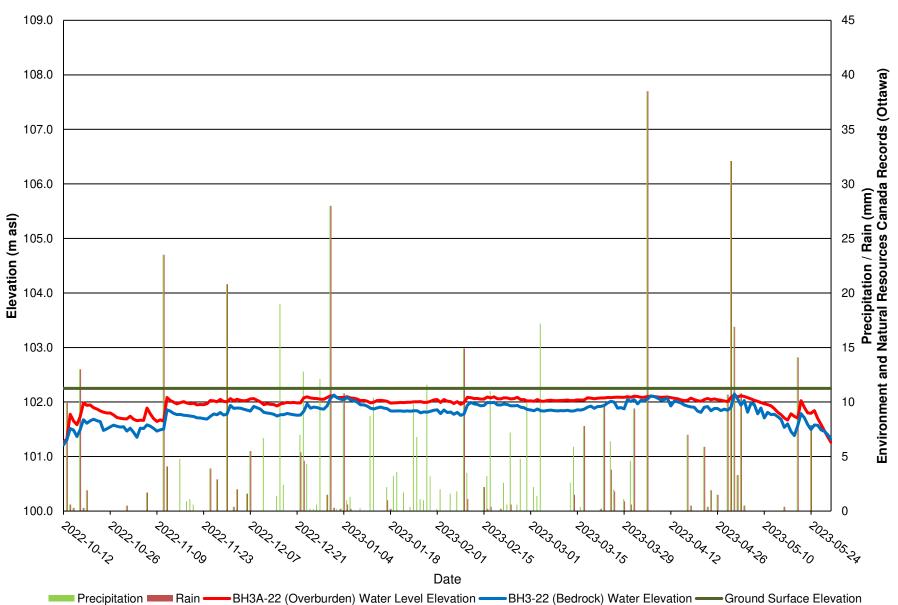


Figure 8: BH2-22 - Monitoring Well Water Elevations



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





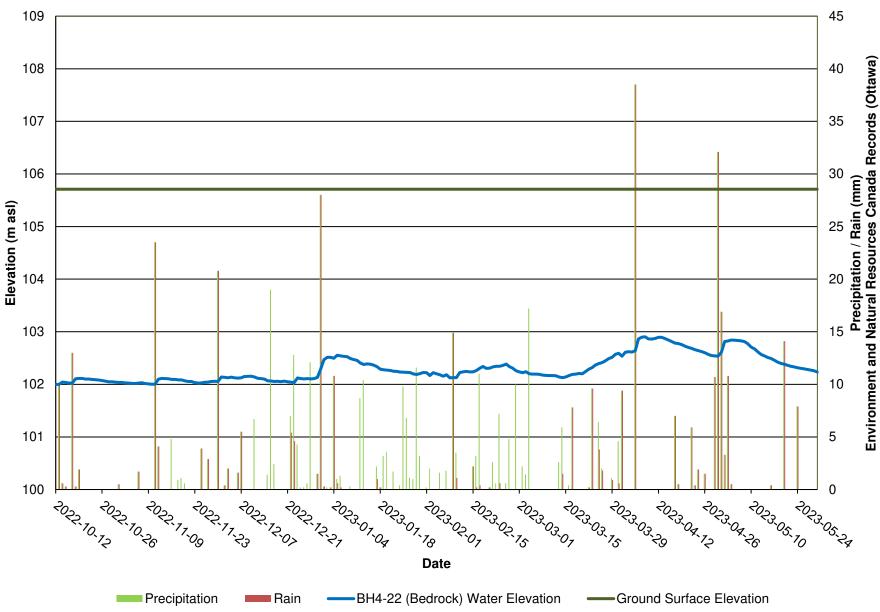


Figure 10: BH4-22 - Monitoring Well Water Elevations



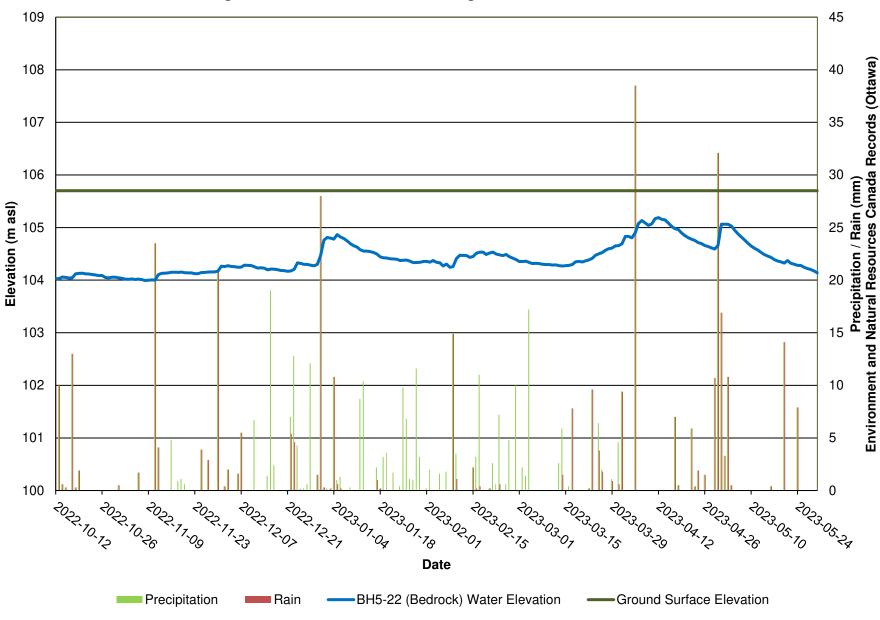


Figure 11: BH5-22 - Monitoring Well Water Elevations



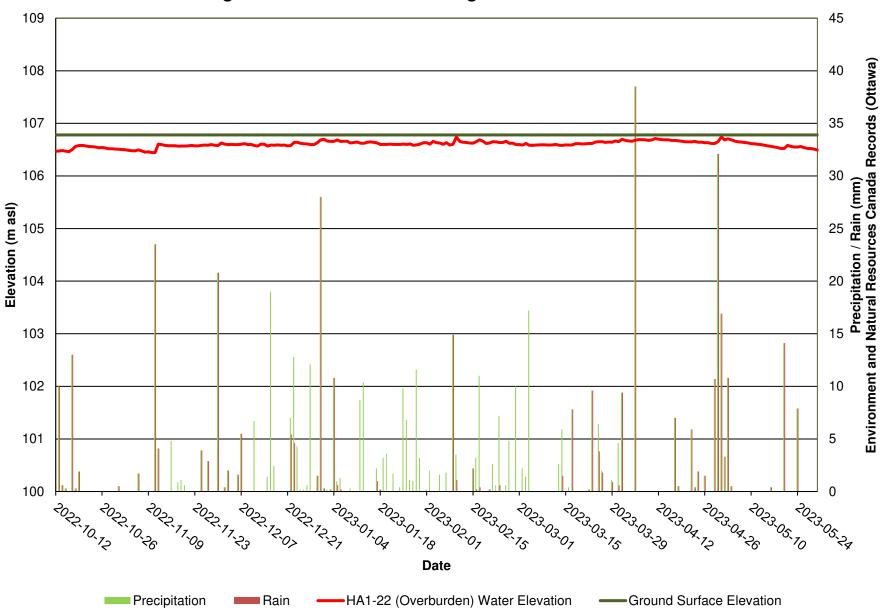


Figure 12: HA1-22 - Monitoring Well Water Elevations



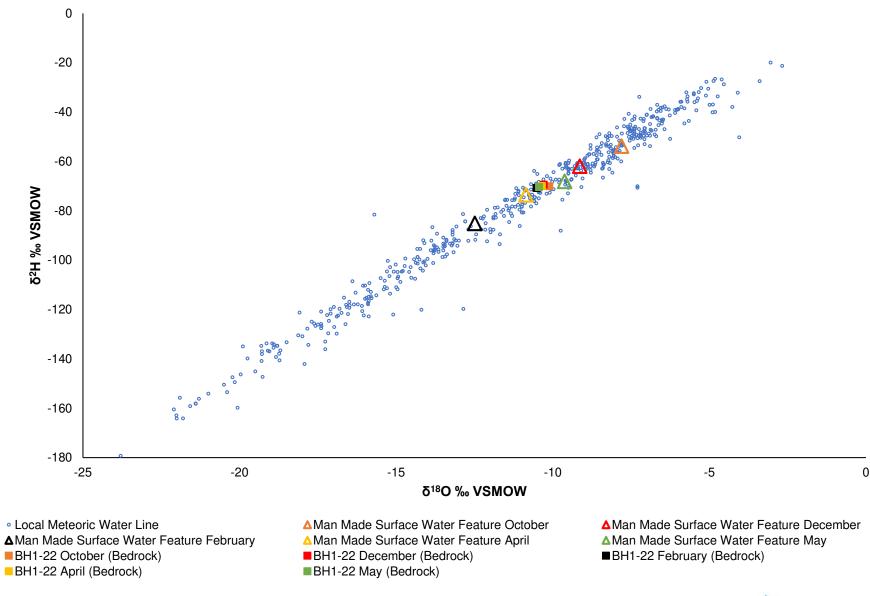


Figure 13: BH1-22 $\delta^2 H/\delta^{18} O$ Results



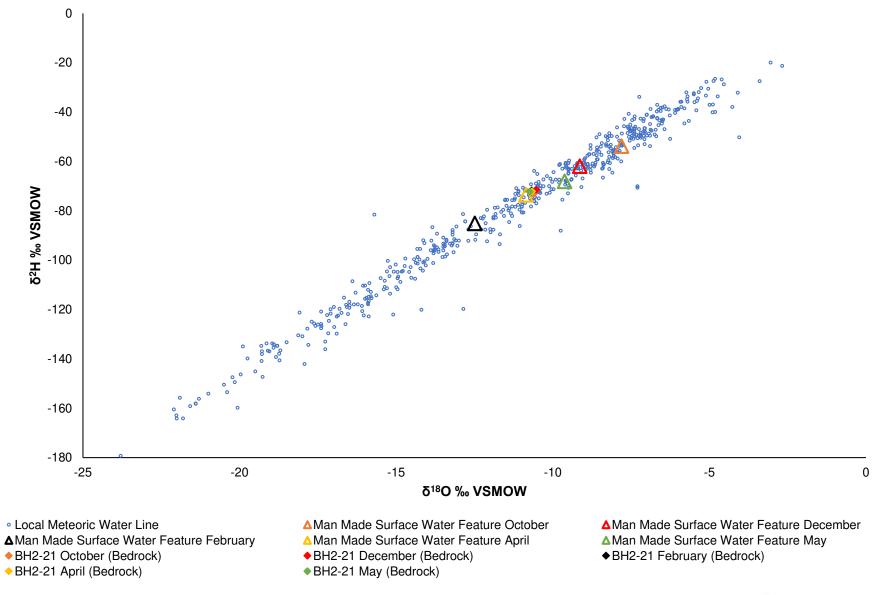


Figure 14: BH2-21 $\delta^2 H/\delta^{18}O$ Results



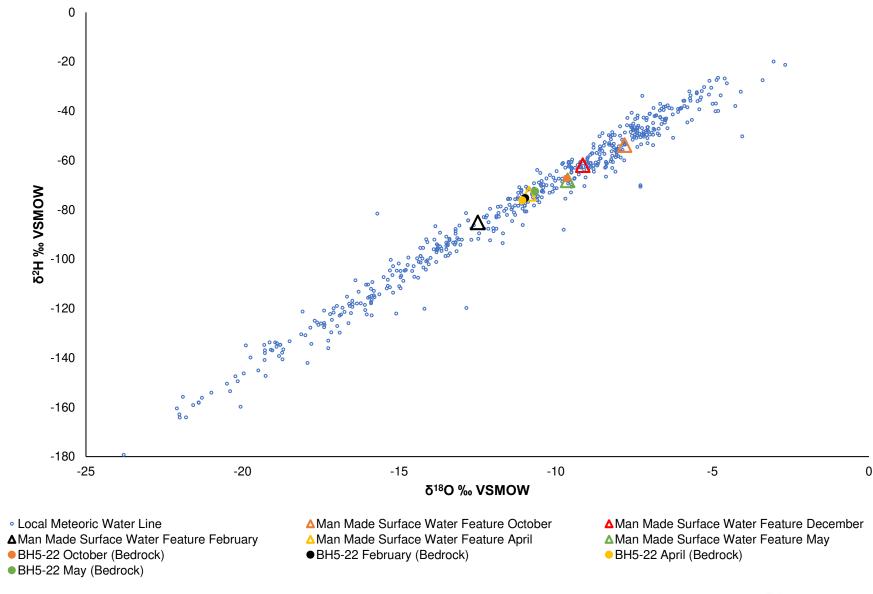


Figure 15: BH5-22 $\delta^2 H/\delta^{18} O$ Results



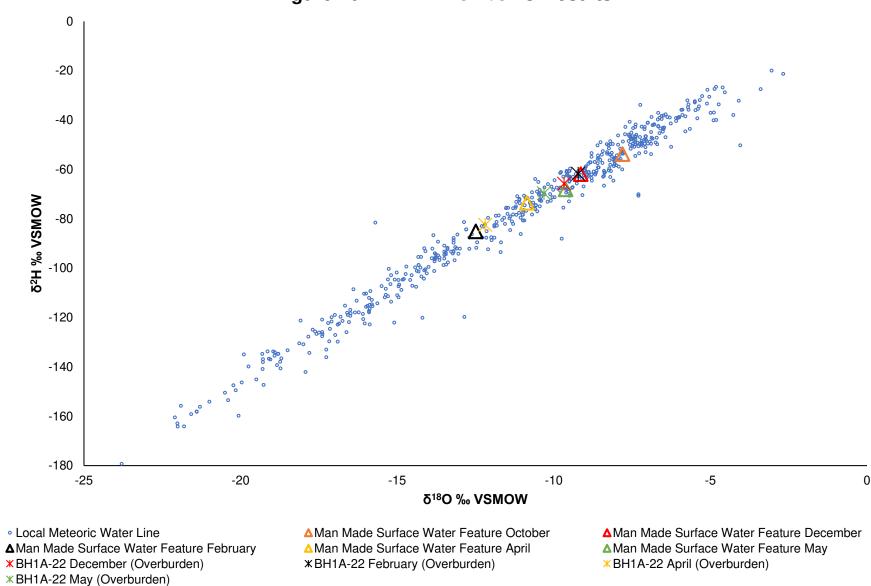


Figure 16: BH1A-22 $\delta^2 H/\delta^{18}O$ Results





APPENDIX 1

PATERSON - TERMS OF REFERENCE

Report: PH4625-REP.01.R2 Appendix 1

August 7, 2024

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Noise and Vibration Studies

Paterson Group Inc.

Consulting Engineers 154 Colonnade Road South Ottawa (Nepean), Ontario Canada K2E 7J5

Tel: (613) 226-7381 Fax: (613) 226-6344 www.patersongroup.ca

patersongroup

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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1 0	Background	PAGE 1
	Study Area	
2.0	Objectives	1
3.0	Existing Studies	1
4.0	Work Plan	2
4.1	Geotechnical Existing Information	2
4.2	Hydrogeological Investigation	3
5.0	Recommendations and Deliverables	4

Appendices

Appendix 1 Figure 1 - Key Plan

PG5570-1 – Proposed Monitoring Well Mark-up of Testhole

Location Plan



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.

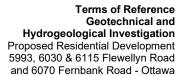
3.0 Existing Studies

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.

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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.

Paterson Geotechnical Report PG2983-1 – Faulkner Lands – Fernbank Road at

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	e 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.

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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.
aluation of the hydrogeological conditions will consist of an evaluation of the bundwater 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.

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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 Gre	auo	Inc.
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Michael S. Killam, P.Eng.

David J. Gilbert, P.Eng

Report Distribution:

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



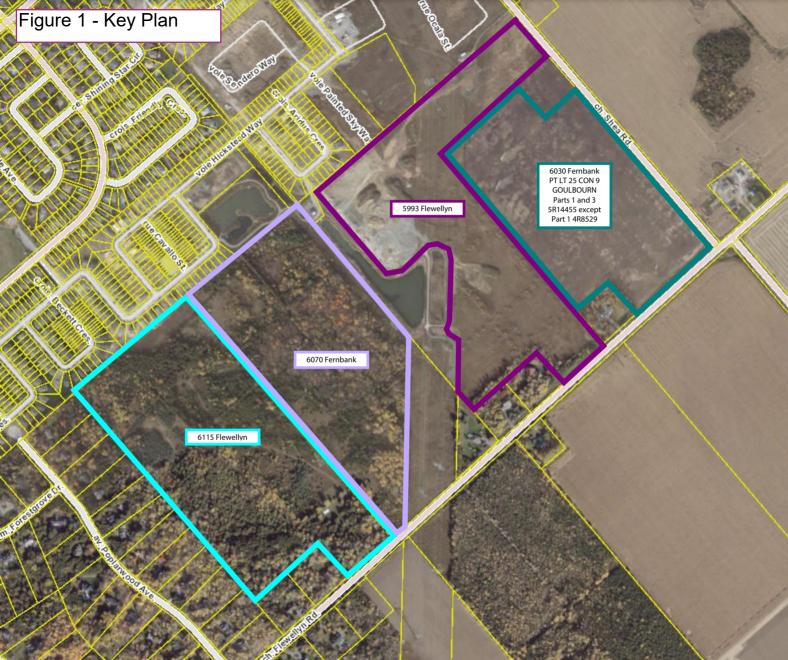
APPENDIX 1

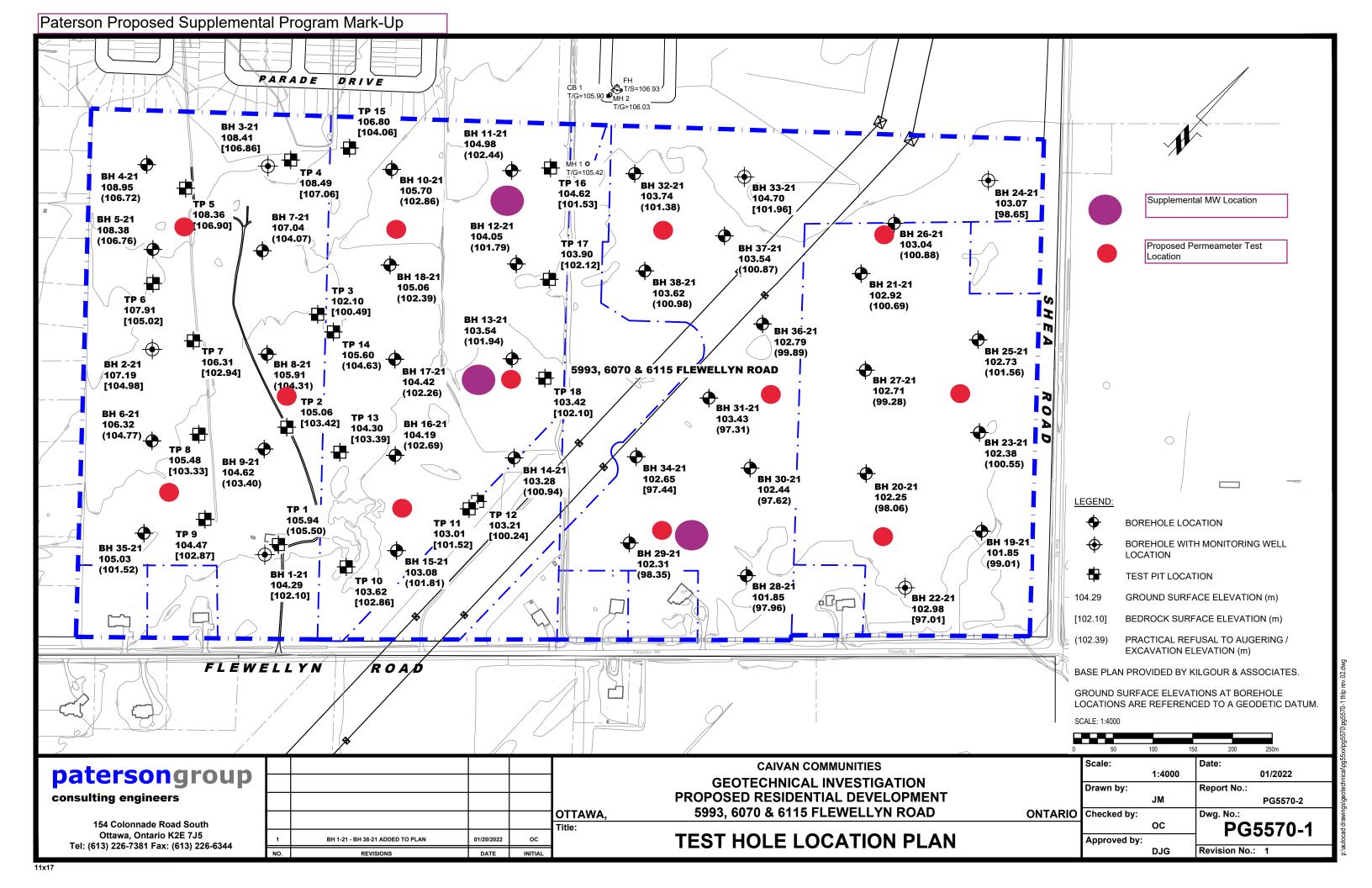
FIGURE 1 – KEY PLAN

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

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March 15, 2022







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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Appendix 2

SOIL PROFILE AND TEST DATA

Geotechnical Investigation 5993, 6070 and 6115 Flewellyn Road

REMARKS

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario Geodetic FILE NO. DATUM

PG5570 HOLE NO.

BORINGS BY CME-55 Low Clearance			CVI	/IPLE		Septembe	,	Pen. Resist. Blows/0.3m			
SOIL DESCRIPTION	PLOT		SAN			DEPTH (m)	ELEV. (m)	• 50 mm Dia. Cone	g Wel		
GROUND SURFACE	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(,	()	O Water Content %	Monitoring Well		
TORCOLL	0					0-	-107.31	20 40 00 00			
Loose to compact, brown SILTY 0.66	0	AU	1					0			
GLACIAL TILL: Compact to dense,		ss	2	45	17	1-	-106.31	0			
prown silty sand to sandy silt with gravel, cobbles and boulders		ss	3	14	65	2-	-105.31	. O.			
<u>2.3</u>	4 ^ ^ ^	RC	1	100	89		104.01				
		RC	2	100	100	3-	-104.31				
		=	2	100	100	4-	-103.31				
		RC	3	100	100	5-	-102.31				
BEDROCK: Excellent quality, grey imestone interbedded with dolostone		_				6-	-101.31				
		RC	4	98	98	7-	-100.31				
		_				8-	-99.31				
9.0		RC	5	100	100		00.07				
<u>s.v.</u> End of Borehole (GWL @ 1.33m - Oct. 11, 2022)						9-	-98.31				
,- C 500 - 1, -50-2,								20 40 60 80	100		
								Shear Strength (kPa) ▲ Undisturbed △ Remoulde			

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

SOIL PROFILE AND TEST DATA

Geodetic DATUM DEMARKS

PG5570

FILE NO.

SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH	ELEV.		n. Re ● 50						Well
SOIL DESCRIPTION	STRATA PI	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)				Con				Monitoring Well
ROUND SURFACE	SI	F	NG.	REC	N O	0-	107.31	2	20	40	6	60	80)	
							107.01								
VERBURDEN															
						1-	106.31								
		_													
ractical refusal to augering at 1.62m															
epth GWL @ 1.44m - Oct. 11, 2022)															
C															

SOIL PROFILE AND TEST DATA

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

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geodetic DATUM

FILE NO. **PG5570**

REMARKS								PG5570
BORINGS BY CME-55 Low Clearance	Drill			D	ATE S	Septembe	er 28, 202	HOLE NO. BH 2-22
SOIL DESCRIPTION	PLOT		SAN	/IPLE	T	DEPTH	ELEV.	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone
GROUND SURFACE	STRATA E	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m) _	Pen. Resist. Blows/0.3m
TOPSOIL Compact, brown SILTY SAND to SANDY SILT, trace clay and gravel 0.76		—————————————————————————————————————	1			0-	-103.58 -	Φ
0.70		- RC	1	100	77	1 -	-102.58 -	
		- RC	2	100	97	2-	-101.58 -	
		_				3-	-100.58 -	
BEDROCK: Good to excellent juality, grey limestone interbedded with dolostone		RC	3	100	100	4-	-99.58 -	
		RC	4	100	100	5-	-98.58 -	
		1				6-	-97.58 -	
		RC	5	100	97	7-	-96.58	
		RC	6	100	100	8-	-95.58 -	
9.02 ind of Borehole GWL @ 1.52m - Oct. 11, 2022)	- 1 - 1 1 -	_				9-	-94.58 ≢	
							_	20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Shear Strength (kPa)

△ Remoulded

▲ Undisturbed

Geotechnical Investigation 5993, 6070 and 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 3-22** BORINGS BY CME-55 Low Clearance Drill DATE September 29, 2022 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD STRATA NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.25**TOPSOIL** 0.28 1 V 1+101.25SS 2 19 58 Compact, brown SILTY SAND to SANDY SILT SS 3 58 17 2 + 100.252.21 GLACIAL TILL: Grey silty sand to SS 4 3 67 sandy silt with gravel, cobbles and boulders, trace clay 3+99.255 ≤ SS 50+ 3.43 RC 1 100 96 4 + 98.255+97.252 RC 100 98 6+96.25**BEDROCK:** Excellent quality, grey limestone interbedded with doloston RC 3 100 100 7+95.258 + 94.25RC 4 100 100 9+93.259.12 End of Borehole (GWL @ 0.84m - Oct. 11, 2022) 40 60 100

SOIL PROFILE AND TEST DATA patersongroup Consulting Engineers **Geotechnical Investigation** 5993, 6070 and 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario FILE NO. **DATUM** Geodetic **PG5570 REMARKS** HOLE NO. **BH 3A-22** BORINGS BY CME-55 Low Clearance Drill DATE September 29, 2022 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.25**TOPSOIL** 0.28 1+101.25Compact, brown SILTY SAND to SANDY SILT 1 2 + 100.252.20 GLACIAL TILL: Grey silty sand to sandy silt with gravel, cobbles and boulders, trace clay 3+99.25End of Borehole Practical refusal to augering at 3.15m depth. (GWL @ 0.81m - Oct. 11, 2022)

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

SOIL PROFILE AND TEST DATA

5993, 6070 and 6115 Flewellyn Road

FILE NO.

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geodetic

DATUM

Geotechnical Investigation Ottawa, Ontario

PG5570 **REMARKS** HOLE NO.

SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH	ELEV.	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone
GROUND SURFACE	STRATA P	TYPE	NUMBER	» RECOVERY	N VALUE or RQD	(m)	(m)	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone ○ Water Content % 20 40 60 80
FOPSOIL 0.28	3					0-	105.71	
Compact, brown SILTY SAND to SANDY SILT		AU SS	2	75	22	1-	-104.71	0
<u>2.2</u> 1		ss To	3	75	21	2-	-103.71	0
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles and boulders, trace clay grey by 3.0m depth		SS N	4	67	17	3-	102.71	0
3. <u>6</u> 1		SS	1	100	84	4-	-101.71	O
		RC	2	100	98	5-	-100.71	
EEDROCK: Good to excellent uality, grey limestone interbedded with dolostone		RC	3	100	100		99.71	
		_					98.71	
9.04		RC	4	100	100		-97.71 -96.71	
End of Borehole GWL @ 3.62m - Oct. 11, 2022)		_				9-	30.71	
								20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geodetic

DATUM

5993, 6070 and 6115 Flewellyn Road Ottawa, Ontario

PG5570 **REMARKS** HOLE NO. BH 5-22 POPINGS BY CME-55 Low Clearance Drill

BORINGS BY CME-55 Low Clearance	Drill				ATE :	Septembe	er 30, 202	22 BH 5-22
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH	ELEV.	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone
		TYPE	NUMBER	% RECOVERY	VALUE r RQD	(m)	(m)	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone ○ Water Content % 20 40 60 80
GROUND SURFACE	STRATA	-	Ħ	E	N VZ			20 40 60 80
TOPSOIL 0.28	3					0-	-105.70	
		₩	1					0
Compact, brown SILTY SAND to						_	10170	
SANDY SILT		√ SS	2	79	21]]-	-104.70	Ф
		.[]						
1.96	3	∬ ss	3	71	29		100.70	
GLACIAL TILL: Compact to dense, brown silty sand to sandy silt, trace 2.29) ^^^^ 			100		2-	-103.70	
gravel		Description	4	100	50+ 100			
		HC	'	100	100		400 70	
						3-	-102.70	
		RC	2	100	100		404 70	
						4-	-101.70	
		-						
BEDROCK: Excellent quality, grey limestone interbedded with dolostone		RC	3	100	100	5-	-100.70	
imestone interbedded with dolostone		110	3	100	100			
						6-	-99.70	
		RC	4	100	100			
						7-	-98.70	
		RC	5	100	100	8-	-97.70	
		110		100	100			
8.99	a 🛗							
End of Borehole	· · · · · ·	†						
(GWL @ 1.62m - Oct. 11, 2022)								
								20 40 60 80 100
								Shear Strength (kPa) ▲ Undisturbed △ Remoulded
			1		1			

SOIL PROFILE AND TEST DATA patersongroup Consulting Engineers **Geotechnical Investigation** 5993, 6070 and 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **HA 1-22 BORINGS BY** Hand Auger DATE September 28, 2022 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20 0 ± 106.78 **TOPSOIL** 0.30 Brown SILTY SAND, trace gravel 0.69 End of Hand Auger Hole (GWL @ 0.31m - Oct. 11, 2022)

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Ottawa, Ontario

SOIL PROFILE AND TEST DATA

Geodetic FILE NO. DATUM **PG5570 REMARKS** HOLE NO.

BORINGS BY Track-Mount Power Auge	er			D	ATE	Decembe	er 14, 202	HOLE NO. 21 BH 1-21
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone
	STRATA	TYPE	NUMBER	RECOVERY	N VALUE or RQD	(111)	(111)	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone ○ Water Content % 20 40 60 80
GROUND SURFACE				2	2	0-	104.29	20 40 60 80 ≥
TOPSOIL 0.43		L						
Very loose, brown SILTY SAND		∑ AU	1					
- some clay by 0.6m depth		ss	2	8	1	1-	103.29	
GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and		ss	3	25	23	2-	-102.29	
boulders, trace clay 2.19		SS RC	1	100	50+ 57			
PEDPOCK. Fair to availant quality						3-	101.29	
BEDROCK: Fair to excellent quality, grey limestone interbedded with dolostone		RC	2	100	68			
- 20mm thick mud seam at 3.4m depth						4-	100.29	
- 12mm thick mud at 3.7m depth								
12mm thick mad at 6.7m depth		RC	3	100	98	5-	-99.29	
F 77								
End of Borehole		-						
(GWL @ 1.22m - Jan. 11, 2022)								
(3772 @ 1.22111 5411. 11, 2022)								
								20 40 60 80 100 Shear Strength (kPa)
								▲ Undisturbed △ Remoulded
				1		1		I .

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

▲ Undisturbed

△ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 2-21 BORINGS BY** Track-Mount Power Auger DATE December 14, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+107.19Mulch TOPSOIL 0.51 ΑU Compact, brown SILTY SAND 1 1 + 106.19SS 2 75 12 GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles SS 3 75 50 and boulders 2 + 105.19SS 4 50+ 0 1 100 80 RC 3+104.19**BEDROCK:** Good to excellent 2 quality, grey limestone RC 100 100 - 12mm thick mud seam at 4.1m 4+103.19depth RC 3 100 95 5+102.195.61 End of Borehole (GWL @ 0.82m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa)

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

▲ Undisturbed

△ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 3-21 BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD STRATA NUMBER **Water Content % GROUND SURFACE** 80 20 0+108.41Mulch 80.0 TOPSOIL 0.43 1 0.63 Loose, brown SILTY SAND Loose to compact, brown SILTY 1+107.41SS 2 10 50 SAND to SANDY SILT 1.55 SS 3 0 50+ 2 + 106.41RC 1 100 100 3+105.41**BEDROCK:** Good to excellent, grey limestone interbedded with dolostone RC 2 100 72 4 + 104.41- 30mm thick mud seam at 4.3m depth RC 3 100 100 5 + 103.415.72 End of Borehole (GWL @ 0.89m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa)

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 4-21 BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+108.95Mulch 0.10 TOPSOIL 0.30 1 0.60 Compact, brown SILTY SAND, trace shells 1+107.95SS 2 12 50 GLACIAL TILL: Compact, brown silty sand with gravel, cobbles and SS 3 42 21 boulders 2 + 106.952.23 End of Borehole Practical refusal to augering at 2.23m depth (GWL @ 1.23m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic									FILE NO.	'n	
REMARKS									HOLE NO		
BORINGS BY Track-Mount Power Auge	r			D	ATE	Decembe	er 15, 202	21	BH 5-2	21	
SOIL DESCRIPTION	STRATA PLOT	NUMBER % RECOVERY N VALUE OF ROD			DEPTH ELEV. (m)	Pen. Re ● 50	Piezometer Construction				
GROUND SURFACE	STR	TYPE	NUMBER	» SECO.	N VA			○ W	ater Con		Cor
						0-	108.38	20	40 6	0 80	
TOPSOIL <u>0.36</u>		<u></u> AU	1								
Loose, brown SILTY SAND		ss	2		4	1-	107.38				
GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and 1.62 boulders			3	0	50+						
End of Borehole		1/									
Practical refusal to augering at 1.62m depth											
(BH dry - January 11, 2022)											
								20 Chas	40 6		00
									r Strengt	h (KPa) Remoulded	

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

, , ,					U	tawa, Or	itario					
DATUM Geodetic									FILE N			
REMARKS BORINGS BY Track-Mount Power Auge	r			.	ATE I	Doombo	or 15, 202) 1	HOLE			
BONINGS BY Track-Would Tower Auge		SAMPLE Dece					ELEV.					
SOIL DESCRIPTION	TA PLOT	편 편		ER ERY	E CO	N VALUE OF RQD (M)	(m)	• 50	Piezometer Construction			
GROUND SURFACE	STRATA	TYPE	TYPE NUMBER % RECOVERY		N VAI			○ W 20	/ater C	Content %	Pieze	
TOROGU						0-	106.32	20	10			
TOPSOIL 0.41 Loose, brown SILTY SAND, trace 0.60 clay		Ä-AU	1									
GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles		ss	2	83	17	1-	-105.32					
End of Borehole		-										
Practical refusal to augering at 1.55m depth												
(BH dry - January 11, 2022)												
								20 Shea	40 er Strei	60 80 ngth (kPa)	100	
											,	

Prop. Residential Development - 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geotechnical Investigation Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 7-21 BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+107.04Mulch 0.10 1 **TOPSOIL** <u>0.41</u> Loose, brown SILTY SAND 0.60 1 + 106.04SS 2 100 19 GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles SS 3 67 44 and boulders 2 + 105.04SS 52 4 2.97 End of Borehole Practical refusal to augering at 2.97m (GWL @ 1.09m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 8-21 BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+105.91Mulch 0.05 1 TOPSOIL 0.38 0.60 Loose, brown SILTY SAND 1 + 104.91GLACIAL TILL: Compact to dense, SS 2 20 67 brown silty sand with gravel, cobbles and boulders 1.60 .SS 3 0 50 +End of Borehole Practical refusal to augering at 1.60m (BH dry - January 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH 9-21 BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.62**TOPSOIL** Loose, brown SILTY SAND, trace 1 0.69 2 50+ GLACIAL TILL: Compact to dense, 1 + 103.62brown silty sand with gravel, cobbles 22 and boulders End of Borehole Practical refusal to augering at 1.22m depth (Piezometer damaged - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

Shear Strength (kPa)

△ Remoulded

▲ Undisturbed

Prop. Residential Development - 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH10-21 **BORINGS BY** Track-Mount Power Auger DATE December 15, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+105.70**TOPSOIL** 0.36 1 1+104.70SS 2 23 67 Compact, brown SILTY SAND SS 3 67 16 2 + 103.70SS 4 25 64 GLACIAL TILL: Compact to dense, 2.84 grey silty sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 2.84m depth (GWL @ 2.83m - Jan. 11, 2022) 40 60 80 100

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

▲ Undisturbed

△ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH11-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.98**TOPSOIL** 0.33 Compact, brown SILTY SAND [™] AU 0.66 1 Compact, brown SILTY SAND to **SANDY SILT** 1+103.981.12 SS 2 24 67 GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles SS 3 67 32 2 + 102.98and boulders ⊠ SS 4 80 50+ 2.54 End of Borehole Practical refusal to augering at 2.54m depth (GWL @ 1.32m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa)

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH12-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.05**TOPSOIL** 0.36 Compact, brown SILTY SAND 1 0.69 Compact, brown SILTY SAND to 1+103.05SS 2 13 67 SANDY SILT GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and SS 3 17 36 2+102.05boulders 2.26 End of Borehole Practical refusal to augering at 2.26m depth (GWL @ 1.58m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH13-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.54**TOPSOIL** 0.36 1 Loose, brown SILTY SAND to 1 + 102.54**SANDY SILT** SS 2 25 6 1.60 SS 3 50 +End of Borehole Practical refusal to augering at 1.60m (GWL @ 1.44m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH14-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.28**TOPSOIL** 0.36 Loose, brown SILTY SAND 1 0.69 Loose, brown SILTY SAND to 1+102.28SS 2 6 67 **SANDY SILT** GLACIAL TILL: Loose to dense, SS 3 25 7 brown silty sand with clay, gravel, 2 + 101.28cobbles and boulders 2.34 SS 4 0 50+ End of Borehole Practical refusal to augering at 2.34m depth (GWL @ 1.37m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geotechnical Investigation Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH15-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.08**TOPSOIL** 0.30 Compact, brown SILTY SAND to ΑU 1 **SANDY SILT** GLACIAL TILL: Compact, brown silty 2 19 1 + 102.0863 sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 1.27m (GWL @ 0.92m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

					Oi	iawa, Oi	itario								
DATUM Geodetic									FILE NO.						
HOLE NO.															
BORINGS BY Track-Mount Power Auge	er 			D	ATE I	Decembe	r 16, 202	<u>'</u> 1	BH16-	·21	$\overline{}$				
SOIL DESCRIPTION		SAMPLE			DEPTH (m)	ELEV. (m)		esist. Bl 0 mm Dia	Piezometer Construction						
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(,	(,	0 W	/ater Cor	ntent %	ezom				
GROUND SURFACE	ST	NU NEC			10410	20		60 80	ā ŏ						
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	\^^^^ \^^^^/	ss	2		22	1-	-103.19				-				
End of Borehole 1.50	^^^^	-													
Practical refusal to augering at 1.50m depth															
(GWL @ 1.32m - Jan. 11, 2022)															
								20 Shea ▲ Undisto	r Streng	60 80 1 Ith (kPa) A Remoulded	00				
	I	1		1	I				andou Z	7 LICHHOUIDED					

SOIL PROFILE AND TEST DATA

▲ Undisturbed

△ Remoulded

Geotechnical Investigation Prop. Residential Development - 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH17-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.42**TOPSOIL** 0.28 ΑU 1 Loose, brown SILTY SAND to 1+103.42SS 2 5 75 **SANDY SILT** SS 3 91 11 1.98 2 + 102.42GLACIAL TILL: Compact, brown 2.16 silty sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 2.16m depth (GWL @ 1.25m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa)

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

9 Auriga Drive, Ottawa, Ontario K2E 7T9 **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH18-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+105.06**TOPSOIL** 0.30 ΑU 1 1+104.06SS 2 75 10 Compact, brown SILTY SAND to **SANDY SILT** SS 3 100 19 2 + 103.06- grey by 2.0m depth SS 4 50+ 2.67 End of Borehole Practical refusal to augering at 2.67m depth (GWL @ 1.40m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH19-21 **BORINGS BY** Track-Mount Power Auger DATE December 16, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+101.85**TOPSOIL** 0.20 ΑU 1 Compact, brown SILTY SAND to 1+100.85SANDY SILT SS 2 12 50 1.73 SS 3 75 8 2+99.85Loose, brown SILTY SAND, some 2.59 SS 4 100 12 GLACIAL TILL: Compact, grey silty2.84 \^.^.\ sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 2.84m depth (GWL @ 1.04m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geotechnical Investigation

DATUM Geodetic FILE NO. **PG5570**

REMARKS HOLE NO. DATE December 17, 2021 BH20-21 **BORINGS BY** Track-Mount Power Auger **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.25**TOPSOIL** 0.23 ΑU 1 1+101.25SS 2 11 58 Compact to loose, brown SILTY SAND to SANDY SILT SS 3 42 7 2 + 100.252.44 SS 75 Interlayered grey SANDY SILT and 4 3 grey SÍLTY ČLAY 3+99.253.20 SS 5 67 23 GLACIAL TILL: Compact, grey silty sand with gravel, cobbles and boulders SS 6 50+ 4 + 98.254.19 End of Borehole Practical refusal to augering at 4.19m depth (GWL @ 1.71m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

Prop. Residential Development - 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. DATE December 17, 2021 **BH21-21 BORINGS BY** Track-Mount Power Auger **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.92**TOPSOIL** 0.25 ΑU 1 Loose, brown SILTY SAND to SANDY SILT <u>1.0</u>7 1+101.92SS 2 42 36 GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and SS 3 50 71 boulders 2 + 100.922.23 End of Borehole Practical refusal to augering at 2.23m depth (Piezometer damaged - Jan. 11, 2022)

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH22-21 BORINGS BY** Track-Mount Power Auger DATE December 20, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.98**TOPSOIL** 0.20 Loose, brown SILTY SAND, trace 1 0.69 gravel 1+101.98SS 2 100 22 GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles SS 3 92 29 2 + 100.98and boulders SS 4 83 46 3+99.98SS 5 50 50+ 3.48 End of Borehole Practical refusal to augering at 3.48m depth. 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

9 Auriga Drive, Ottawa, Ontario K2E 7T9 **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH22A-21 BORINGS BY** Track-Mount Power Auger DATE January 10, 2022 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD STRATA NUMBER **Water Content % GROUND SURFACE** 80 20 0+102.98**TOPSOIL** 0.20 Loose, brown SILTY SAND, trace 1 0.69 gravel 1+101.98SS 2 100 22 SS 3 92 29 2 + 100.98SS 4 83 46 GLACIAL TILL: Compact to dense, brown silty sand with gravel, cobbles 3+99.98and boulders SS 5 50 50+ RC 1 77 4+98.98RC 2 14 5+97.985.97 6 + 96.98RC 3 100 94 7+95.98**BEDROCK:** Excellent quality, grey dolostone interbedded with grey RC 4 100 100 8 + 94.98limestone 9 + 93.985 RC 100 100 10+92.98End of Borehole (GWL @ 2.49m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH23-21 **BORINGS BY** Track-Mount Power Auger DATE December 20, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.38**TOPSOIL** 0.28 ΑU 1 Stiff, brown SILTY CLAY, some sand 1 + 101.38SS 2 25 32 GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and SS 3 55 boulders, trace clay End of Borehole Practical refusal to augering at 1.83m depth (Piezometer damaged - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH24-21 BORINGS BY** Track-Mount Power Auger DATE December 20, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD STRATA NUMBER Water Content % **GROUND SURFACE** 80 0+103.07**TOPSOIL** 0.30 ΑU 1 Loose to dense, brown SILTY 1+102.07**SAND to SANDY SILT** SS 2 8 58 1.83 3 75 32 2 + 101.07SS 4 50 50+ RC GLACIAL TILL: Dense, brown silty 1 100 sand with gravel, cobbles and 3+100.07boulders RC 2 19 - boulders cored from 2.46 to 4.42m depth 4 + 99.075 + 98.07RC 3 100 81 **BEDROCK:** Good to excellent quality, grey limestone interbedded 6 + 97.07with dolostone RC 4 100 100 - 15mm thick mud seam at 5.25m depth 7 + 96.07RC 5 100 100 7.92 End of Borehole (GWL @ 0.67m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

20

▲ Undisturbed

40

Shear Strength (kPa)

60

80

△ Remoulded

100

Geotechnical Investigation Prop. Residential Development - 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH25-21 **BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.73**TOPSOIL** 0.25 ΑU 1 Loose, brown SILTY SAND, trace clay and gravel SS 2 71 50+ 1 + 101.73End of Borehole Practical refusal to augering at 1.17m depth (GWL @ 0.71m - Jan. 11, 2022)

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geodetic FILE NO. DATUM PG5570 **REMARKS**

BORINGS BY Track-Mount Power Auge	er			D	ATE	Decembe	er 21, 202	21	HOLE NO. BH26-21	I		
SOIL DESCRIPTION		SAMPLE			ı	DEPTH		Pen. Resist. Blows/0.3m • 50 mm Dia. Cone O Water Content %				
	STRATA I	TYPE	NUMBER * RECOVERY N VALUE or RQD	(m) (m)								
GROUND SURFACE	מ	•	N N	REC	≥ 0			20	40 60	80	Piezometer	
TOPSOIL 0.25 Stiff, brown SILTY CLAY, some sand 0.69		AU	1			0-	103.04					
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders, trace clay		⊠ SS	2	40	50+	1-	102.04					
•		ss	3	61	33	2-	101.04					
Practical refusal to augering at 2.16m depth												
(GWL @ 0.78m - Jan. 11, 2022)												
								20 Shea ▲ Undis	40 60 ar Strength turbed △ R	80 10 (kPa) emoulded	00	

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH27-21 BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.71**TOPSOIL** 0.28 ΑU 1 1+101.71SS 2 19 67 Compact to loose, brown SILTY SAND to SANDY SILT, trace clay SS 3 83 21 2 + 100.71- grey by 2.4m depth SS 4 50 9 3+99.71GLACIAL TILL: Very loose, grey silty 43 \^^^ SS 5 86 3 sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 3.43m depth (GWL @ 0.84m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH28-21 BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+101.85**TOPSOIL** 0.30 ΑU 1 1+100.85SS 2 42 7 Loose, brown SILTY SAND to SANDY SILT, trace clay SS 3 58 8 2+99.85Interbedded layers of grey SILTY SS 2 4 100 SAND and grey SILTY CLAY 3+98.85GLACIAL TILL: Very loose, grey silty 5 SS 100 3 sand with clay, gravel and cobbles SS 6 50+ End of Borehole Practical refusal to augering at 3.89m depth (GWL @ 1.79m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH29-21 **BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.31**TOPSOIL** 0.28 ΑU 1 1+101.31SS 2 9 50 Loose to very loose, brown SILTY SAND to SANDY SILT, trace clay SS 3 67 8 2 + 100.31- grey by 1.9m depth SS 4 67 4 3+99.31- intermittent layers of grey silty clay by 3.0m depth SS 5 58 2 3.96 6 67 End of Borehole Practical refusal to augering at 3.96m depth (Piezometer damaged - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road Ottawa, Ontario

9 Auriga Drive, Ottawa, Ontario K2E 7T9 **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH30-21 **BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.44**TOPSOIL** 0.25 ΑU 1 1+101.44SS 2 12 50 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+99.445 3.45 83 2 **GLACIAL TILL:** Very loose to 4 + 98.4424 SS 6 33 compact, grey silty sand with gravel, cobbles and boulders, trace clay SS 7 50+ 50 4.82 End of Borehole Practical refusal to augering at 4.82m depth (GWL @ 1.62m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH31-21 BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.43**TOPSOIL** 0.36 1 1+102.43SS 2 14 50 SS 3 50 22 2 + 101.43Compact to loose, brown SILTY SAND to SANDY SILT, trace clay SS 4 42 9 3+100.43SS 5 58 5 - grey by 3.2m depth 4 + 99.436 SS 42 12 4.72 SS 7 37 58 5+98.43GLACIAL TILL: Dense, grey silty sand with gravel, cobbles and SS 8 58 boulders 6 + 97.436.12 SS 9 0 50+ End of Borehole Practical refusal to augering at 6.12m depth (GWL @ 1.27m - Jan. 11, 2022) 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 FILE NO. **PG5570 REMARKS** HOLE NO. BH32-21 **BORINGS BY** Track-Mount Power Auger DATE December 21, 2021 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0 + 103.74**TOPSOIL** 0.15 ΑU 1 Compact to dense, brown SILTY 1+102.74SS 2 39 SAND to SANDY SILT 67 - grey 1.4m depth SS 3 67 26 2 + 101.74GLACIAL TILL: Grey silty sand with 2.36 SS 4 50+ 50 gravel, cobbles and boulders End of Borehole Practical refusal to augering at 2.36m depth (GWL @ 1.62m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH33-21 **BORINGS BY** Track-Mount Power Auger DATE December 22, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Monitoring Well Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.70ΑU 1 Compact, brown SILTY SAND, trace clay and organics 1+103.70SS 2 13 50 1.45 SS 3 8 11 **GLACIAL TILL:** Compact, brown 2+102.70silty sand with gravel, cobbles and RC 1 30 boulders 3+101.702 RC 100 73 4 + 100.70**BEDROCK:** Good to excellent quality, grey limestone 3 RC 95 85 - 25mm thick mud seam at 3.7m 5+99.70depth - 30mm thick mud seam at 3.8m depth RC 4 100 100 6 + 98.706.27 End of Borehole (GWL @ 1.84m - Jan. 11, 2022) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH34-21 **BORINGS BY** Track-Mount Power Auger DATE December 22, 2021 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY VALUE r RQD NUMBER Water Content % N VZ **GROUND SURFACE** 80 20 0+102.65**TOPSOIL** 0.25 5 1 17 8 ΑU 1+101.65Compact to loose, brown SILTY SS 2 42 10 SAND to SANDY SILT SS 3 25 9 2 + 100.65SS 2 4 17 3+99.65GLACIAL TILL: Very loose to loose, grey silty sand with gravel, cobbles and boulders, trace clay RC 1 31 4 + 98.65RC 2 100 100 5+97.65BEDROCK: Excellent quality, grey limestone interbedded with dolostone 6 + 96.65RC 3 100 100 6.61 End of Borehole 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Prop. Residential Development - 6115 Flewellyn Road

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Geotechnical Investigation Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH35-21 **BORINGS BY** Track-Mount Power Auger DATE January 7, 2022 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction DEPTH ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+105.03**TOPSOIL** 0.28 ΑU 1 Loose to compact, brown SILTY SAND to SANDY SILT 1+104.03SS 2 7 50 1.68 SS 3 50 25 2 + 103.03**GLACIAL TILL:** Compact to very SS 4 25 56 dense, grey silty sand with gravel, cobbles and boulders 3+102.03SS 5 67 50 +3.51 End of Borehole Practical refusal to augering at 3.51m depth. (GWL @ 1.22m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

Prop. Residential Development - 6115 Flewellyn Road

▲ Undisturbed

△ Remoulded

SOIL PROFILE AND TEST DATA

9 Auriga Drive, Ottawa, Ontario K2E 7T9

Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. BH36-21 **BORINGS BY** Track-Mount Power Auger DATE January 7, 2022 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+102.79**TOPSOIL** 0.30 ΑU 1 Compact, brown SILTY SAND to SANDY SILT 1+101.79SS 2 42 15 1.45 SS 3 60 50 +GLACIAL TILL: Very dense to 2 + 100.79compact, brown silty sand with gravel, cobbles and boulders SS 4 8 15 2.90 End of Borehole Practical refusal to augering at 2.90m depth. (GWL @ 0.62m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa)

Geotechnical Investigation

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

SOIL PROFILE AND TEST DATA

Prop. Residential Development - 6115 Flewellyn Road 9 Auriga Drive, Ottawa, Ontario K2E 7T9 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH37-21 BORINGS BY** Track-Mount Power Auger DATE January 7, 2022 **SAMPLE** Pen. Resist. Blows/0.3m STRATA PLOT Construction **DEPTH** ELEV. Piezometer **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) RECOVERY N VALUE or RQD NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.54**TOPSOIL** 0.36 1 1+102.54SS 2 42 22 Compact to dense, brown SILTY SAND to SANDY SILT SS 3 58 34 2 + 101.54GLACIAL TILL: Very dense, grey silty SS 4 50 50 +sand with gravel, cobbles and boulders End of Borehole Practical refusal to augering at 2.67m depth. (GWL @ 1.52m - Jan. 11, 2022)

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

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

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **BH38-21 BORINGS BY** Track-Mount Power Auger DATE January 7, 2022 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.62FILL: Crushed stone and gravel 0.15 ΑU 1 1 + 102.62SS 2 32 Dense to compact, brown SILTY SAND to SANDY SILT SS 3 24 - grey by 2.0m depth 2+101.62SS 4 100 50+ End of Borehole Practical refusal to augering at 2.64m depth. (GWL @ 1.94m - Jan. 11, 2022) 20 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

154 Colonnade Boad South, Ottawa, Ontario K2F 7.I5

6070 and 6115 Flewellyn Road

194 Colonilade Hoad South, Ottawa, Ont	ai io i	\ZL / U			Ot	ttawa, Or	ntario				
DATUM Geodetic					•				FILE NO.	PG5570	
REMARKS									HOLE NO	า	
BORINGS BY CME-55 Low Clearance D	Orill			D	ATE	Novembe	r 20, 202	20		TP 1	
SOIL DESCRIPTION	PLOT	DEPTH ELEV.				Resist. Blows/0.3m 50 mm Dia. Cone					
	STRATA	TYPE	NUMBER	RECOVERY	N VALUE or RQD	(***)	()	0 V	Vater Coi	ntent %	Piezometer
GROUND SURFACE	ST	H	DN DN	REC	N N			20		60 80	اچ ج
TOPSOIL		V G	1			0-	-105.94				
GLACIAL TILL: Brown silty sand with 25 gravel and some clay BEDROCK Weathered interbedded 0.44 limestone End of Test Pit Practical refusal to excavation at 0.44m depth (TP dry upon completion)		<i>/</i> \	2 3					O			
								20 Shea ▲ Undist	ar Streng		00

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

▲ Undisturbed

△ Remoulded

6070 and 6115 Flewellyn Road 154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. PG5570 **REMARKS** HOLE NO. TP 2 BORINGS BY CME-55 Low Clearance Drill DATE November 20, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0 ± 105.06 **TOPSOIL** 1 0.21 Ö G 2 Brown SILTY SAND, trace gravel 0.92 Ó 1 + 104.06GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders G 3 1.64 End of Test Pit TP terminated on inferred bedrock surface at 1.64m depth (TP dry upon completion) 40 60 80 100 Shear Strength (kPa)

6070 and 6115 Flewellyn Road

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

					Ot	tawa, Or	itario						
DATUM Geodetic									FILE	NO. PG5570)		
REMARKS									HOLE NO.				
BORINGS BY CME-55 Low Clearance I	Drill			D	ATE	Novembe	r 20, 202	20			_		
SOIL DESCRIPTION	PLOT		DEPTH ELEV.						st. Blows/0.3m nm Dia. Cone				
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(,	()	0 v	later C	Content %	Piezometer Construction		
GROUND SURFACE	STI	F	NON	RECO	NON		100.10	20	40		<u>#</u> 8		
TOPSOIL		G	1			0-	-102.10						
0.25		<u>/</u> }-						0			*		
Brown SILTY SAND , trace sea shells		G	2										
<u>0.59</u>		 -						0					
GLACIAL TILL: Brown silty sand with						1-	-101.10						
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders		G	3										
4.04													
End of Test Pit	\^^^^	Ц.									4		
TP terminated on inferred bedrock surface at 1.61m depth													
(TP dry upon completion)													
										ngth (kPa)	100		
		1			1	[■ Undist	urbed	△ Remoulded			

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation 6070 and 6115 Flewellyn Road Ottawa, Ontario

					Ot	tawa, Oi	itario						
DATUM Geodetic									FILE NO	PG5570			
REMARKS BORINGS BY CME-55 Low Clearance [Orill			D	ATE Î	HOLE NO. TP 4							
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH ELEV.	Pen. Re	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone					
	STRATA E	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)			ntent %	Piezometer Construction		
GROUND SURFACE	STI	Ĥ	NON	RECC	NON	0	-108.49	20		60 80	ĕ 8		
TOPSOIL		G	1				100.49	0					
Brown SILTY SAND , trace gravel, cobble and organics	^^^^	G	2					0					
GLACIAL TILL: Brown silty sand, some gravel, cobble, boulder, trace clay		G	3			1-	-107.49						
End of Test Pit	\^^^^												
Test Pit terminated on bedrock surface at 1.43m depth													
(TP dry upon completion)								20	40	60 80 1	00		
									r Strenç	60 80 1 g th (kPa) ∆ Remoulded	υU		

Geotechnical Investigation 6070 and 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. TP 5 BORINGS BY CME-55 Low Clearance Drill DATE November 20, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+108.36**TOPSOIL** G 1 0.22 Ö **Brown SILTY SAND** G 2 1 + 107.361.16 0 GLACIAL TILL: Brown silty sand, ⊻ G 3 some gravel, cobble, and boulder 1.46 End of Test Pit TP terminated on inferred bedrock surface at 1.46m depth (Groundwater infiltration at 1.28m -Nov 20, 2020) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

6070 and 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

Shear Strength (kPa)

△ Remoulded

▲ Undisturbed

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. PG5570 **REMARKS** HOLE NO. TP 6 BORINGS BY CME-55 Low Clearance Drill DATE November 20, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20 0+107.91**TOPSOIL** G 1 0.27 Ö Brown SILTY SAND, trace cobble, boulders and seashells G 2 1 + 106.913 1.70 ∇ 2+105.91 **BEDROCK:** Weathered interbedded G 4 limestone End of Test Pit TP terminated on inferred bedrock surface at 2.89m depth (Groundwater infiltration at 1.70m -Nov 20, 2020) 40 60 100

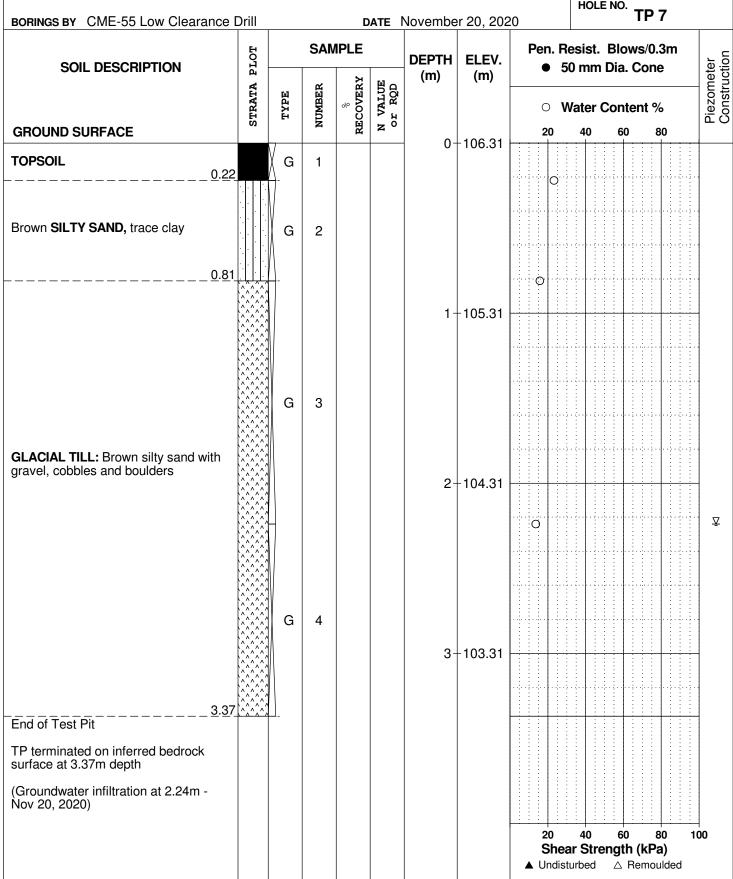
Geotechnical Investigation 6070 and 6115 Flewellyn Road

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Ottawa, Ontario

SOIL PROFILE AND TEST DATA

DATUM	Geodetic				FILE NO. PG5570	
REMARKS					HOLE NO	
BORINGS BY	CME-55 Low Clearance Drill	DA	RE November 20, 202	.0	TP 7	



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. TP8 BORINGS BY CME-55 Low Clearance Drill DATE November 20, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** • 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER **Water Content % GROUND SURFACE** 80 20 0 ± 105.48 **TOPSOIL** 1 0.21 O G 2 1 + 104.48Brown SILTY SAND, trace clay and organics - increasing in silt content with depth G 3 2 + 103.482.15 End of Test Pit TP terminated on inferred bedrock surface at 2.15m depth (TP dry upon completion) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

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.	G5570	
REMARKS									HOLE NO. TP		
BORINGS BY CME-55 Low Clearance I	Orill			D	ATE	Novembe	er 20, 202	20	I.F.	9	
SOIL DESCRIPTION	PLOT			IPLE ×		DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ■ 50 mm Dia. Cone			eter uction
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD			0 W	ater Content	%	Piezometer Construction
GROUND SURFACE	ß	,	Z	RE	z °	0-	104.47	20	40 60	80	ш
TOPSOIL0.22		G	1				104.47	0			
Brown SILTY SAND , trace organics		G	2					Q			
GLACIAL TILL: Brown silty sand trace gravel, cobbles, and boulders		G	3			1 -	-103.47				
	`^^^^	<u> </u>									
TP terminated on inferred bedrock surface at 1.60m depth (TP dry upon completion)											
								20 Shea ▲ Undisto	r Strength (kP	80 10 a) ulded	00

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation 6070 and 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

					Ot	tawa, Or	itario				
DATUM Geodetic									FILE NO.	PG5570	
REMARKS							40.000		HOLE NO	TP 10	
BORINGS BY CME-55 Low Clearance I)rill			D	ATE I	Decembe	r 10, 202	:0			
SOIL DESCRIPTION	PLOT		SAN	/IPLE		DEPTH (m)	ELEV. (m)		PG5570 HOLE NO. TP 10 Resist. Blows/0.3m 50 mm Dia. Cone Water Content % 40 60 80		
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD		, ,	0 W	/ater Con	tent %	Piezometer Construction
GROUND SURFACE	Ω.		N N	REC	z ö	0-	-103.62	20	40 60	0 80	T O
TOPSOIL 0.17		G	1			0-	103.62	0			
Brown SILTY SAND , trace gravel and cobbles		G	2								
GLACIAL TILL: Brown silty sand, with gravel, trace cobble and boulders		G	3					0			<u>▼</u>
End of Test Pit	\.\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>										
TP terminated on inferred bedrock surface at 0.76m depth											
(Groundwater infiltration at 0.51m - Dec 10, 2020)											
								20 Shea	40 60 or Strengt	0 80 10 :h (kPa)	00
			1							Remoulded	

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

6070 and 6115 Flewellyn Road

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 11** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.01**TOPSOIL** G 1 0.15 Ö G 2 Brown SILTY SAND, trace gravel G 3 0.89 ⊻ 1+102.01GLACIAL TILL: Brown silty sand, with G 1 gravel, cobbles, and boulders 1.49 End of Test Pit TP terminated on inferred bedrock surface at 1.49m depth (Groundwater infiltration at 0.89m -Dec 10, 2020) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

6070 and 6115 Flewellyn Road Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 12** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.21TOPSOIL 0.02 G 2 Brown SILTY SAND, trace gravel 0.51 0 G 3 Organic silt with **PEAT** fibers 0 1+102.21G 4 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) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation 6070 and 6115 Flewellyn Road Ottawa, Ontario

					Oi	lawa, Oi	itario									
DATUM Geodetic											FILE	NO.	F	G5	570	
REMARKS BORINGS BY CME-55 Low Clearance [Orill			D	ATE	Decembe	r 10. 202	20		ı	HOL	E NC). T	P 13	}	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH (m)	ELEV. (m)		Pen	. Res			ows a. Co		า	eter
	STRATA	TYPE	NUMBER	% RECOVERY	VALUE r RQD	(111)	(111)		0	Wa	ter	Cor	nten	t %		Piezometer Construction
GROUND SURFACE	ST	H	Ŋ	REC	N O r	0-	-104.30	<u> </u>	20		40		60	80		تة ن
TOPSOIL 0.25		G	1				101.00				C					
Brown SILTY SAND , trace organics		G	2								0					<u>\</u>
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders End of Test Pit Output Description:		G	3													
TP terminated on inferred bedrock surface at 0.91m depth																
(Groundwater infiltration at 0.61m - Dec 10, 2020)									200 Si	near	40 Stre	eng	60 th_(k	80 Pa)		000

Geotechnical Investigation 6070 and 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 14** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** • 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+105.601 **TOPSOIL** 0.30 0 2 **Brown SILTY SAND** 0.56 O GLACIAL TILL: Brown silty sand with 3 gravel, cobbles, and boulders. 0.97 End of Test Pit Practical refusal to excavation at 0.94m depth (TP dry upon completion) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

TP terminated on inferred bedrock

(Groundwater infiltration at 2.28m -

surface at 2.74m depth

Dec 10, 2020)

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

6070 and 6115 Flewellyn Road 154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 15** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** • 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 40 0+106.80**TOPSOIL** G 1 0.18 Q. G 2 0 1 + 105.80G 3 Brown SILTY SAND G 4 2+104.80⊻ Ó G 5 GLACIAL TILL: Grey silty sand with 2.74 gravel, cobbles and boulders 6 End of Test Pit

Geotechnical Investigation

SOIL PROFILE AND TEST DATA

6070 and 6115 Flewellyn Road

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Ottawa, Ontario

DATUM Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 16** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+104.62G 1 **TOPSOIL** 0.35 G 2 1+103.62Brown SILTY SAND, trace gravel 2 + 102.622.34 ⊻ 0 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) 40 60 80 100 Shear Strength (kPa) ▲ Undisturbed △ Remoulded

Geotechnical Investigation 6070 and 6115 Flewellyn Road 154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Ottawa, Ontario **DATUM** Geodetic FILE NO. **PG5570 REMARKS** HOLE NO. **TP 17** BORINGS BY CME-55 Low Clearance Drill DATE December 10, 2020 **SAMPLE** Pen. Resist. Blows/0.3m Piezometer Construction STRATA PLOT **DEPTH** ELEV. **SOIL DESCRIPTION** 50 mm Dia. Cone (m) (m) N VALUE or RQD RECOVERY NUMBER Water Content % **GROUND SURFACE** 80 20 0+103.90G **TOPSOIL** 1 0.33 2 G Brown SILTY SAND, trace gravel

1+102.90

⊻

Ò

40

▲ Undisturbed

Shear Strength (kPa)

60

80

△ Remoulded

100

SOIL PROFILE AND TEST DATA

GLACIAL TILL: Brown silty sand, with gravel cobbles and boulders

1.37

1.78

G

3

TP terminated on inferred bedrock surface at 1.78m depth

End of Test Pit

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

Geotechnical Investigation 6070 and 6115 Flewellyn Road

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, On	ario r	\2E /J	i o		Ot	tawa, On	itario				
DATUM Geodetic									FILE NO	PG5570	
REMARKS									HOLE N		
BORINGS BY CME-55 Low Clearance I	Drill 			D	ATE I	Decembe	r 10, 202	0		17 10	
SOIL DESCRIPTION	PLOT	SAMPLE				DEPTH (m)	ELEV. (m)		esist. Bl 0 mm Dia	lows/0.3m a. Cone	Piezometer Construction
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD		, ,	0 W	Vater Co	ntent %	Szom
GROUND SURFACE	STI	H	N	RECO	N V or	_		20	40	ig S	
TOPSOIL		G	1			0-	-103.42				
<u>0</u> . <u>3</u> 0		\							0		
Brown SILTY SAND , some gravel		G	2								
						4 _	-102.42		0		
		G	3			'	102.42				
1.32 End of Test Pit		Ц.									
TP terminated on inferred bedrock surface at 1.32m depth											
(TP dry upon completion)											
								20	40	60 80 10	00
								20 Shea ▲ Undist	ar Streng		UU

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 Soft Firm Stiff Very Stiff Hard	<12 12-25 25-50 50-100 100-200 >200	<2 2-4 4-8 8-15 15-30 >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:

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 = $(D30)^2 / (D10 \times D60)$

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

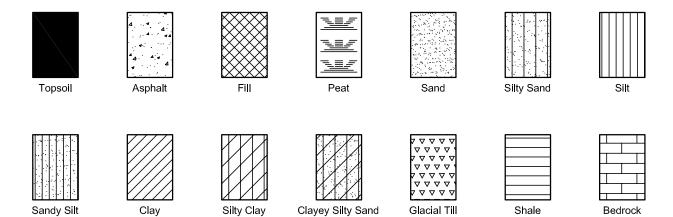
Wo - Initial water content (at start of consolidation test)

PERMEABILITY TEST

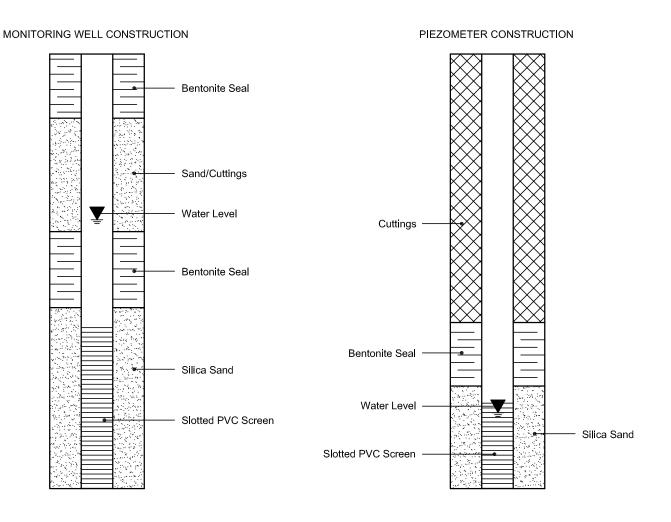
Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the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

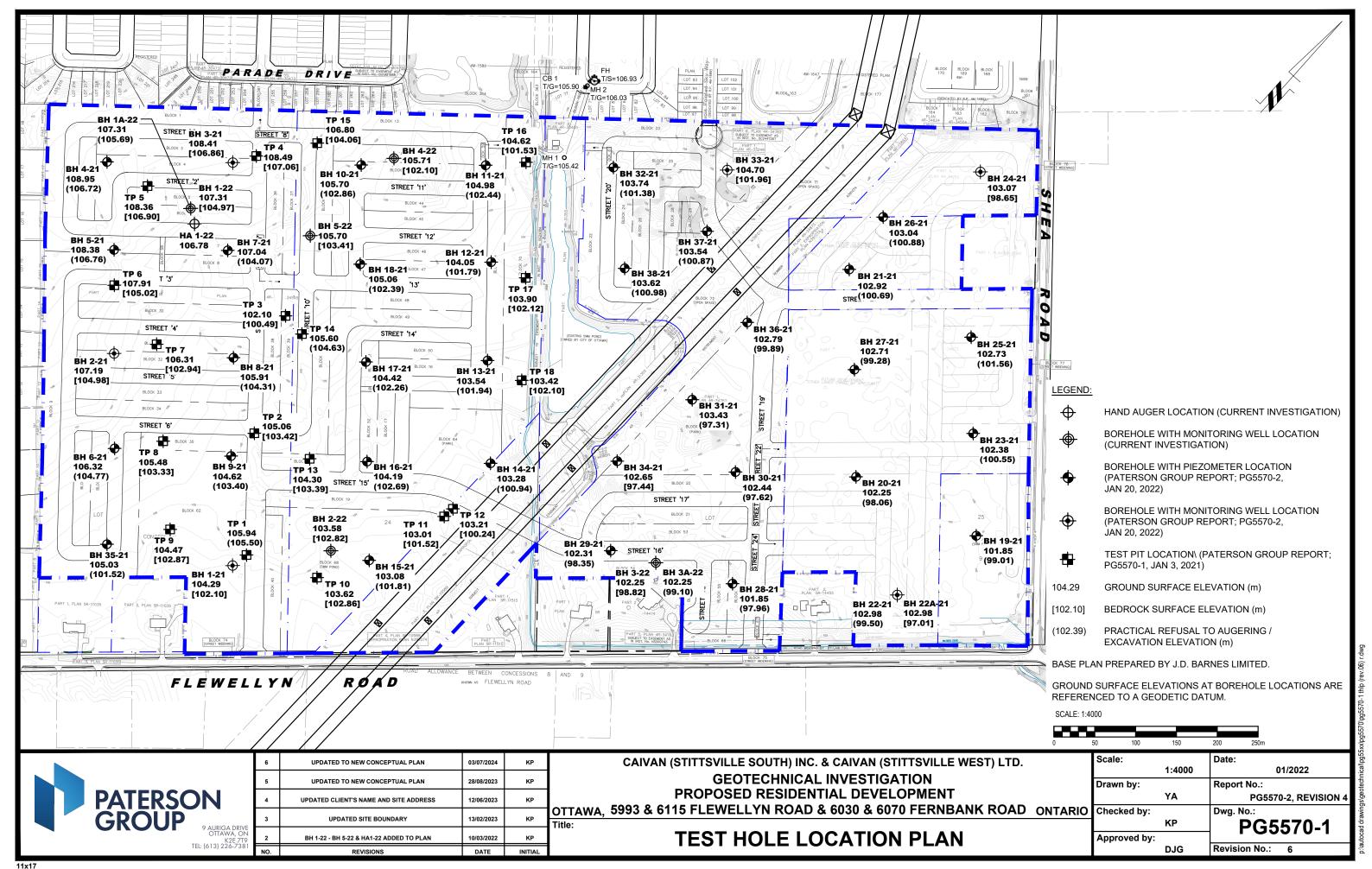
SYMBOLS AND TERMS (continued)

STRATA PLOT



MONITORING WELL AND PIEZOMETER CONSTRUCTION





patersol consulting er	ngroup ngineers									:	SIEVE ANAL' ASTM C13		
CLIENT:	Caiva	n	DESCRIPTION:			Fine Agg	regate	FILE N	O:			PG5570	
CONTRACT NO.:	-		SPECIFICATION	l:			L TILL	LAB NO				31575	
	Geotechnical Inv	estigation -	INTENDED USE			_			RECEIVE	:D:		10-Jan-22	
PROJECT:	6115 Flewell		PIT OR QUARR			-			TESTED:			11-Jan-22	
DATE SAMPLED:	15/16/17-D	EC-21	SOURCE LOCA			BH4-21; SS	S2 + SS3		REPORT			14-Jan-22	
SAMPLED BY:	A. Emme	erton	SAMPLE LOCAT			2'6" to		TESTE				D.K.	
0.0	01		0.1			Sieve S	ize (mm)		10			100	
90.0							-	•	•	***			
80.0													
70.0													
60.0 % 50.0													
40.0													
40.0													
30.0													
20.0													
0.0													
	Silt and	Clay		Sar	1			Gı	avel			Cobble	
damatificanti am				ne	Medium	Coarse	Fine			Coarse	DI		
dentification			Soil Clas	Sincation			MC(%)		LL	PL	PI	Cc 0.40	Cu 2.5
	D100 26.5	D60 0.025	D30 0.01	D10 0.01		Gravel (%) 6.5		Sand (%) 24.2		Silt	(%)	69.3	/ (%)
	Comment				•		,						
REVIEWED BY:				Curtis Beadow Low Row				Joe Fosyth, P. Eng.					

patersor consulting en						SIEVE ANALYSIS ASTM C136			
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570		
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31575		
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22		
	Flewelly	n Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22		
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: BH4-2	1; SS2 + SS3	DATE REP'D:	14-Jan-22		
SAMPLED BY:	A. Emi	merton	SAMPLE LOCATION	DN:	2'6" to 7'0"	TESTED BY:	D.K.		
WEIGHT BEFORE	WASH					275.9			
WEIGHT AFTER W	/ASH					93.5			
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM	ARK		
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 FIN	E	0.21	0	.3% max.		REFERENCE			
OTHER TESTS					RESULT	LAB NO.	RESULT		
		Curtis Beadov	v		Joe Fo	rsyth, P. Eng.			
REVIEWED BY:	Lm	Ru			Joe /	- Ling.			

patersol consulting en	ngroup ngineers						;	ASTM C13		
LIENT:	Caivan	DESCRIPTION:		Fine Ag	gregate	FILE NO:			PG5570	
ONTRACT NO.:	-	SPECIFICATION	l:		L TILL	LAB NO:			31576	
ROJECT:	Geotechnical Investigation -	INTENDED USE:	:			DATE RECEIVE	ED:		10-Jan-22	
HOJECT.	6115 Flewellyn Road	PIT OR QUARRY	/ :	-		DATE TESTED			11-Jan-22	
ATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCAT	ΓΙΟΝ:	BH11-2	:1; SS3	DATE REPORT	ED:		14-Jan-22	
AMPLED BY:	A. Emmerton	SAMPLE LOCAT		5'0" to		TESTED BY:			D.K.	
0.0	01	0.1		Sieve	Size (mm)	10			100	_
90.0 - 80.0 - 70.0 - 60.0 - 30.0 - 20.0 - 10.0 - 60										
0.0										
	Silt and Clay		Sand			Gravel			Cobble	
	one and only			Medium Coarse	Fine		Coarse			
entification		Soil Class	sification		MC(%)	LL	PL	PI	Cc 0.87	Cu 24.2
	D100 D60	D30	D10	Gravel (%)		nd (%)	Silt	(%)	Cla	ay (%)
	26.5 0.29 Comments:	0.055	0.012	14.4		50.1			35.5	
REVIEWED BY:			Curtis Beadow Low Row			Joe Fosyth, P. Eng.				

patersor consulting en						SIEVE ANALYSIS ASTM C136		
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570	
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31576	
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22	
111002011	Flewelly	n Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22	
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: B	H11-21; SS3	DATE REP'D:	14-Jan-22	
SAMPLED BY:	A. Emi	merton	SAMPLE LOCATION	N:	5'0" to 7'0"	TESTED BY:	D.K.	
WEIGHT BEFORE	WASH							
WEIGHT AFTER W	/ASH					339.5		
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM	ARK	
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 FIN	E	0.06	0	.3% max.		REFERENCE		
OTHER TESTS					RESULT	LAB NO.	RESULT	
		Curtis Beadov	v					
REVIEWED BY:	Lm	R		Joe Forsyth, P. Eng.				

patersol consulting er	ngineers									SIEVE ANALY ASTM C136		
LIENT:	Caiva	n	DESCRIPTION:			Fine Aggre	gate	FILE NO:			PG5570	
ONTRACT NO.:	-		SPECIFICATION	N:		GLACIAL	TILL	LAB NO:			31577	
ROJECT:	Geotechnical Inv	estigation -	INTENDED USE	:				DATE RECEIV	ED:		10-Jan-22	
NOJECT.	6115 Flewelly	yn Road	PIT OR QUARR	Y:		-		DATE TESTED			11-Jan-22	
ATE SAMPLED:	15/16/17-D	EC-21	SOURCE LOCA	TION:		BH14-21; SS2	+ SS3	DATE REPOR	TED:		14-Jan-22	
AMPLED BY:	A. Emme	erton	SAMPLE LOCA			2'6" to 7'0		TESTED BY:			D.K.	
0.0)1		0.1			Sieve Size	(mm)	10			100	
90.0									<i>y</i> • • • • • • • • • • • • • • • • • • •			
80.0												
70.0												
60.0												
% 50.0												
40.0												
30.0												
20.0												
0.0												
0.0				San	nd			Gravel			1	
	Silt and (Clay	F	ine	Medium	Coarse	Fine		Coarse		Cobble	
entification				sification			MC(%)	LL	PL	PI	Cc 0.70	Cu 76.7
	D100 26.5	D60 1.15	D30 0.11	D10 0.015	Gr	avel (%) 25.9		nd (%) 48.9	Silt	t (%)	25.2 Cla	y (%)
	Comment		•				· · · · · · · · · · · · · · · · · · ·					
REVIEWED BY:			Curtis Beadow Low Run			Joe Fosyth, P. Eng.						

patersor consulting en						SIEVE ANALYSIS ASTM C136			
CLIENT:	Cai	ivan	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570		
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31577		
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22		
11100201.	Flewelly	yn Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22		
DATE SAMPLED:	15/16/17	'-DEC-21	SOURCE LOCATI	ON: BH14-2	1; SS2 + SS3	DATE REP'D:	14-Jan-22		
SAMPLED BY:	A. Emr	merton	SAMPLE LOCATION	ON:	2'6" to 7'0"	TESTED BY: D.K.			
WEIGHT BEFORE	WASH		_		553.4				
WEIGHT AFTER W	VASH					428.6			
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM/	ARK		
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 FIN	IE	0.09	c).3% max.	1	REFERENCE			
OTHER TESTS					RESULT	LAB NO.	RESULT		
		Overtia Dandar			loo Fo	was the D. Cook			
		Curtis Beadov	Joe Forsyth, P. Eng.						
REVIEWED BY:	Low	Pu		Jen					

patersol consulting en	ngroup ngineers								\$	ASTM C			
LIENT:	Caivan	DESCRIPTION:			Fine Ag	gregate	FILE NO:					PG5570	
ONTRACT NO.:	-	SPECIFICATION:			SILTY SA	ND/SANDY SILT	LAB NO:					31578	
ROJECT:	Geotechnical Investigation -	INTENDED USE:				-	DATE RE	CEIVED:				10-Jan-22	
HOULOT.	6115 Flewellyn Road	PIT OR QUARRY	':			-	DATE TE	STED:				11-Jan-22	
ATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCAT	ION:		BH19-21;	SS2 + SS3	DATE RE	PORTED:				14-Jan-22	
AMPLED BY:	A. Emmerton	SAMPLE LOCATI	ION:		2'6" t	o 7'0"	TESTED	BY:				D.K.	
0.0	01	0.1			Sieve 1	Size (mm)		10				100	_
90.0					*****								
80.0													
70.0													
60.0													
% 50.0													
40.0													
30.0													
20.0													
0.0													
	Silt and Clay		San	ıd			Grav	/el				Cobble	
	Jin alla Clay	Fin		Medium	Coarse	Fine			Coarse				
entification	D100 D60	Soil Class	D10		Gravel (%)	MC(%)	LL and (%)		PL Silt	(%)		0.83	1.2 ay (%)
	9.5 0.012	0.01	0.01		0.1		13.8		Oilt	(73)	86.		9 (70)
	Comments:												
REVIEWED BY:			Curtis Beadow				Joe Fosyth, P. Eng.						

patersor consulting en						SIEVE ANALYSIS ASTM C136			
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570		
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31578		
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22		
	Flewelly	n Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22		
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: BH19-2	1; SS2 + SS3	DATE REP'D:	14-Jan-22		
SAMPLED BY:	A. Em	merton	SAMPLE LOCATION	ON:	2'6" to 7'0"	TESTED BY: D.K.			
WEIGHT BEFORE	WASH				397.5				
WEIGHT AFTER W	/ASH		ı			69.5			
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM	ARK		
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 FIN	E	0.29	O	.3% max.		REFERENCE			
OTHER TESTS					RESULT	LAB NO.	RESULT		
		- · ·							
		Curtis Beadov	V		Joe Fo	rsyth, P. Eng.			
REVIEWED BY:	for	Ru			7-2				

patersol consulting er	ngineers						•	SIEVE ANALYS ASTM C136	SIS	
LIENT:	Caivan	DESCRIPT	ON:	Fine Ago	regate	FILE NO:			PG5570	
ONTRACT NO.:	-	SPECIFICA	TION:	SILTY SAND/S		LAB NO:			31579	
ROJECT:	Geotechnical Investigati		USE:			DATE RECEIVE	:D:		10-Jan-22	
NOJECT.	6115 Flewellyn Road	PIT OR QU	ARRY:	-		DATE TESTED:			11-Jan-22	
ATE SAMPLED:	15/16/17-DEC-21	SOURCE L	OCATION:	BH24-21; S	S2 + SS3	DATE REPORT	ED:		14-Jan-22	
AMPLED BY:	A. Emmerton	SAMPLE LO		2'6" to		TESTED BY:			D.K.	
0.0	01	0.1		Sieve S	ize (mm)	10			100	•
90.0					-					
70.0										
60.0										
% 50.0										
40.0										
30.0										
20.0										
0.0										
			Sar	nd		Gravel				
	Silt and Clay		Fine	Medium Coarse	Fine		Coarse		Cobble	
entification			Classification		MC(%)	LL	PL	PI	Cc 1.10	Cu 3.5
	D100 D60 19 0.09		D10 0.028	Gravel (%) 4.9		nd (%) 46.3	Silt	: (%)	Cla 48.8	y (%)
	Comments:	0 0.055				+0.0			+0.0	
REVIEWED BY:				v	Joe Fosyth, P. Eng.					

patersor consulting en						SIEVE ANALYSIS ASTM C136		
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570	
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31579	
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22	
	Flewelly	n Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22	
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: BH24-2	1; SS2 + SS3	DATE REP'D:	14-Jan-22	
SAMPLED BY:	A. Em	merton	SAMPLE LOCATION	ON:	2'6" to 7'0"	TESTED BY:	D.K.	
WEIGHT BEFORE	WASH					421.6		
WEIGHT AFTER W	VASH		ı			278.2		
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM	ARK	
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 FIN	IE	0.00	0	.3% max.	D=0	REFERENCE		
OTHER TESTS					RESULT	LAB NO.	RESULT	
		Out to Design			1, . 5	words D. F		
		Curtis Beadov	V		rsyth, P. Eng.			
REVIEWED BY:	Low	Ru		Jen				

patersol consulting er	ngroup ngineers											E ANALYSI STM C136	s	
CLIENT:	Cai	van	DESCRIPTION:			Fine A	ggregate		FILE NO:				PG5570	
CONTRACT NO.:		-	SPECIFICATION	N:		GLACIAL			LAB NO:				31580	
PROJECT:	Geotechnical	Investigation -	INTENDED USE			=	-		DATE RE	CEIVED:			10-Jan-22	
PROJECT:	6115 Flew		PIT OR QUARR				-		DATE TE	STED:			11-Jan-22	
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCA	TION:		BH35-22;	SS4 + SS5		DATE RE	PORTED:			14-Jan-22	
SAMPLED BY:	A. Emi	merton	SAMPLE LOCA	ΓΙΟΝ:		7'6" t	o 12'0"		TESTED	BY:			D.K.	
0.0	01		0.1			Sieve 1	Size (mm)			10			100	
90.0										1				
60.0										*				
% 50.0														
30.0														
20.0				•										
10.0														
0.0				San	ıd		<u>i_</u>		Grav	el				_
	Silt an	d Clay	F	ine	Medium	Coarse		Fine	T	Coa	rse		Cobble	
Identification			Soil Clas	sification				MC(%)	LL	PI	-	PI	Сс	Cu
	D100	D60	D30	D10		Gravel (%)		San	d (%)		Silt (%)		17.82 Clay	1100.0
	37.5	16.5	2.1						Sand (%) Silt (%) Clay (%) 25.5 13.5					
	Comme	ents:												
	Curtis Beadow				Joe Fosyth, P. Eng.									
REVIEWED BY:			6	In Ru				Jed Posylli, P. Elig.						

patersor consulting en						SIEVE AN ASTM	
CLIENT:	Cai	ivan	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31580
PROJECT:			INTENDED USE:			DATE REC'D:	10-Jan-22
11100201.	Flewelly	yn Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17	'-DEC-21	SOURCE LOCATION	ON: BH35-2	2; SS4 + SS5	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Em	merton	SAMPLE LOCATION	ON:	7'6" to 12'0"	TESTED BY:	D.K.
WEIGHT BEFORE	WASH					470.5	
WEIGHT AFTER W	VASH		T	1		411.0	
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMA	ARK
150							
106							
75				<u> </u>			
63				<u> </u>			
53				<u> </u>			
37.5	0.0	0.0	100.0	<u> </u>			
26.5	42.6	9.1	90.9	<u> </u>			
19	131.9	28.0	72.0	<u> </u>			
16	175.4	37.3	62.7	<u> </u>			
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	<u> </u>			
PAN	410.9		<u> </u>	<u> </u>			
SIEVE CHECK FIN	<u>IE</u>	0.02	0).3% max.	- 70: 11 7	REFERENCE	
OTHER TESTS					RESULT	LAB NO.	RESULT
		Curtis Beadov	V		Joe Fo	orsyth, P. Eng.	
REVIEWED BY:	Low	Ru			Jet	7-2	

patersol consulting er	ngroup ngineers								;	SIEVE ANALYS ASTM C136	sis	
CLIENT:	Cai	van	DESCRIPTION:			Fine Aggre	egate	FILE NO:			PG5570	
CONTRACT NO.:			SPECIFICATION	l:			ID/SANDY SILT	LAB NO:			31581	
PROJECT:	Geotechnical		INTENDED USE			-	-	DATE RECEIV	/ED:		10-Jan-22	
PROJECT:	6115 Flew	ollyn Road	PIT OR QUARR			-		DATE TESTE			11-Jan-22	
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCA	TION:		BH37-22;	SS3	DATE REPOR			14-Jan-22	
SAMPLED BY:	A. Em		SAMPLE LOCAT			5'7" to 7	"0"	TESTED BY:			D.K.	
0.0)1		0.1			Sieve Siz 1	e (mm)	10			100	
90.0 - 80.0 - 60.0 - 8 50.0 - 8												
30.0			*									
20.0												
0.0												
	Silt an	d Clay	Fi	Sano ne	d Medium	Coarse	Fine	Gravel	Coarse		Cobble	
dentification			Soil Class				MC(%)	LL	PL	PI	Cc	Cu
	Dir	Dec				2 (O()		1 (0()	0"	L (0()	0.65	2.4
ŀ	D100 1.18	D60 0.13	D30 0.068	D10 0.055	G	0.0		nd (%) 54.2	Silt	t (%)	Clay 35.8	(%)
	Comme											
REVIEWE	REVIEWED BY:			Curtis Beadow And Record to the second to t			Joe Fosyth, P. Eng.					

patersor consulting en						SIEVE AN ASTM	
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31581
PROJECT:			INTENDED USE:		-	DATE REC'D:	10-Jan-22
111002011	Flewelly	n Road	PIT OR QUARRY:		-	DATE TESTED:	11-Jan-22
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: B	H37-22; SS3	DATE REP'D:	14-Jan-22
SAMPLED BY:	A. Emi	merton	SAMPLE LOCATION	ON:	5'7" to 7'0"	TESTED BY:	D.K.
WEIGHT BEFORE	WASH						
WEIGHT AFTER W	VASH					256.6	
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REM	ARK
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 FIN	IE	0.08	0	.3% max.		REFERENCE	
OTHER TESTS					RESULT	LAB NO.	RESULT
		Curtis Beadov	V		Joe Fo	rsyth, P. Eng.	
REVIEWED BY:	for	Ru			Jet	7-2	

patersol consulting en	ngroup gineers								SIEVE ANALY ASTM C13			
IENT:	Caivan	DESCRIPTION:			Fine Ad	ggregate	FILE NO:			PG5570		
NTRACT NO.:	-	SPECIFICATIO		SIL		SANDY SILT	LAB NO:			31582		
	Geotechnical Investigation					-	DATE REC	EIVED:		10-Jan-22		
ROJECT:	6115 Flewellyn Road	PIT OR QUARE				-	DATE TES			11-Jan-22		
ATE SAMPLED:	15/16/17-DEC-21	SOURCE LOCA				SS3 + SS4	DATE REF			14-Jan-22		
MPLED BY:	A. Emmerton	SAMPLE LOCA				o 9'6"	TESTED B			D.K.		
0.0	1	0.1			Sieve 1	Size (mm)		10		100	_	
90.0												
80.0												
70.0												
60.0												
% 50.0												
40.0												
20.0												
10.0												
0.0												
	Silt and Clay	-	San	d Medium	Coarse	Fine	Grave	Coarse		Cobble		
entification			ssification	HEGIGIII	Coarse	MC(%)	LL	PL	PI	Cc	Cu	
										0.56	1.8	
	D100 D60 4.75 0.018	D30 0.01	D10 0.01		Gravel (%) 0.0		and (%) 21.0	Sil	t (%)	79.0	ay (%)	
	Comments:					•						
REVIEWE	EWED BY: Curtis Bear							Joe Fosyth, P. Eng.				

patersor consulting en						SIEVE AN ASTM (
CLIENT:	Cai	van	DESCRIPTION:	Fine Ag	gregate	FILE NO.:	PG5570		
CONTRACT NO.:		-	SPECIFICATION:	Silty	Clay	LAB NO.:	31582		
PROJECT:			INTENDED USE:			DATE REC'D:	10-Jan-22		
	Flewelly	n Road	PIT OR QUARRY:			DATE TESTED:	11-Jan-22		
DATE SAMPLED:	15/16/17	-DEC-21	SOURCE LOCATION	ON: BH38-22	2; SS3 + SS4	DATE REP'D:	14-Jan-22		
SAMPLED BY:	A. Emr	merton	SAMPLE LOCATIO	N:	5'0" to 9'6"	TESTED BY:	D.K.		
WEIGHT BEFORE	WASH					299.7			
WEIGHT AFTER W	/ASH					88.6			
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	LOWER SPEC	UPPER SPEC	REMA	ARK		
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 FIN	E	0.11	0.	.3% max.		REFERENCE			
OTHER TESTS					RESULT	LAB NO.	RESULT		
		Oundia D			1. =	words D.F.			
REVIEWED BY:	Low	Curtis Beadow			Joe Fo	Joe Forsyth, P. Eng.			

PATERSOI GROUP	Ν										SIEVE ANALYS ASTM C136	IS	
CLIENT:	Caiv	van	DEPTH:			2'0	6" to 4'6"		FILE NO:			PG5570	
CONTRACT NO.:			BH OR TP No.:			ВН	1-22 SS2		LAB NO:			39280	
PROJECT:	6115 Flev	vellyn Rd				GLAC	IAL TIL	L	DATE RECE	EIVED:		6-Oct-22	
									DATE TEST	ED:		18-Oct-22	
DATE SAMPLED:	30-Se								DATE REPO	ORTED:		20-Oct-22	
SAMPLED BY:	KI	В							TESTED BY	<u>'</u> :		DK/CS	
0.0 100.0	01		0.01		0.1		Sieve Size (m	i m) 1		10	*	100	
90.0													
80.0													
70.0													
60.0						*							
% 50.0													
40.0													
30.0													
20.0													
10.0	•												
	1	1	au.				Sand			Gravel			\neg
Clay			Silt		Fir	ne	Medium	Coarse	F	ine	Coarse	Cobble	
Identification			Soil Clas	ssification		•		MC(%)	LL	PL	PI	Cc	Cu
	D100	D60	D30	D10		Gravel (%) 18.3			 nd (%) 47.9		ilt (%) 31.2	Clay (%	6)
	Comme	nts:											
				Curtis Beadow	~~					Joe For	syth, P. Eng.		
REVIEWED BY:				m Ru				8	Joe Forsyth, P. Eng.				



HYDROMETER LS-702 ASTM-422

Joe Forsyth, P. Eng.

NITIAL WEIGHT		50.00			HYGROSCOPI				
	525					2.700			
WEIGHT CORRE		49.72	TARE WEIGH	т	50.		ACTUAL V	VEIGHT	
	SH BACK SIEVE	28.95	AIR DRY		528		478.		
SOLUTION CON		40 g/L	OVEN DRY		525		475.		
OCCUTION CON	CLITTICATION	+0 g/L	CORRECTED		323).994	70	
			•	DAIN CIZE ANALY	zele	J.994			
			1	RAIN SIZE ANALY					
SIEV	'E DIAMETER (m	nm)	WEIGHT F	RETAINED (g)	PERCENT	RETAINED	PERCENT I	PASSING	
	26.5			0	0.	0	100	.0	
	19		5	52.1	9.	9	90.	1	
	13.2		6	62.5	11	.9	88.	1	
	9.5		6	9.8	13	.3	86.7		
	4.75		9	96.3	18	.3	81.7		
	2.0		1:	20.1	22	.8	77.	2	
	Pan		4	04.8					
	0.850		3	3.27	27	.9	72.	1	
	0.425		7	7.64	34	.6	65.	4	
	0.250		1	3.36	43.5		56.	5	
	0.106		2	4.66	60	.9	39.	1	
	0.075		2	8.13	66	.3	33.	7	
	Pan		2	8.95					
SIEVE C	CHECK	0.0	MAX	C = 0.3%					
			Н	IYDROMETER DA	TA				
ELAPSED	TIME (24 hours)	Hs	Нс	Temp. (°C)	DIAMETER	(P)	TOTAL PERCE	NT 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.		
15	6:15	13.0	6.0	23.0	0.0126	13.9	10.		
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	250 10:10 8.0 6.0			23.0	0.0032	4.0	3.1		

C. Beadow

PATERSO	N										SIEVE ANALYSIS ASTM C136	s	
CLIENT:	Caiva	an	DEPTH:			7'6"	to 9'6"		FILE NO:			PG5570	
CONTRACT NO.:			BH OR TP No.:				22 SS4		LAB NO:			39281	
PROJECT:	6115 Flewe	ellyn Rd			_ SII T	Y SAND 1		DY SII T_	DATE RECEIVE	:D:		6-Oct-22	
					O.L.		0 0/111	J. 0.2.	DATE TESTED:			18-Oct-22	
DATE SAMPLED:	30-Sep								DATE REPORTE	ED:		20-Oct-22	
SAMPLED BY:	KB								TESTED BY:			DK/CS	
0.0 100.0	01		0.01		0.1	Si	eve Size (mr	n) 1	•	10		100	
90.0													
80.0					/								
70.0													
60.0													
% 50.0													
40.0													
30.0													
20.0													
10.0	•												
							Sand			Gravel			\neg
Clay			Silt		Fi	ne N	/ledium	Coarse	Fine		Coarse	Cobble	
Identification	•		Soil Clas	sification	•	,		MC(%)	LL	PL	PI	Cc	Cu
	D100	D60	D30	D10		Gravel (%)		22.9 San	d (%)	S	ilt (%)	Clay (%	6)
						0.0			7.5		87.0	5.5	
	Commen	ts:											
				Curtis Beadow						Joe For	syth, P. Eng.		
REVIEWED	REVIEWED BY:								Je	Joe For			



HYDROMETER LS-702 ASTM-422

Joe Forsyth, P. Eng.

CLIENT:		Caivan		DEPTH:	7'6" to	9'6"	FILE NO.:	PG5570	
PROJECT:	6	115 Flewellyn	Rd	BH OR TP No.:	BH4-2	2 SS4	DATE SAMPLEI	30-Sep-22	
AB No. :		39281		TESTED BY:	DK/	CS	DATE RECEIVE	6-Oct-22	
SAMPLED BY:		KB		DATE REPT'D:	20-0	ct-22	DATE TESTED:	18-Oct-22	
			SA	MPLE INFORMAT	ГІОМ				
	SAMPLI	E MASS			SF	PECIFIC GRAV	VITY		
	130	0.5							
NITIAL WEIGH	Т	50.00			HYGROSCOP	C MOISTURE	<u> </u>		
WEIGHT CORR	ECTED	49.75	TARE WEIGH	Т	50.	00	ACTUAL V	VEIGHT	
NT. AFTER WA	ASH BACK SIEVE	3.95	AIR DRY		130	.90	80.9	90	
SOLUTION CO	NCENTRATION	40 g/L	OVEN DRY		130	.50	80.5	50	
			CORRECTED				0.995		
			G	RAIN SIZE ANALY	'SIS				
SIE	VE DIAMETER (n	nm)	WEIGHT F	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		1	30.4					
	0.850).22	0.	99.	5		
	0.425			0.39	0.	9	99.		
	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	3.95					
SIEVE	CHECK	0.0	MAX	(= 0.3%					
	1		F	IYDROMETER DA	TA				
ELAPSED	TIME (24 hours)	Hs	Нс	Temp. (°C)	DIAMETER	(P)	TOTAL PERCE	NT PASSIN	
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.		
15	6:35	14.0	6.0	23.0	0.0125	15.9	15.		
30	6:50	13.0	6.0	23.0	0.0089	13.9	13.		
60	7:20	12.0	6.0	23.0	0.0063	11.9	11.		
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	<u>, </u>	

C. Beadow

In Ru

PATERSC GROUP)N									SIEVE ANALYSI ASTM C136	S	
CLIENT:	Caiv	/an	DEPTH:			7'6" to 9'6"		FILE NO:			PG5570	
CONTRACT NO.:			BH OR TP No.:			BH4 :22 SS4		LAB NO:			39282	
PROJECT:	6115 Flew	wellyn Rd			G	LACIAL TIL	L	DATE RECEIVED	D:		6-Oct-22	
TROULOT.								DATE TESTED:			20-Oct-22	
DATE SAMPLED:	30-Se							DATE REPORTE	D:		21-Oct-22	
SAMPLED BY:	KE	3						TESTED BY:			DK/CS	
0. 100.0	0.001		0.01		0.1	Sieve Size (m	nm) 1		10	•	100	
90.0												
80.0												
70.0												
60.0												
% 50.0												
40.0				*								
30.0			11 ,									
20.0												
10.0												
Cla			Silt			Sand			Gravel		Cobble	7
	<u>′</u>				Fine	Medium	Coarse	Fine		Coarse		
Identification			Soil Class	ification			MC(%) 15.1	LL	PL	PI	Сс	Cu
	D100	D60	D30	D10		vel (%)	San	d (%)		t (%)	Clay (%	b)
	Commer	nts:				9.4	23	3.3		33.8	3.5	
REVIEWE	D BY:			Curtis Beadow				Jes	Joe Fors	yth, P. Eng.		



HYDROMETER LS-702 ASTM-422

Joe Forsyth, P. Eng.

CLIENT:		Caivan		DEPTH:	7'6" to	o 9'6"	FILE NO.:	PG5570	
PROJECT:	6	3115 Flewellyn I	Rd	BH OR TP No.:	BH5-2	2 SS4	DATE SAMPLEI	30-Sep-22	
LAB No. :		39282		TESTED BY:	DK	'CS	DATE RECEIVE	6-Oct-22	
SAMPLED BY:		KB		DATE REPT'D:	21-0	ct-22	DATE TESTED:	20-Oct-22	
			SA	MPLE INFORMAT	ΓΙΟΝ				
	SAMPL	E MASS			SI	PECIFIC GRAV	TY		
	563	3.6				2.700			
INITIAL WEIGH	Т	50.00			HYGROSCOP				
WEIGHT CORR	ECTED	49.61	TARE WEIGHT	-	50.	00	ACTUAL V	VEIGHT	
WT. AFTER WA	SH BACK SIEVE	12.87	AIR DRY		567	.60	517.	60	
SOLUTION CON	NCENTRATION	40 g/L	OVEN DRY		563	.60	513.	60	
			CORRECTED			0.	992		
			GF	RAIN SIZE ANALY	'SIS				
SIE	VE DIAMETER (r	nm)	WEIGHT R	ETAINED (g)	PERCENT	RETAINED	PERCENT	PASSING	
	26.5			0	0.	.0	100	.0	
	19		6	0.1	10		89.	3	
	13.2		7	7.4	13		86.	3	
	9.5		9	4.2		5.7	83.	3	
	4.75				19		80.6		
	2.0		13	30.8	23		76.	8	
	Pan		43	32.8					
							•		
	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	1.50	40	.9	59.	1	
	0.075		12	2.67	42	7	57.	3	
	Pan		12	2.87					
SIEVE	CHECK	0.0	MAX	= 0.3%					
			н	YDROMETER DA	TA				
ELAPSED	TIME (24 hours)	Hs	Нс	Temp. (°C)	DIAMETER	(P)	TOTAL PERCE	NT 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.		
15	6:39	16.0	6.0	23.0	0.0124	19.9	15.		
30	6:54	13.0	6.0	23.0	0.0089	13.9	10.		
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	1440 6:24 7.0 6.0				0.0013	2.0	1.5	,	

C. Beadow

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PATERSC GROUP	NO.							:	SIEVE ANALYSIS ASTM C136		
CLIENT:	Caivan	DEPTH:			5'0" to 7'0"		FILE NO:			PG5570	
CONTRACT NO.:		BH OR TP No.:			-15 i-22 SS3		LAB NO:			39283	
PROJECT:	6115 Flewellyn Rd		SILTY SA	AND TO SAN		/ GRAVEL	OATE RECEIVED:			6-Oct-22	
PROJECT.							DATE TESTED:			18-Oct-22	
DATE SAMPLED:	30-Sep-22						DATE REPORTED):		20-Oct-22	
SAMPLED BY:	KB						TESTED BY:			DK/CS	
	001	0.01		0.1	Sieve Size (mr	m) 1		10	A A	100	
100.0 90.0											
80.0											
70.0											
60.0											
% 50.0			*								
40.0 30.0			*								
20.0											
10.0	•										
l	+ + + + + + + + + + + + + + + + + + + +			1	Sand		T	Gravel		<u> </u>	7
Clay	у	Silt		Fine	Medium	Coarse	Fine	1	Coarse	Cobble	
Identification		Soil Classific	cation			MC(%)	LL	PL	PI	Сс	Cu
 	D100 D60	D30	D10	Gravel ((%)	18.7 Sand	1 (%)	Silt	(%)	Clay (%	1
	2100	200		3.3	(70)	25		65	5.6	6.0	<u>'</u>
	Comments:										
		Cu	ırtis Beadow					Joe Forsy	rth, P. Eng.		
REVIEWE	D BY:	Low	m Ru				Joe Forsyth, P. Eng.				



HYDROMETER LS-702 ASTM-422

Joe Forsyth, P. Eng.

CLIENT:		Caivan		DEPTH:	5'0" to	7'0"	FILE NO.:	PG5570	
ROJECT:	6	3115 Flewellyn	Rd	d BH OR TP No.: BH6-22 SS3		DATE SAMPLEI	30-Sep-22		
AB No. :		39283	TESTED BY:		DK/	CS	DATE RECEIVE	6-Oct-22	
SAMPLED BY:		KB		DATE REPT'D:	20-0	ct-22	DATE TESTED:	18-Oct-22	
			SAI	MPLE INFORMAT	ΓΙΟΝ				
	SAMPL	E MASS			SF	PECIFIC GRAV	/ITY		
	13	1.1				2.700			
NITIAL WEIGH	IGHT 50.00 HYGROSCOPIC MOISTURE								
VEIGHT CORR	RECTED	53.01	TARE WEIGHT	-	50.00		ACTUAL WEIGH		
VT. AFTER WA	ASH BACK SIEVE	13.56	AIR DRY	AIR DRY		126.50		76.50	
OLUTION CO	NCENTRATION	40 g/L	OVEN DRY			131.10		10	
- 1 - 3 -			CORRECTED						
			GR	RAIN SIZE ANALY	'SIS				
				ETAINED (g)	PERCENT RETAINED		PERCENT PASSING		
	26.5			0	0.0		100.0		
	19		C	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			e	6.8		5.2		8	
	Pan		12	24.3					
	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	2.25	28.4		71.6		
	Pan		13	3.56					
SIEVE	CHECK	0.0	MAX = 0.3%						
			н	YDROMETER DA	TA				
ELAPSED	TIME (24 hours)	Hs	Нс	Temp. (°C)	DIAMETER	(P)	TOTAL PERCE	NT PASSIN	
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.		
15	6:39	15.5	6.0	23.0	0.0124	17.7	16.		
30	6:54	14.0	6.0	23.0	0.0089	14.9	14.		
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	3	

C. Beadow

In Pu



Certificate of Analysis

Order #: 2047663

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	-	-	-		



Order #: 2051099

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 17-Dec-2020

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							
рН	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	-	-	-		



Order #: 2151599

Certificate of AnalysisReport Date: 22-Dec-2021Client:Paterson Group Consulting EngineersOrder 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						
рН	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	=	-	-	



Order #: 2152465

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 33585

Report Date: 04-Jan-2022

Order Date: 23-Dec-2021

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							
На	0.05 pH Units	7.75	-	-	1		
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

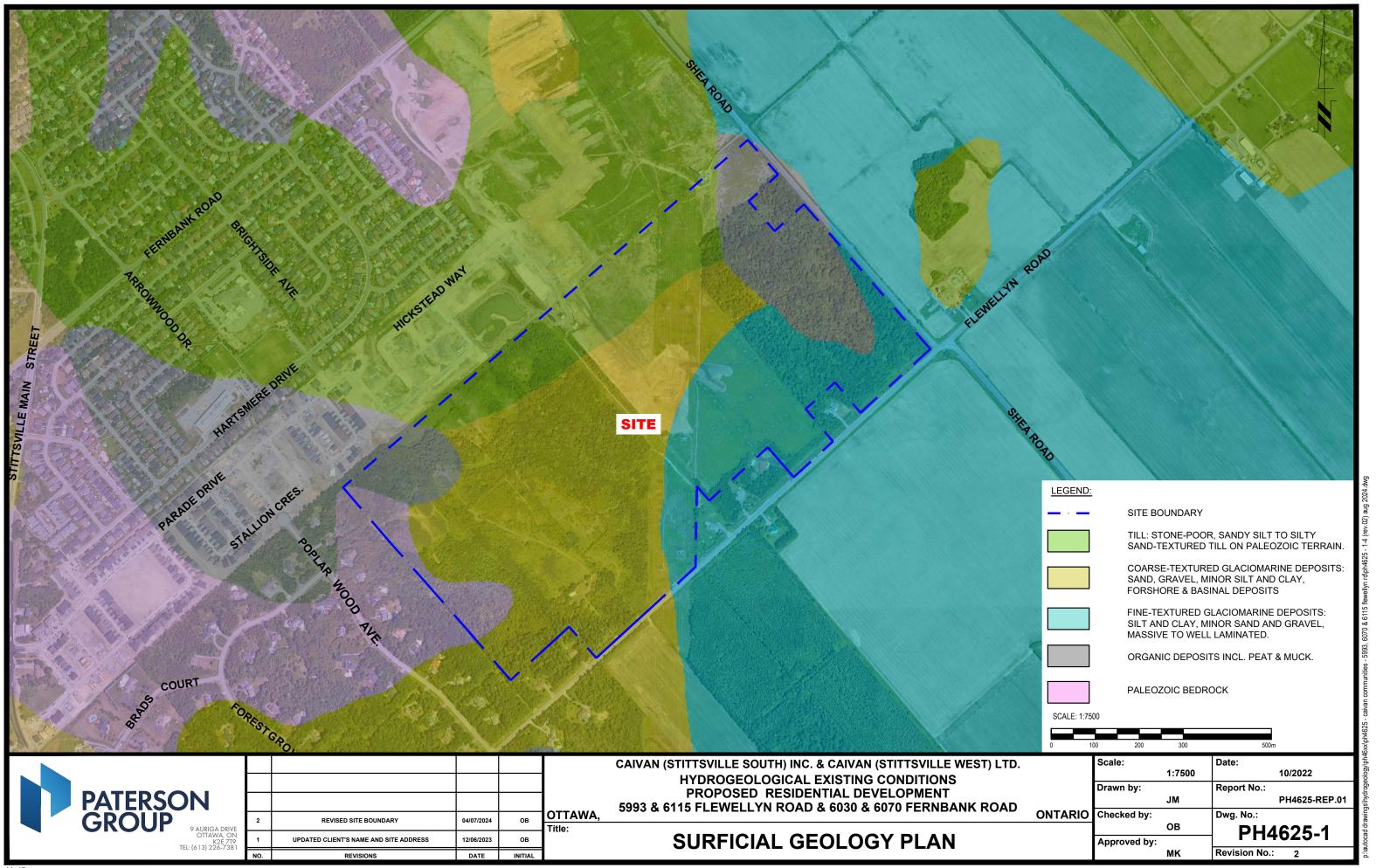
PH4625-2 - DRIFT THICKNESS PLAN

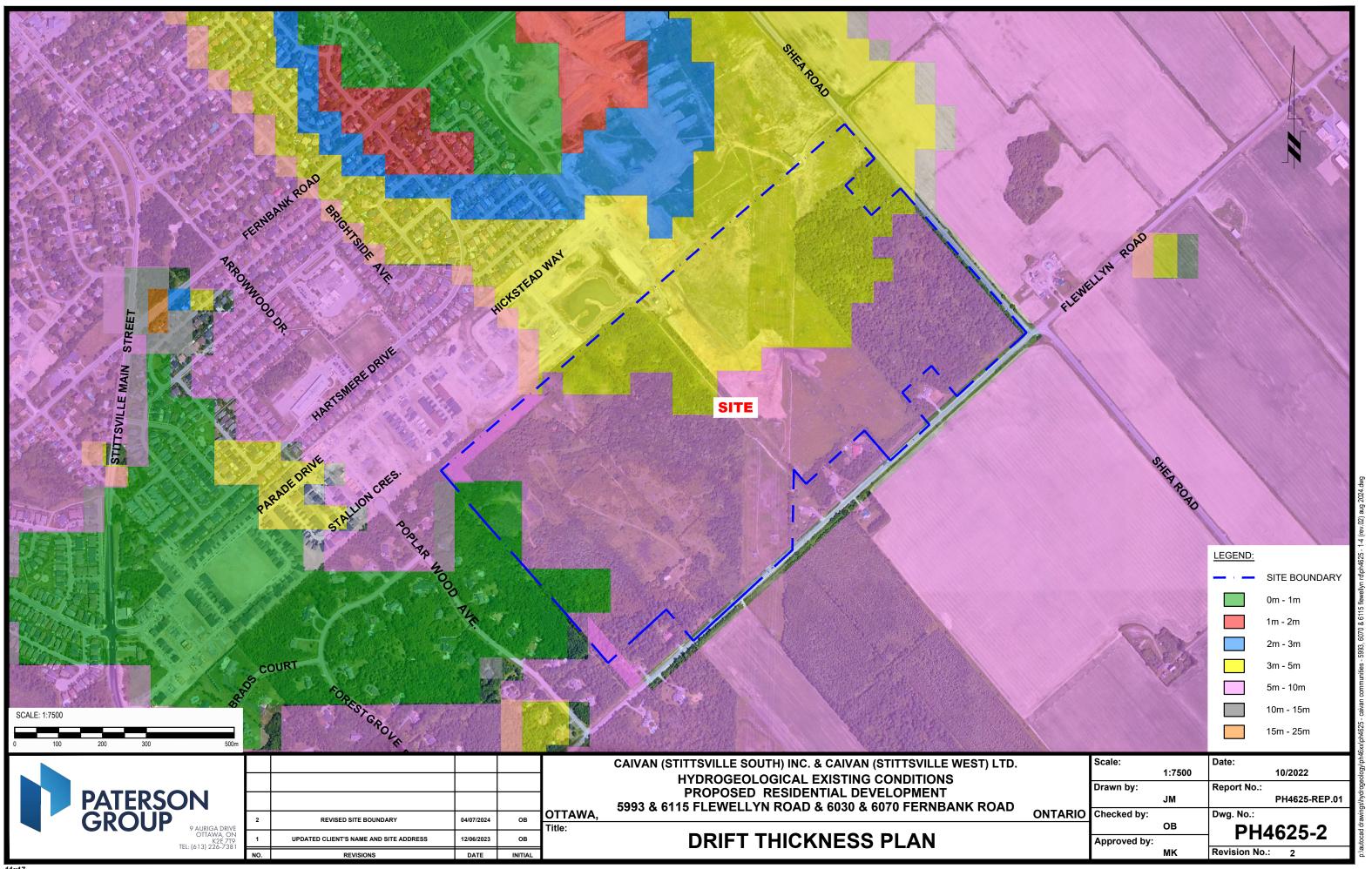
PH4625-3 - BEDROCK GEOLOGY PLAN

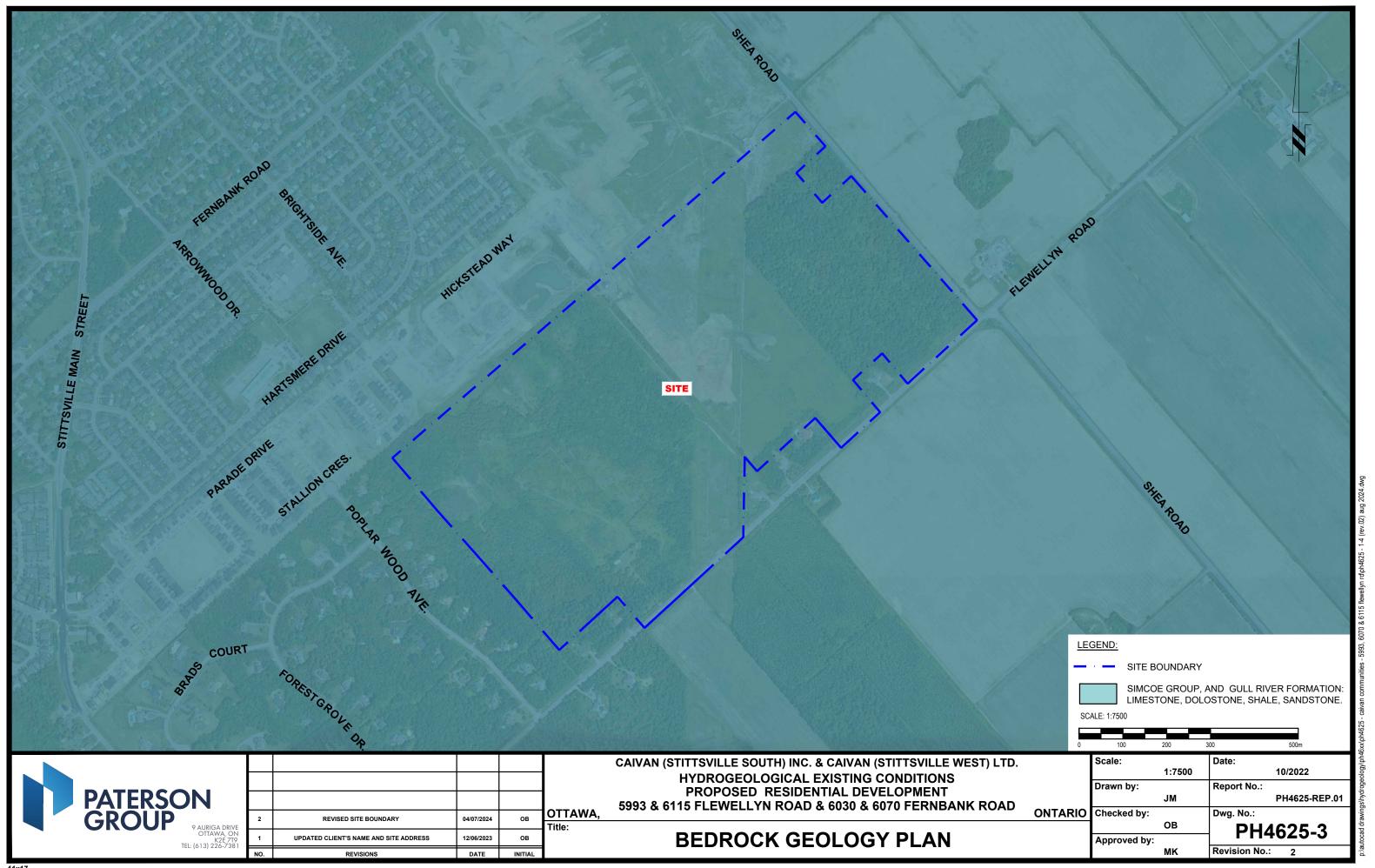
PH4625-4 - MECP WATER WELL LOCATION PLAN

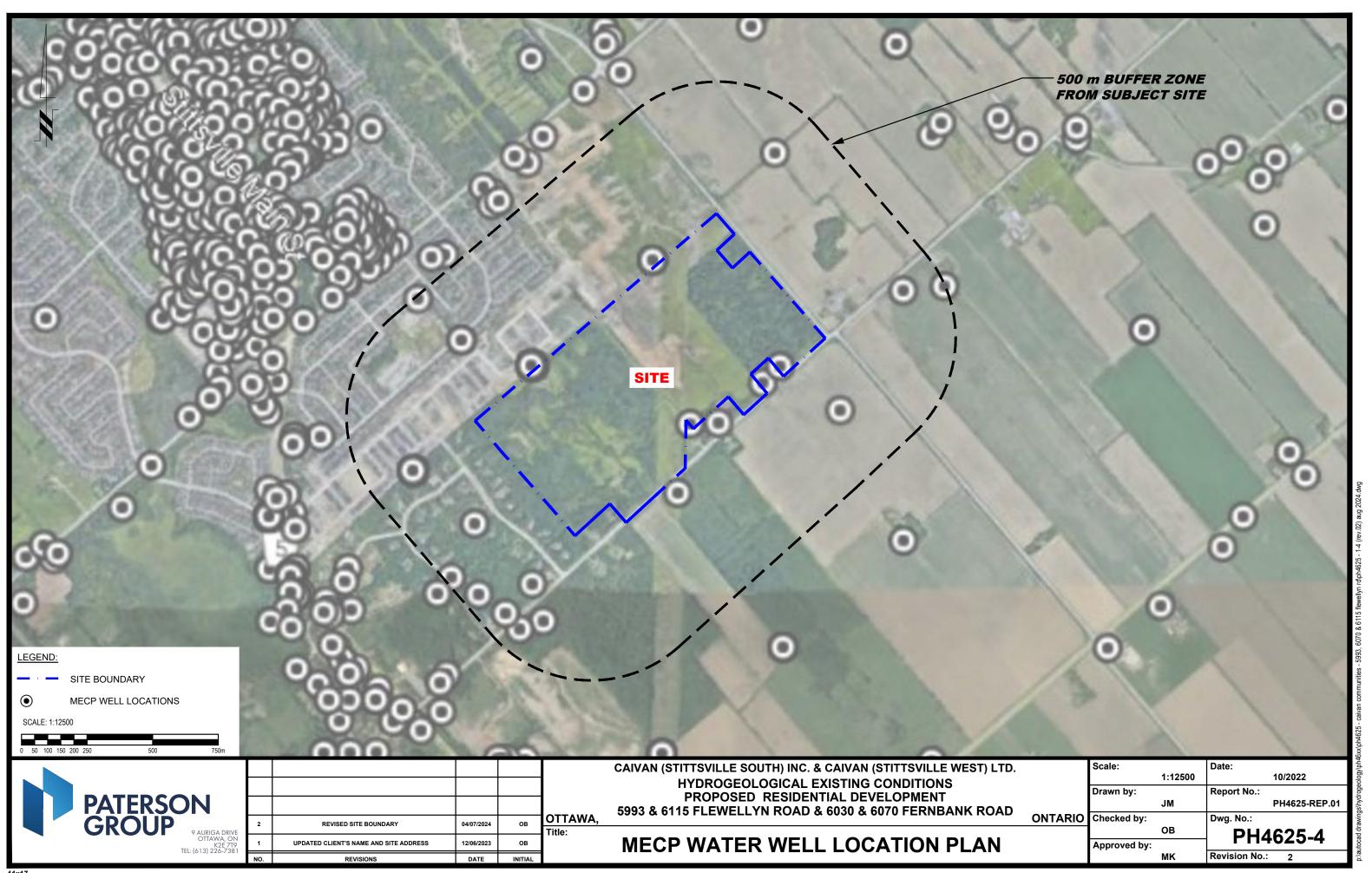
PH4625-5 - GROUNDWATER CONTOUR PLAN

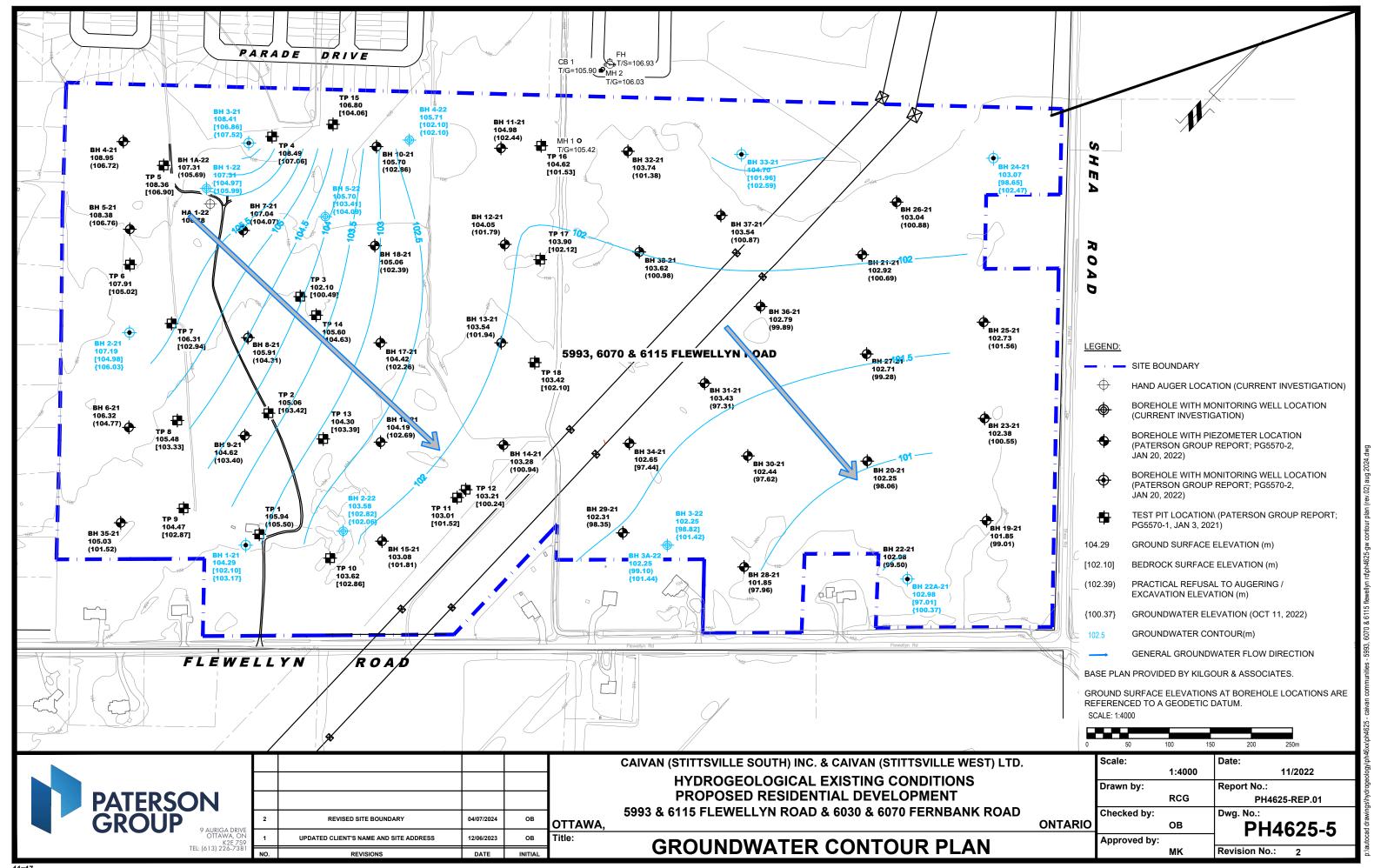
PG5570-2.- BEDROCK CONTOUR PLAN

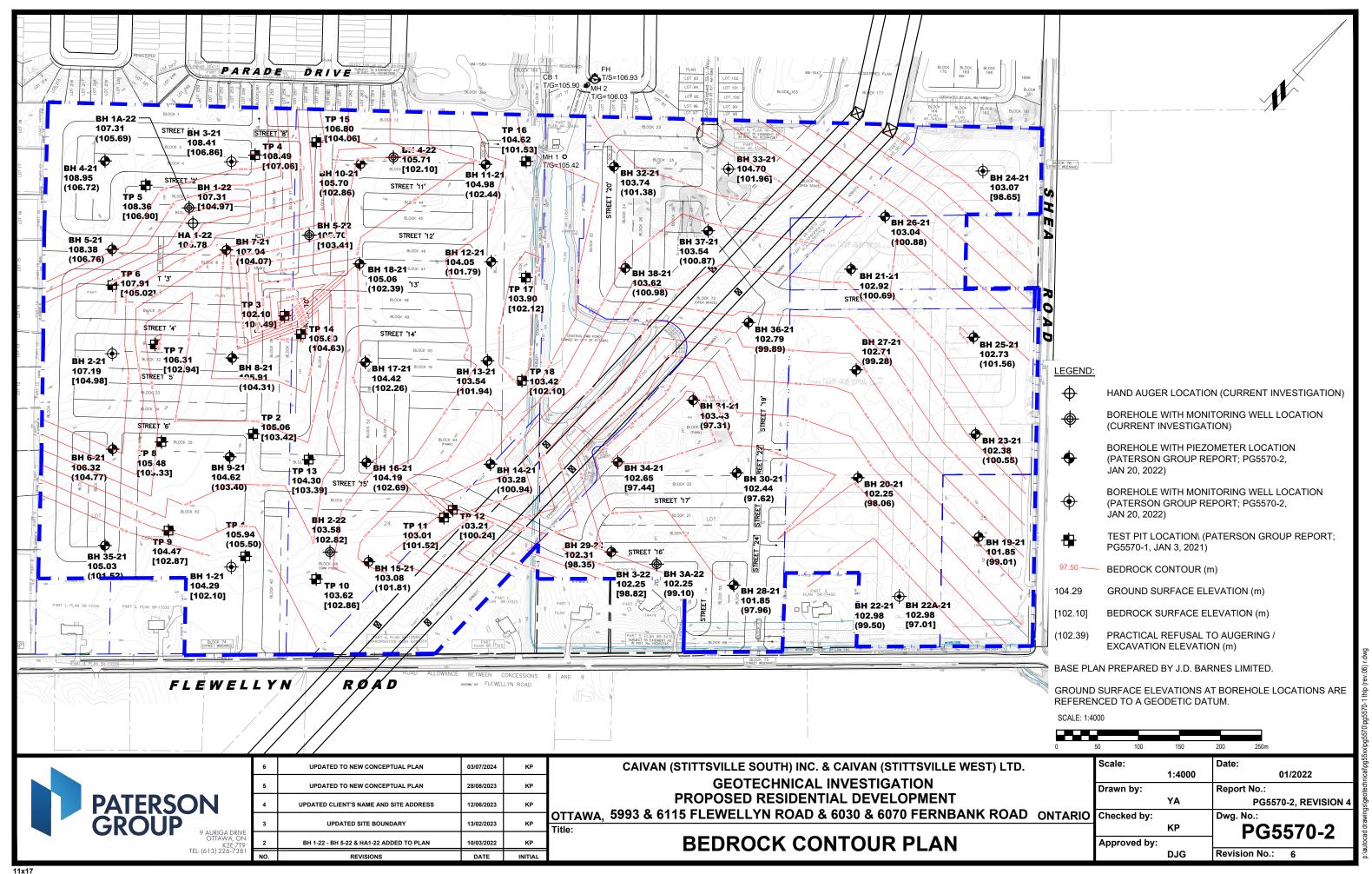














APPENDIX 4

HYDRAULIC CONDUCTIVITY RESULTS - FALLING AND RISING HEAD TESTS

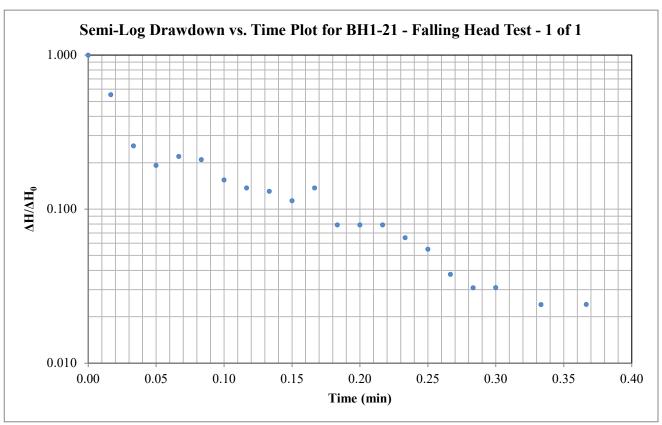
Report: PH4625-REP.01.R2

August 7, 2024

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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

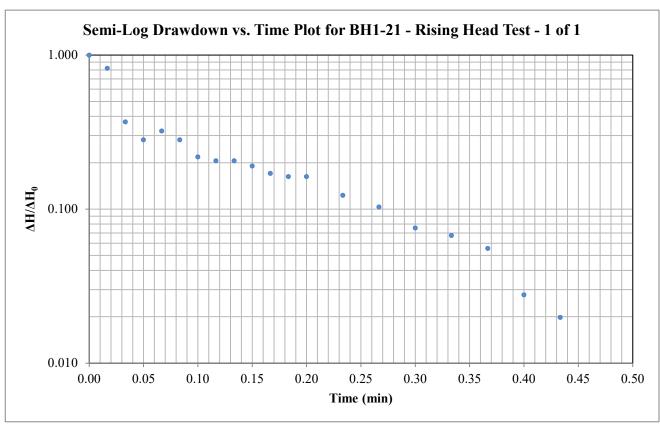
Horizontal Hydraulic Conductivity K = 1.35E-04 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

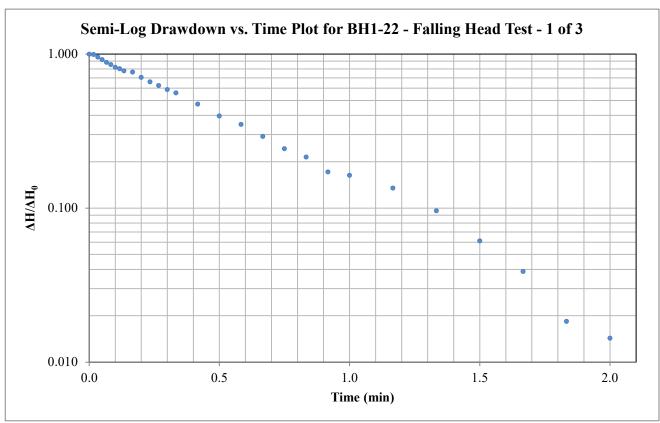
Horizontal Hydraulic Conductivity K = 1.10E-04 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

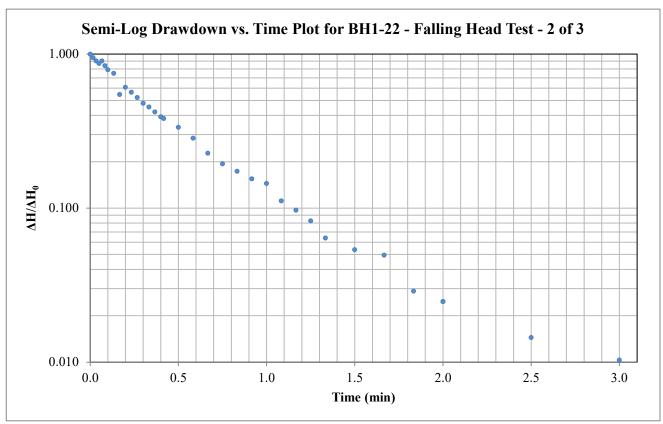
Horizontal Hydraulic Conductivity K = 1.23E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

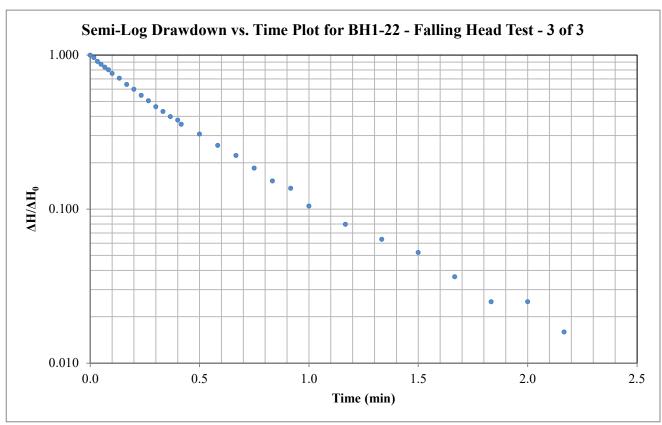
Horizontal Hydraulic Conductivity K = 1.48E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

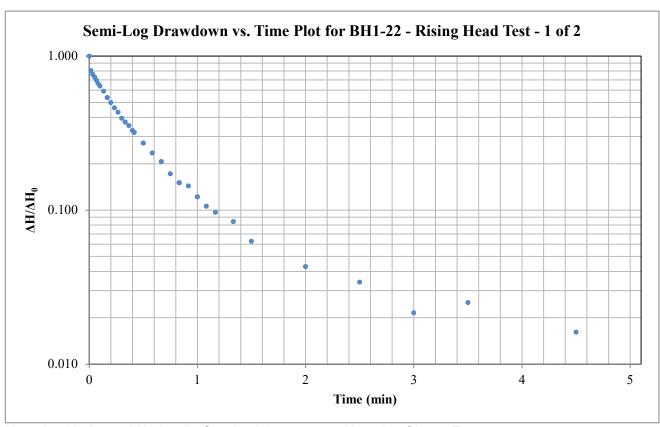
Horizontal Hydraulic Conductivity K = 1.56E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

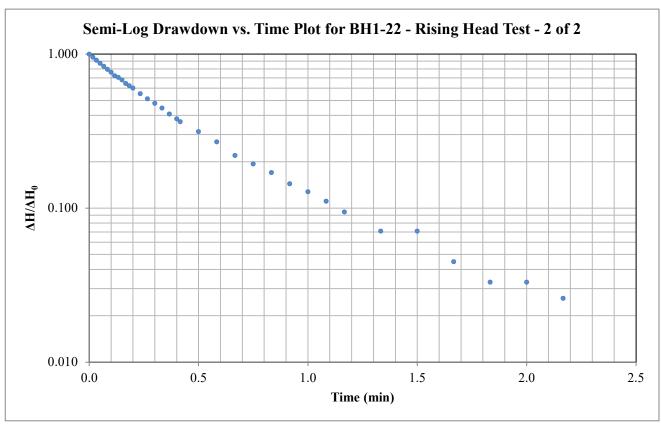
Horizontal Hydraulic Conductivity K = 1.86E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

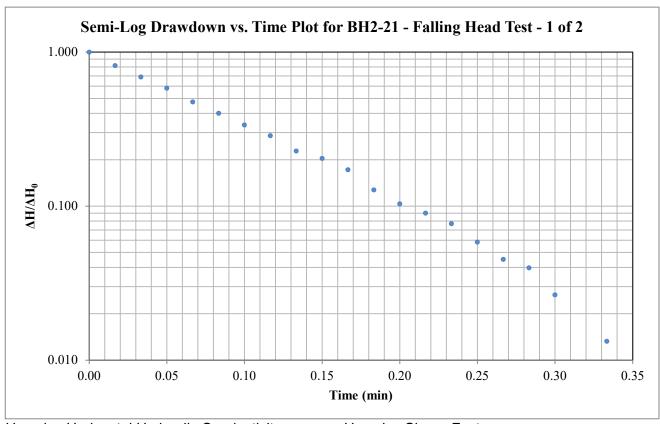
Horizontal Hydraulic Conductivity K = 1.54E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

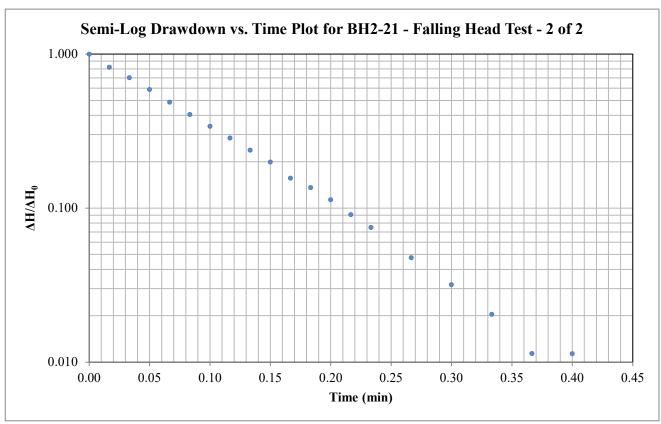
Horizontal Hydraulic Conductivity K = 3.99E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

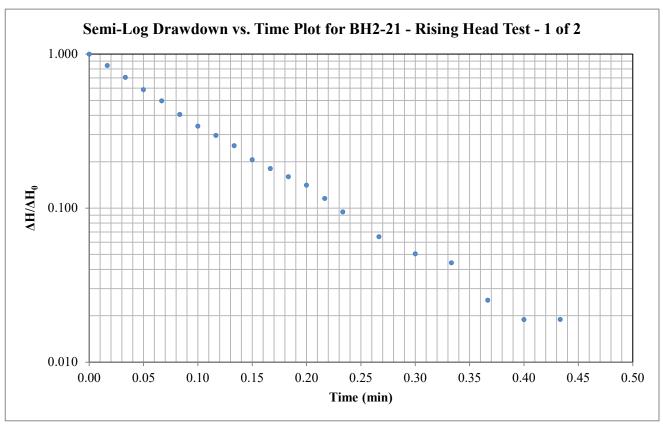
Horizontal Hydraulic Conductivity K = 3.95E-05 m/sec



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

Hvorslev Shape Factor

Hvorslev Shape Factor F:

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

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

Valid for L>>D

3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

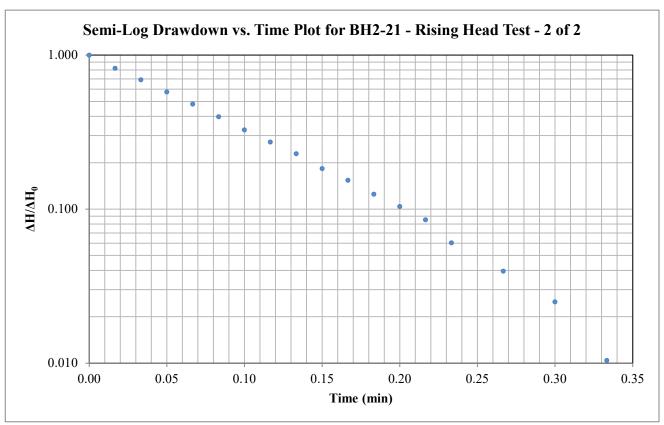
Horizontal Hydraulic Conductivity K = 3.94E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

Horizontal Hydraulic Conductivity

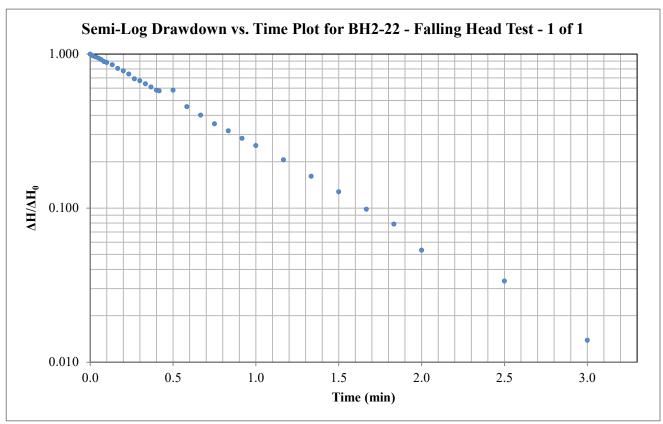
K = 4.06E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

2.07207

Hvorslev Shape Factor F:

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

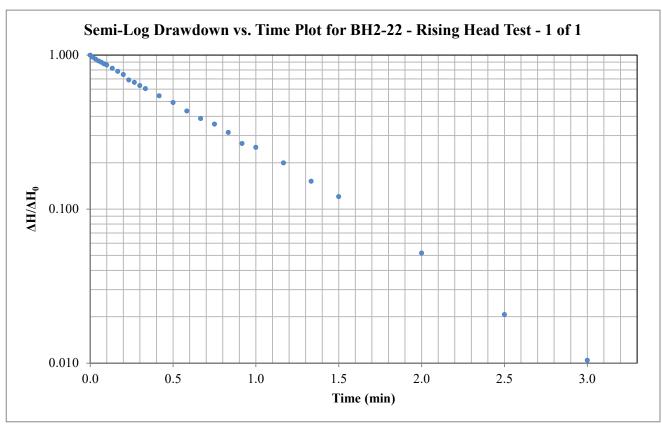
Horizontal Hydraulic Conductivity
K = 8.89E-06 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

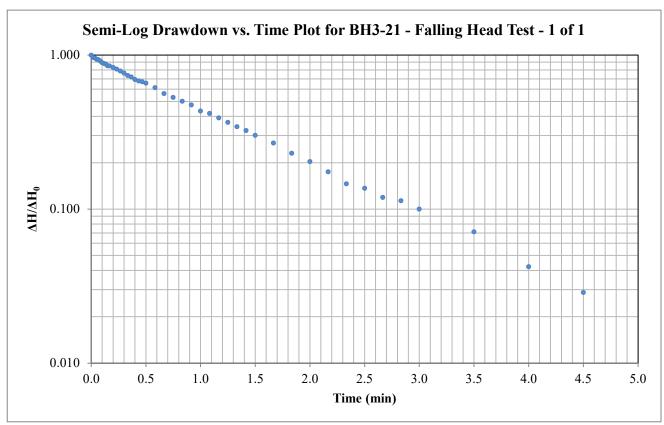
Horizontal Hydraulic Conductivity
K = 9.09E-06 m/sec



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

Hvorslev Shape Factor

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

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

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

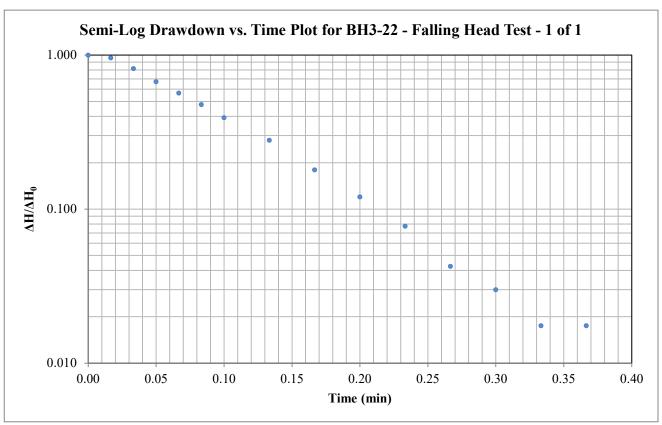
Horizontal Hydraulic Conductivity K = 2.98E-06 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

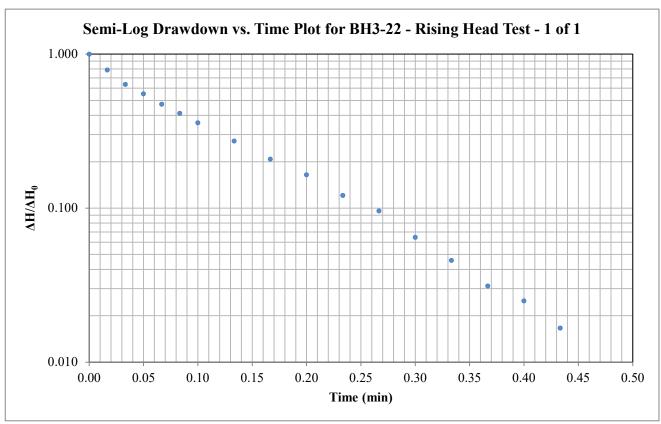
Horizontal Hydraulic Conductivity K = 6.01E-05 m/sec



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

Hvorslev Shape Factor

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

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

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

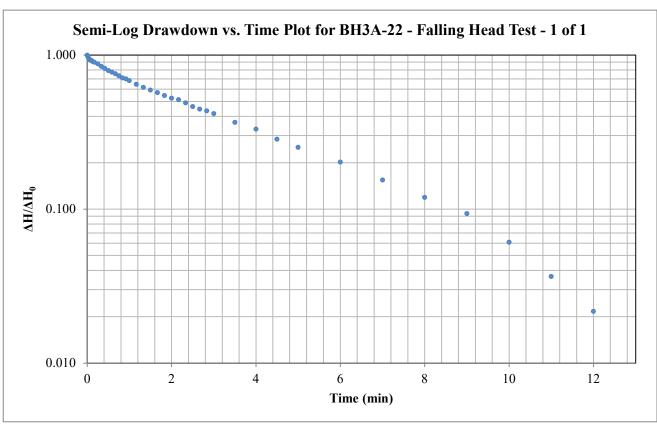
Horizontal Hydraulic Conductivity K = 6.57E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.31086

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.0508 \text{ m} & \text{Diameter of well} \\ r_c & 0.0254 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

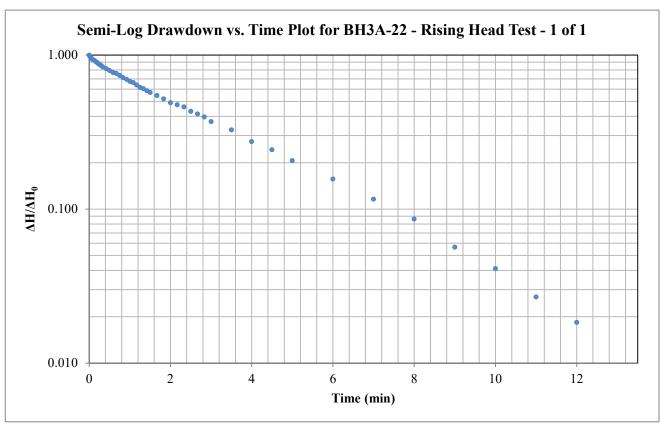
Horizontal Hydraulic Conductivity
K = 4.17E-06 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.31086

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.0508 \text{ m} & \text{Diameter of well} \\ r_c & 0.0254 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

Horizontal Hydraulic Conductivity

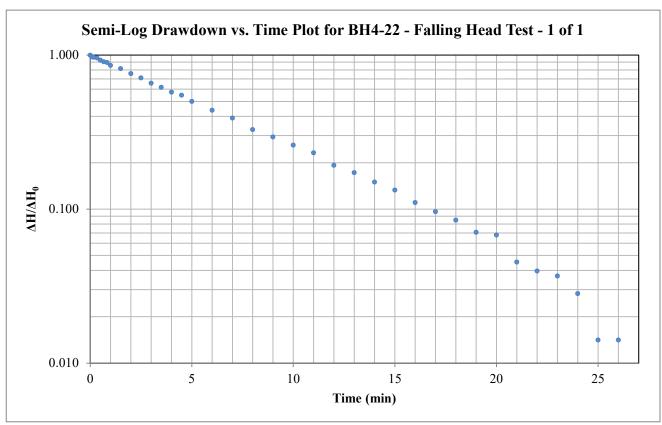
K = 4.78E-06 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

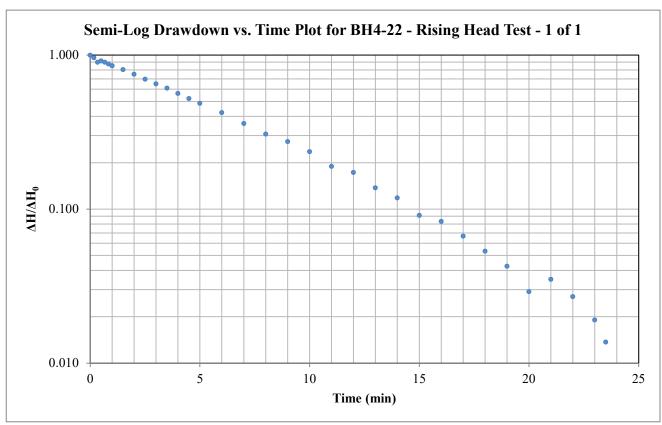
Horizontal Hydraulic Conductivity K = 8.72E-07 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

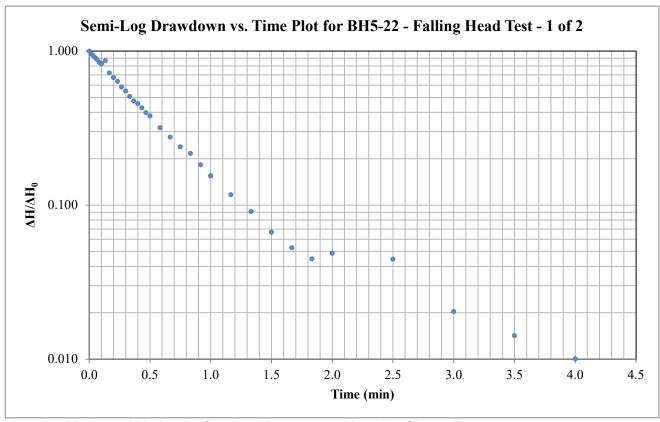
Horizontal Hydraulic Conductivity K = 9.06E-07 m/sec



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

Hvorslev Shape Factor

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

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

Hvorslev Shape Factor F: 2.07207

Well Parameters:

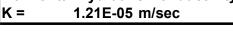
L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

Horizontal Hydraulic Conductivity

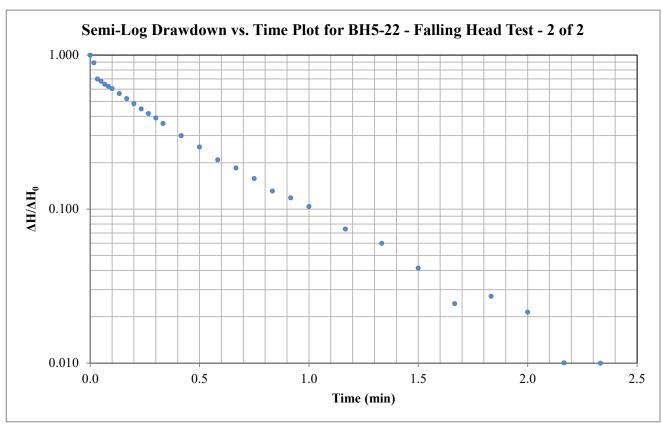




Hvorslev Hydraulic Conductivity Analysis

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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

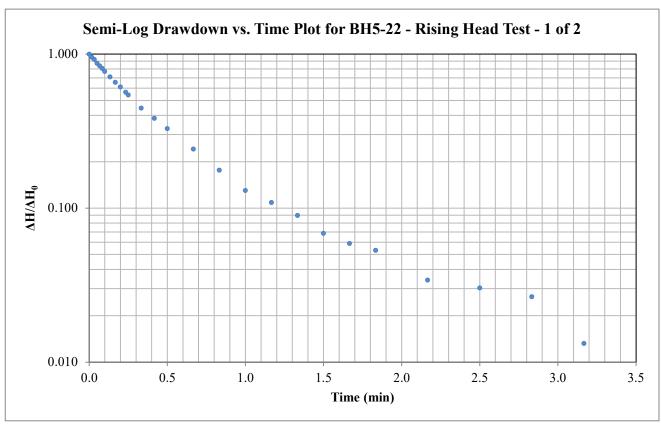
Horizontal Hydraulic Conductivity K = 1.99E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

2.07207

Hvorslev Shape Factor F:

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

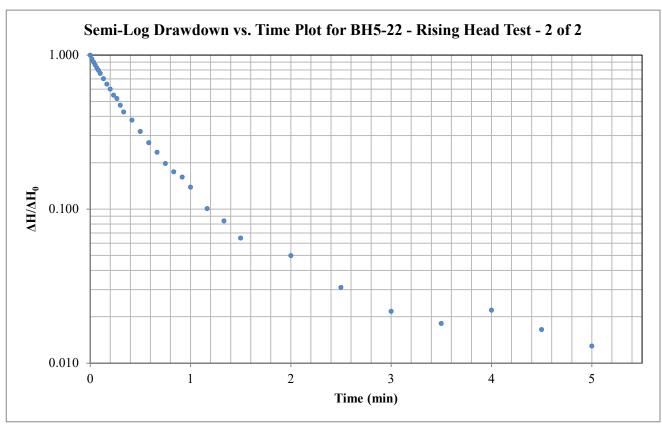
Horizontal Hydraulic Conductivity K = 1.43E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 2.07207

Well Parameters:

L 1.5 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

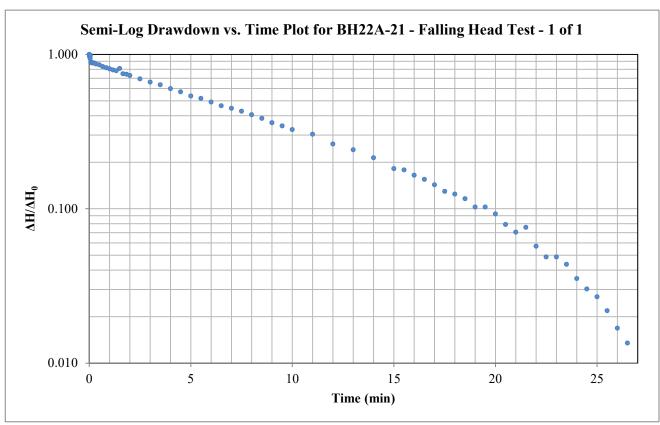
Horizontal Hydraulic Conductivity K = 1.45E-05 m/sec



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

Hvorslev Shape Factor

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

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

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

Horizontal Hydraulic Conductivity

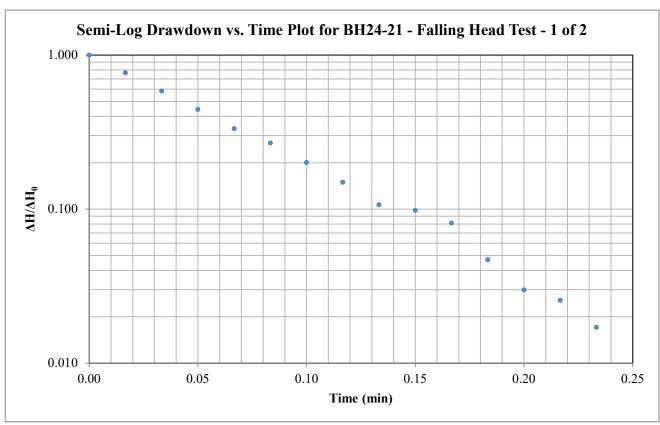
K = 4.31E-07 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

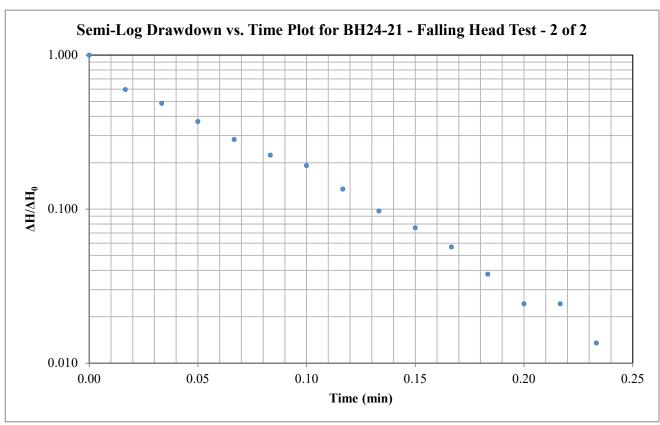
Horizontal Hydraulic Conductivity K = 5.96E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

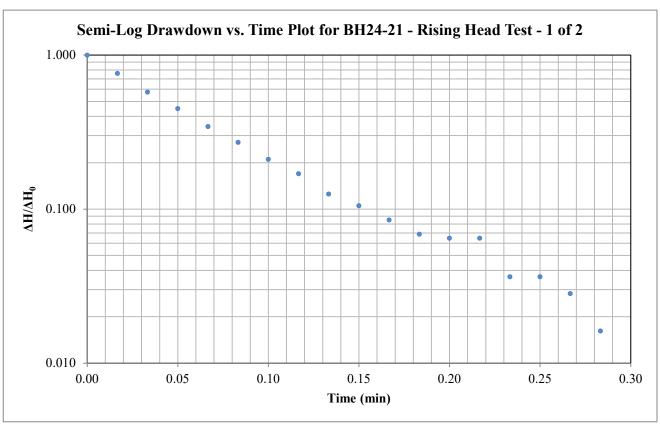
Horizontal Hydraulic Conductivity K = 7.29E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

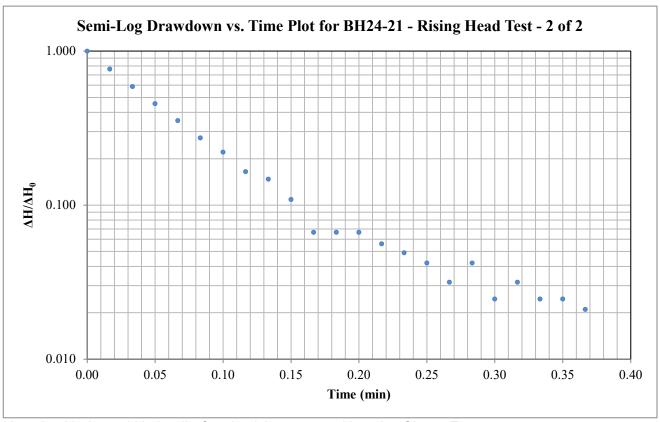
Horizontal Hydraulic Conductivity
K = 5.83E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

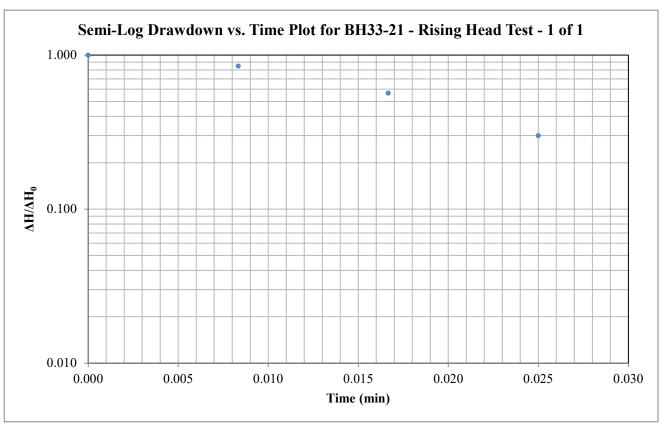
Horizontal Hydraulic Conductivity
K = 5.69E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 3.59613

Well Parameters:

L 3 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.03175 \text{ m} & \text{Diameter of well} \\ r_c & 0.01588 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

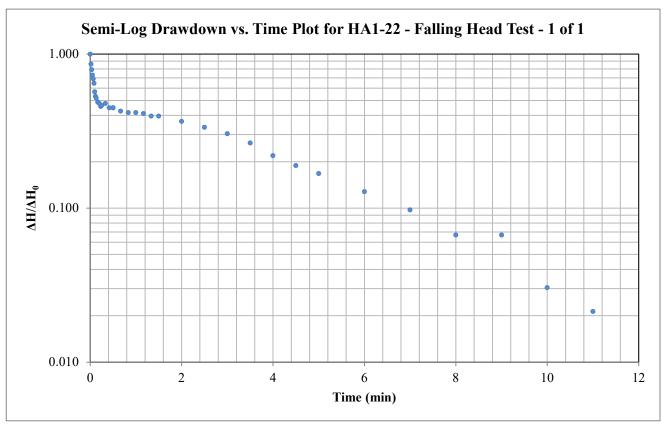
Horizontal Hydraulic Conductivity
K = 1.60E-04 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 0.92098

Well Parameters:

L 0.4064 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.0508 \; m & Diameter of well \\ r_c & 0.0254 \; m & Radius of well \end{array}$

Data Points (from plot):

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

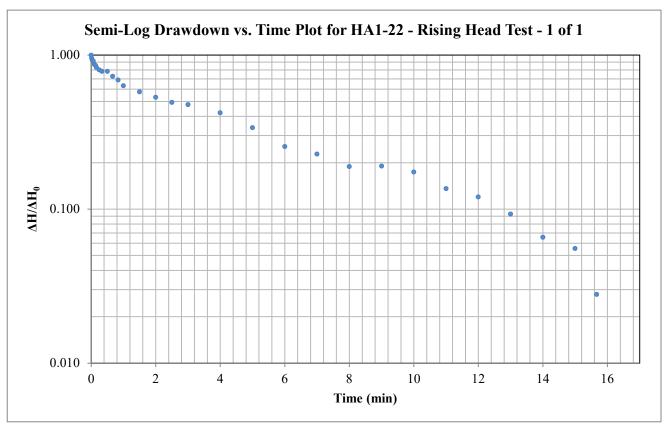
Horizontal Hydraulic Conductivity K = 2.15E-05 m/sec



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

Hvorslev Shape Factor

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

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

Valid for L>>D

Hvorslev Shape Factor F: 0.92098

Well Parameters:

L 0.4064 m Saturated length of screen or open hole

 $\begin{array}{ccc} D & 0.0508 \text{ m} & \text{Diameter of well} \\ r_c & 0.0254 \text{ m} & \text{Radius of well} \end{array}$

Data Points (from plot):

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

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





APPENDIX 5

MECP WATER WELL RECORDS

Report: PH4625-REP.01.R2 Appendix 5

August 7, 2024

JTM 1/18 Z 41219181610 E



GROUND WATER BRANCH 斯 1959**1**5 No ONTARIO WATER
RESOURCES COMMISSION

		ess	STANK	ET Cans	year)
Casing and Screen Record				nping Test	
Cotal length of casing. Cype of screen. Cepth to top of screen. Ciphical length of casing. Ciphical length of casing.		Test-pum Pumping Duration Water cle	levelof test pumping ear or cloudy at	g end of test	G.P.M HR ELEAR 3 G.P.M
		with		ater Record	-
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of wate (fresh, salty sulphur)
FINE SAND ITEL	20	30			
Limestone	30	62	62	FLOWING	FRES
For what purpose(s) is the water to be used	dP		In diagram belo	cation of Well ow show distances ine. Indicate nort	of well from

CSS.S8

Form 5 15M-58-4149

316/40 OF 510 SI UTM 1/18 12 141219121210 E 5 R 5 0 6 6 0 N Elev. AR 0 3 3 0

Basin 25 11

County or Territorial District.



The Water-well Drillers Act, 1954 Department of Mines

GROUND WATER BRANCH / 09 MAY 28 1957 ONTARIO WATER RESOURCES COMMISSION

Water-Well Record

Carleton Township, Village, Town or City Saulbourn

(day)	(month)	(year)			
Pipe and Casin	g Record	· · · · · · · · · · · · · · · · · · ·		Pumping Test	
Casing diameter(s) 4" Length(s) 25' Type of screen		Static level	25 H		
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 Gravel	0	20			
Lime Stone	20	7.8	18	58	FRESh
For what purpose(s) is the water **Domestic.** Is water clear or cloudy?	·····		In diagram below	ocation of Well v show distances of	
Is well on upland, in valley, or or Drilling firm Walter J.	n hillside? Hill King			e. Indicate north	by arrow. North
Name of Driller Walter Address 48 K empster Britannia Heights 9 G Licence Number 7.3.3 I certify that the statements of fact	D. Ottaua foregoing	- Out	Wighway Ma	8/10 cor m	ile 88
Date April 30/57 Was		ing.		The state of the s	on O
				CSS.58	

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

OPS da veges s

RECEIVED

15 - No. 25 5

GEOLOGICAL BARREN

SEPARTOR OF THE PROPERTY OF THE PR

Elev. 4 R 03315

The Water-well Drillers Act, 1954

Department of Mines

Basin 215 1 1

Water-Well Record

	an lot	М		Houll	own
County or Territorial District	V	Townsh	ip, Village, Town of C Village, Town or Ci	rullo	Ont
Date completed(day)	(month)	(year)			
Pipe and Casing	Record			Pumping Test	
Casing diameter(s) Length(s) Type of screen Length of screen	teen	I	Static level	eff.	p'h
Well Log				Water Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth (s) st-winch water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
armel	0	15	juster		
Proston Doch	15	75	Morezon4		
Composition to the second			Det	60	fresh
			- //		
For what purpose(s) is the water Is water clear or cloudy? Is well on upland, in valley, or on	ildir	31	In diagram below road and lot line	cation of Well show distances of	
Name of Driller Address Licence Number I certify that the statements of fact	foregoing		10 1 lin	- off - 1	OVER

Stittsville Ont



18/4/2/7/0/3/0 1510222 4 7 8 5 0 1 1 2 6 6 0 The Ontario Water Resources Commission Act Township, Village, Town or City Date completed **Pumping Test** Casing and Screen Record DIVISION. OF Inside diameter of casing.... WATER RESOURCE Test-pumping rate Total length of casing Type of screen Pumping level Duration of test pumping Length of screen ONTARIO WATE Water clear or cloudy at end of test Depth to top of screen..... RESOURCES COMM Recommended pumping rate.... Diameter of finished hole feet below ground surface with pump setting of Well Log **Water Record** Depth(s) at Kind of water From To Overburden and Bedrock Record which water(s) (fresh, salty, ft. found sulphur) Location of Well For what purpose(s) is the water to be used? In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? Drilling or Boring Firm Address Licence Number Name of Driller or Borer

C 3

Form 7 5M 60-20912

(Signature of Licensed Drilling or Boring Contractor)

OWRC COPY

	The Ontario Wate	r Resources Commission Act	3164e
14/	MATER W	r Resources Commission Act	D
	NAMI EIZ AA	1454BDOAL MUNICIP.	CON. 1
ter management in Ontario 1. PRINT 0	CORRECT BOX WHERE APPLICABLE	1510833 - 1510 10 10 10 10 10 10 10 10 10 10 10 10 10 1	14 15 22 23 24
NTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN	N, VILLAGE 3 CON., BLOCK, TRACT,	₽23
ark	ADDRESS 7	1 11 C Ott	DAY 9 MO 7 YR. 70
	60973	RC, RELEVATION RC, BASIN CODE	
	0175	24 25 26 30 31	4:
MOST		D BEDROCK MATERIALS (SEE INSTRUCTIONS GENERAL DESCRIPTIONS	DEPTH - FEET
ERAL COLOUR COMMON MATE	OTHER MATERIALS		1 / 2
rown sand	gravel	Parked	
	T	solt	/2 75
ey limes	lone		
		4	
1 199/12/699/11] [<u>aa75] 2/15] </u>		
WATER RECOR	21 32 32 D ST CASING & OPE	N HOLE RECORD Z SIZE(S) OF OPENING (SLOT NO.)	65 75 31-33 DIAMETER 34-38 LENGTH 39
WATER RECOR	INSIDE MATERIAL THI	WALL DEPTH - FEET W MATERIAL AND TYPE	INCHES . F DEPTH TO TOP 41-44 OF SCREEN
13 1 FRESH 3 SL	ILPHUR 14 12 /	88 0 00/9-16 S	FEET
15-18 1 FRESH 3 SI	JIPHUR 19 3 CONCRETE		NG & SEALING RECORD
20-23 1 FRESH 3 SL	INERAL 17-18 1 STEEL 19 JIPHUR 24 2 GALVANIZED	20-23 DEPTH SET AT - FEET FROM TO 10-13 14	MATERIAL AND TIPE LEAD PACKER, ETC.
25-28 1 FRESH 3 S	ULPHUR 3 CONCRETE OPEN HOLE 24-25 1 STEEL 26	27-30 18-21 22-	25
2 ☐ SALTY 4 ☐ M	INERAL 2 ☐ GALVANIZED ULPHUR 3 ☐ CONCRETE	26-29 30	33 80
2 SALTY 4 M	INERAL 4 OPEN HOLE		ON OF WELL
PUMPING TEST METHOD 10	PUMPING RATE 11-14 DURATION OF PUMPIN	0 0 17-18	STANCES OF WELL FROM ROAD AND
STATIC WATER LEVEL END OF PUMPING	WATER LEVELS DURING 2 PUM	PING LOT LINE INDICATE NORTH I	BY ARROW.
19-21 22-24	15 MINUTES 30 MINUTES 29-31 45 MINUTES 32-34	60 MINUTES 35-37	b /
IF FLOWING, GIVE RATE GIVE RATE	PUMP INTAKE SET AT WATER AT END OF TE		E 9
GPM.	RECOMMENDED 43-45 RECOMMENDED	2□ CLOUDY 46-49	El .
			1.4 II
SHALLOW DEEP	PUMP SETTING 60 FEET RATE 005	GPM.	1 do ott
□ SHALLOW	SETTING FEET RATE OF SETTING ALLER SETTING SET		4/10 OCT
SHALLOW DEEP 50-53 OOO 7 GPP FINAL 54 WATE 2 OBSE	FEET RATE	IENT SUPPLY	The lott
SHALLOW DEEP	FEET RATE O SETTING FEET R	IENT SUPPLY	1/0 OCT
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FINAL STATUS OF WELL S5-56 WATER USE DEEP 54 WATER 2 OBSE 3 TEST 4 RECH 20 DOMI 2 STOC 3 RECH 4 NOU 4 NOU	FEET RATE O O O O O O O O O O O O O O O O O O O	DIENT SUPPLY ALITY	S 4/0 OCT
FINAL STATUS OF WELL 55-56 WATER USE O 57 1 CABL	FEET RATE	DIENT SUPPLY ALITY	S Ala OCT
SHALLOW DEEP	FEET RATE	DIENT SUPPLY ALITY	S Ho oth
SHALLOW DEEP	FEET RATE M./FT. SPECIFIC CAPACITY R SUPPLY R SUPPLY R SUPPLY R STATE STATE STORM STATE	DRILLERS REMARKS:	Social accepted 63-6
FINAL STATUS OF WELL STATUS OF WATER STATUS OF WATER STATUS STATUS	FEET RATE M./FT. SPECIFIC CAPACITY R SUPPLY R SUPPLY R SUPPLY R STATE STATE STORM STATE	DRILLERS REMARKS: DRILLERS REMARKS: DATA 58 CONTRACTOR	8 280970
SHALLOW DEEP	FEET RATE M./FT. SPECIFIC CAPACITY R SUPPLY R SUPPLY R SUPPLY R STATE STATE STORM STATE	DRILLERS REMARKS: DRILLERS REMARKS: DRILLERS REMARKS: DATE OF INSPECTION IN	59-62 DATE RECEIPED 80970 SPECTOR SPECTOR
SHALLOW DEEP 50-53 000-7 GPI FINAL STATUS 3 _ TEST OF WELL 4 _ RECH 55-56 WATER USE 0/ 4 _ INDU COP METHOD 57 DRILLING 57 DRILLING 57 A _ CABL ADDRESS NAME OF WELL CONTRACTOR NAME OF DRILLER OR BORER	FEET RATE M./FT. SPECIFIC CAPACITY R SUPPLY R SUPPLY R SUPPLY R STATE STATE STORM STATE	DRILLERS REMARKS: DATA SOURCE 58 CONTRACTOR SOURCE 15 S	59-62 DATE RECEIVED 80970 SPECTOR SPECTOR
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MINISTRY OF THE ENVIRONMENT

USB.33

W١

The Ontario Water Resources Act RECORD WELL 15.0.03 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK S CORRECT BOX WHERE APPLICABLE COUNTY OR DISTRICT 026 DATE COMPLETED YR. 76 мо. 01 7 Q YAD Ontario 455 Stittsville. BASIN CODE 303 1977 AUG 04 . 26 334 010845 LUG UT OVERBURDEN AND BEDRUCK MATERIALS (SEE INSTRUCTIONS) DEPTH GENERAL DESCRIPTION то MOST OTHER MATERIALS COMMON MATERIAL 6 0 clay arev 6 packed hardpan. stones grey 100 23 medium limestone grev 100 160 soft streaks of red limestone grey 31 SIZE(S) OF OPENING CASING & OPEN HOLE RECORD SCREEN 51 WATER RECORD MATERIAL AND TYPE KIND OF WATER FRESH 3 T SULPHUR **00** 25 STEEL 188 6106 0135 2 SALTY 2 ☐ GALVANIZED 3 ☐ CONCRETE PLUGGING & SEALING RECORD 61 3 SULPHUR TE FRESH 5/16 DEPTH SET AT - FEET Z SALTY 4 | MINERAL MATERIAL AND TYPE (CEMENT GROUT, **0**156 1 (7) STEEL FRESH 3 SULPHUR 0160 3 [] CONCRETE AN OPEN HOLE 3 SULPHUR 1 FRESH 1 STEEL
2 GALVANIZED 4 MINERAL 2 SALTY 30-33 80 3 🗌 SULPHUR 4 🗎 MINERAL 1 🗍 FRESH 3 CONCRETE 2 SALTY 3010 LOCATION OF WELL 01 15-16 00 00 30 IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. 2 X BAILER 1 PUMPING Z | RECOVERY TES 60 MINUTES 45 MINUTES TEST 0 15 FEET 0 15 FEET 0 15 FEET ROAD IF FLOWING. GIVE RATE I 🙀 CLEAR FEET RATE 0 005 RECOMMENDED RECOMMENDED PUMP TYPE SETTING 0 25 X SHALLOW DEEP GPM./FT. SPECIFIC CAPACITY S ☐ ABANDONED, INSUFFICIENT SUPPLY

G ☐ ABANDONED, POOR QUALITY 1 🔁 WATER SUPPLY FINAL 2 OBSERVATION WELL **STATUS** TEST HOLE 7 UNFINISHED OF WELL A RECHARGE WELL COMMERCIAL 5 [] 1XT DOMESTIC 2 STOCK
3 RRIGATION 6 MUNICIPAL WATER PUBLIC SUPPLY COOLING OR AIR CONDITIONING USE () 4 | INDUSTRIAL 9 🗀 NOT USED OTHER 6 BORING CABLE TOOL METHOD 7 DIAMOND 2 ROTARY (CONVENTIONAL) # | JETTING 3 | ROTARY (REVERSE)
4 | ROTARY (AIR) OF 9 DRIVING 4 🗆 DRILLING AIR PERCUSSION DATE \$ 50376 ONLY Capital Water Supply Ltd. 1558 CONTRACTOR 490 Stittsville, Ontario LICENCE NUMBER

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act 3/6/40 WELL RECOR 15003 CON. 2. CHECK S CORRECT BOX WHERE APPLICABLE AUG 04, 303 26 1977 LUG OF OVERBURDEN AND BEDRUCK MATERIALS (SEE INSTRUCTIONS) DEPTH . FEET MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS GENERAL DESCRIPTION FROM 30 31 32 10 14 15 41 WATER RECORD 51 **CASING & OPEN HOLE RECORD** SCREEN WALL THICKNESS INCHES KIND OF WATER MATERIAL FRESH 3 [] SOLTHON 2 GALVANIZED 3 CONCRETE 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL **PLUGGING & SEALING RECORD** 61 ■ □ OPEN HOLE 1 STEEL 3 SULPHUR FROM 2 G SALTY 3 CONCRETE OPEN HOLE FRESH 3 SULPHUR 2 SALTY 4 MINERAL 1 ☐ STEEL 1 | FRESH 3 | SULPHUR 30-33 80 3 CONCRETE LOCATION OF WELL IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY FINAL 6 ABANDONED POOR QUALITY **STATUS** CON & 3/10mi > 3 TEST HOLE 7 UNFINISHED OF WELL 4 | RECHARGE WELL 6 MUNICIPAL WATER IRRIGATION INDUSTRIAL PUBLIC SUPPLY USE COOLING OR AIR CONDITIONING ☐ OTHER 9 🗆 NOT USED CABLE TOOL 6 D BORING 7 DIAMOND CABLE TOOL ROTARY (CONVENTION ROTARY (REVERSE) **METHOD** ROTARY (CONVENTIONAL) OF 8 | JETTING ☐ ROTARY (AIR) ☐ AIR PERCUSSION DRILLING 050476 OFFICE USE ONLY May REMARKS: CSS.53 FORM 7 07-091 HE ENVIRONMENT COPY

The Ontario Water Resources Act WATER WELL RECORD

Ontario		SPACES PROVIDED RECT BOX WHERE APPLICABLE		518820	<u> </u>	· N	1,189
COUNTY OR DISTRICT	^ · •	TOWNSHIP, BOROUGH, CITY, TOWN, VILLA	G É.	CON	BLOCK, TRACT SURVEY, ETC	L	OT 25-27
OWNER (SURNAME FIL	Carleton	ADDRESS	*			·	25
	ZONE EASTING	C/O H. Steenb			iTIE, Ontario	27 мо02	YR. 84
21	M 10 12	17 18 24	25 2	KOA 3-60	31 4, 4, 4, 6, 6, 6, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,		1 1 47
· · · · · · · · · · · · · · · · · · ·	ľ	OG OF OVERBURDEN AND BED	PROCK N	MATERIALS (SEE)	NSTRUCTIONS		
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	TER RECORD	51 CASING & OPEN HOL	LE RECO	PRD Z ISLOT	T T		NGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER 14 15 FRESH 3 SULPHUR	INSIDE WALL DIAM MATERIAL THICKNESS INCHES INCHES	FROM	TO MATE	RIAL AND TYPE	DEPTH TO TOP OF SCREEN	41-44 30
65' '	SALTY MINERAL	64 GALVANIZED 188	<u></u>	19			FEET
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i —	FRESH 3 SULPHUR 29 SALTY 4 MINERAL	OPEN HOLE 24-25 1 STEEL 26		27.30	-21 22-25		
	34 81 FRESH 3 SULPHUR SALTY 4 MINERAL	GALVANIZED GALVANIZED GONCRETE GOPEN HOLE		26-	29 30-33 80		
PUMPING TEST MET					OCATION OF WE		
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15 FEET	26-2	28 29-31 32-34 35	i-37	. \	• 1	1 1	i
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RECOMMENDED PUR	GPM RECOMMENDED PUMP		-49		jorners	sion	•
SHALLOW 50-53	DEEP SETTING	50 FEET RATE 5 G	РМ				, 3
FINAL	1 X WATER SUPPLY	5 ABANDONED, INSUFFICIENT SUPPL	Y	100	, E		7
STATUS OF WELL	3 TEST HOLE 4 RECHARGE WELL	LL & ABANDONED POOR QUALITY 7 UNFINISHED		1/07#0-			
	DOMESTIC	5 COMMERCIAL		1_60T#35.			5
WATER USE	2 STOCK 3 ERRIGATION 4 DINDUSTRIAL	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING					!
OOL	C OTHER	9 D NOT USED		Crawfo	rd Road.		:
METHOD	CABLE TOOL 2 CABLE TOOL 2 CONVENT	6 D BORING TIONAL) 7 DIAMOND					
OF DRILLING	3 ROTARY (REVERSE 4 ROTARY (AIR) 5 AIR PERCUSSION	JETTING DRIVING					
NAME OF WELL (S AIR PERCUSSION	LICENCE NUMBER		LERS REMARKS DATA 58 C	ONTRACTOR 59-62 THE CLEIV		- 63-68 80
Canit	al Water Sup		SL√	SOURCE	1538 12	U3 84	•
Box 49	<u>-</u>	lle, Ont. KOA 3GO	SE 0	DATE OF INSPECTION	INSPECTOR	•	
NAME OF DRILLE	ER OR BORER	LICENCE NUMBER	CE C	REMARKS			, <u>,</u>
SIGNATURE OF C		SUBMISSION DATE	T F F				
MINI	STRY OF THE ENV	ORONMENT COPY		· · · · · · · · · · · · · · · · · · ·	WDE	FORM NO. 05064	77 FORM 7

The Ontario Water Resources Act Ministry **VATER WE** RECOR of the Environment 1519301 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK CORRECT BOX WHERE APPLICABLE TOWNSHIP LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET GENERAL DESCRIPTION MOST COMMON MATERIAL OTHER MATERIALS GENERAL COLOUR ס 05 meston 31 32 CASING & OPEN HOLE RECORD SCREEN 51 41 WATER RECORD DEPT WATER FOUND AT - FEET KIND OF WATER MATERIAL DEPTH TO TOP OF SCREEN 41-44 FROM то 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 13 16 50 22 2 GALVANIZED 188 CONCRETE
OPEN HOLE FRESH 3 SULPHUR
SALTY 4 MINERAL PLUGGING & SEALING RECORD 61 100 AT - FEET STEEL FRESH 3 SULPHUR SALTY 4 MINERAL FROM ☐ GALVANIZED GALVANIZE
CONCRETE o5 groutes † | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL OPEN HOLE ☐ STEEL CALVANIZED FRESH 3 🗍 SULPHUR CONCRETE SALTY 4 [] MINERAL OPEN HOLE LOCATION OF WELL IMPING TEST METH 71 15-16 IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. PUMP ☐ BAILER PUMPING VATER LEVEL END OF PUMPING 22-24 WATER LEVELS DURING 30 MINUTES 60 32.34 60; 60 60 2 CLOUDY t 🗆 CLEAR RECOMMENDED PUMP SETTING 60 DEEP ☐ SHALLOW ABANDONED, INSUFFICIENT SUPPLY WATER SUPPLY FINAL OBSERVATION WELL T ABANDONED POOR QUALITY **STATUS** 7 UNFINISHED TEST HOLE OF WELL ☐ RECHARGE WELL Folin 5 COMMERCIAL
6 MUNICIPAL DOMESTIC ☐ STOCK WATER ☐ IRRIGATION
☐ INDUSTRIAL ☐ PUBLIC SUPPLY COOLING OR AIR CONDITIONING

OUT OF THE PROPERTY OF THE PROPER USE OTHER 6 | BORING CABLE TOOL
ROTARY (CO **METHOD** ROTARY (CONVENTIONAL)
ROTARY (REVERSE) 7 DIAMOND _ JETTING OF 9 DRIVING ROTARY (AIR) **DRILLING** AIR PERCUSSIO DRILLERS REMARKS 25 3644 ONIC CONTRACTOR DATE OF INSPECTION

OFFICE USE

REMARKS

WDE

FORM NO. 0506-4-77 FORM 7

SIGNATURE OF



The Ontario Water Resources Act

WATER WELL RECORD

Ontario	1. PRINT ONLY IN S	PACES PROVIDED ECT BOX WHERE APPLICABLE	11	1	52258	35	5,0,0	3		22 23 74
COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, C	ITY, TOWN, VILLAGE		,, <u>, , , , , , , , , , , , , , , , , , </u>	CON . BLOCK	TRACT, SURV	EY. ETC	L	ot 25-27 24
Ottorn Co	rictor	Go	ulbourn			КО		DATE COMP	LETED 4	£-53
		<u>0</u>	Fernbank	Rd.	Box 41	Stittsv	<u> 1116 </u>	DAY_05	м∘ _07_	YR 88
1 2	M 10 12	17 18	اليبيا	15	<u></u>	30 31				1 1 4,
	LC	G OF OVERBURD	EN AND BEDF	госк	MATERIAL	S (SEE INSTRU	CTIONS)		DEPTH	FFFT
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER	MATERIALS			GENERAL DES	CRIPTION	<u>.</u>	FROM	то
Brown	Sand								0	3
Gray	Sandy clay	Boulders							3	11
Gray	Limestone	Dark Layer	s						11	125
					_					
	111111			1.1	11.1		.11.1		<u>.</u>	<u> </u>
31 1	<u>, , , , </u>	<u> </u>	<u> </u>	⊥	<u> </u>		<u> </u>			
1 2 10	TER RECORD	51 CASING	& OPEN HOL	E REC	CORD	2 SIZE(S) OF 0	PENING	31-33 DIAME	TER 34-38	75 80 LENGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER	INSIDE MATERIAL	WALL THICKNESS		TH - FEET	Z (SLOT NO)	ND TYPE		INCHES DEPTH TO TOP	FEET 41-44 30
1 .	FRESH 3 D SULPHUR SALTY 4 D MINERALS	10-11 1 STEEL	12 b •188	0	13 - 16	၁၄			OF SCREEN	FEET
90	6 Gas FRESH 3 USULPHUR 4 UMINERALS	6 1/42 GALVANIZE 3 GONCRETE 4 OPEN HOL 5 PLASTIC	1 11	Ū	2.1	61	PLUGGI	NG & SEA	LING RECO	ORD
118 '	FRESH 3 SULPHUR 24	17-18 1 STEEL 2 GALVANIZE	19 ED		20-23	DEPTH SET AT	- FEET	MATERIAL AN	D TYPE LEAD P	ENT GROUT ACKER, ETC)
	SALTY 6 GAS FRESH 3 DSULPHUR 25	6 1/83 CONCRETE 5 PLASTIC	E	21		10-13	14-17			
2	SALTY 6 GAS	24-25 1 STEEL 2 GALVANIZI 3 CONCRETE	26		27-30	18-21	30-33	IO		
1 1	FRESH 3 JSULPHUR 4 JMINERALS D SALTY 6 JGAS	4 OPEN HOL	E							
71 PUMPING TEST M	ļ.		15-16 17			LOC	ATION	OF WEL	. L	
STATIC	BAILER WATER LEVEL 25 END OF WATER	6 GPM	HOURSMI	NS.	IN DIA LOT L	GRAM BELOW SI	HOW DISTAN E NORTH BY			
TEST	PUMPING 22-24 15 MINUTE:		UTES 60 MINUTE	5 5 3 7					ĺ	Lanky
	<u></u>	EET 75 FEET 7	5 FEET 75 F	EET 42		Con	0,91			Stanleys Corners
IF FLOWING. GIVE RATE RECOMMENDED F	GPM	75 FEET 1 1 1 1 1 1 2x 1		у				1 Kn	1.	Con
RECOMMENDED F	PUMP	ED 43-45 RECOMME PUMPING RATE	_	ь- 49 .РМ					1	
50-53		200		$\exists 1$			0		4	
FINAL	1 WATER SUPPLY 2 DESERVATION W		INSUFFICIENT SUPPL	Υ		0	015	(10"	*	
STATUS OF WELL	3 🗍 TEST HOLE	7 UNFINISHED							\mathcal{A}	
	SS-SS I DOMESTIC	5 COMMERCIAL 6 MUNICIPAL							\vee	: :
WATER	3 IRRIGATION 4 INDUSTRIAL	7 PUBLIC SUPPLY COOLING OR AIR	CONDITIONING							
	OTHER	• -	NOT USED						To an article of the second	
METHOD			OND						0.0	000
OF CONSTRUCT		DRIV	ING						38	203
NAME OF WEI	AIR PERCUSSION		WELL CONTRACTO	R'S	DRILLERS REMAR	KS S& CONT	ACTOR 51	-62 DATE RECEIV	(10	63-60
	tal Water Suppl		LICENCE NUMBER		SOURCE OF INSE	ection .	558 INSPECTO		P 0 1 19	88
Box	490 Stittsvill	_	OA 3GO		SE			<u>.</u>		
NAME OF W	ELL TECHNICIAN		WELL TECHNICIA							
S S M	iller	SUBMISSION D		71.	OFFICE					
1111	Son Mint	1 J DAY CLD	мо ук.		<u> </u>			F	ORM NO. 0506	(11/86) FORM S



The Ontario Water Resources Act WATER WELL RECORD

ntario	onment	PACES PROVIDED ECT BOX WHERE APPLICABLE	1	525795	10 14			10,9
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			Goulbourn	- Ontonio		DATE COMPLETE	мо 09	, <u>.91</u>
		#1	Stittsvill	e, Ontario	RC BASIN CODE	"		iv
1	M 10 12	17 18	24 25	26	30 31			
		OG OF OVERBURDEN			GENERAL DESCRIPTION		DEPTH	FEET
NERAL COLOUR	MOST COMMON MATERIAL	OTHER MAT	TERIALS				FROM	8
Brown	Clay	Boulders			Packed		8	23
Gray	Hardpan	Boulders	<u> </u>		Hard Medium Hard		23	80
Gray	Limestone		<u> </u>		Medium Hard		80	135
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31 1 32	<u>. </u>	<u>, , , , , , , , , , , , , , , , , , , </u>				ىىيا لىل	لللا	
2 10	TER RECORD	51 CASING &	OPEN HOLE P	ECORD	SIZE(S) OF OPENING	31-33 DIAMETER	34-38	LENGTH 3
ATER FOUND	KIND OF WATER	INSIDE MATERIAL INCHES	WALL C THICKNESS INCHES FRO		MATERIAL AND TYPE	0	EPTH TO TOP F SCREEN	41-44
2	☐ FRESH 3 ☐ SULPHUR 14 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS	6 174 1 STEEL 2 GALVANIZED	12 .188	0 24"	N T			FEET
	FRESH 3 DSULPHUR	3 CONCRETE 4 OPEN HOLE 5 PLASTIC				G & SEALII		
128 _	FRESH 3 SULPHUR 24	17-18 STEEL	19	20-23	DEPTH SET AT - FEET FROM 10	MATERIAL AND T	YPE LEAD F	ENT GROUT ACKER, ETC)
2	SALTY 4 MINERALS 6 GAS FRESH 3 SULPHUR 29	6 1/8 CONCRETE		24 135	Brouted 14-17	Cemen	it (3	3)
2	SALTY 6 GAS	1 DSTEEL 2 DGALVANIZED	26	27-30	18-21 22-25 26-29 30-33 80			
	FRESH 3 SULPHUR 34 SALTY 6 GAS	4 DOPEN HOLE 5 DPLASTIC						
71 PUMPING TEST N			IS-16 17-18		LOCATION	OF WELL		
1 PUMP	2 BAILER WATER LEVEL 25	10 GPM 1	PUMPING	IN DIAGI	RAM BELOW SHOW DISTANCE INDICATE NORTH BY A	ES OF WELL FI	ROM ROAD	AN D
LEVEL 19-	PUMPING 21 22-24 15 MINUT	ES 30 MINUTES 45 MINUT	1					
置 20	EET 80FEET 50	70 10 10 10 10 10 10 10 1			Shea	Koa	<u>a</u>	
IF FLOWING. GIVE RATE RECOMMENDED	38-41 PUMP INTA	. 0 015	ND OF TEST 42					
RECOMMENDED	PUMP	DED 43-45 RECOMMEND	ED 46-49	1 2				
SHALL	OW DEEP SETTING	100EET RATE	5 брм			1		
FINAL	54 1 WATER SUPPLY	S ABANDONED. IN		3		1296")	
STATUS	2 OBSERVATION	WELL 6 ABANDONED PO 7 UNFINISHED	OOR QUALITY			J.		
OF WELL	4 ☐ RECHARGE WEL	DEWATERING 5 COMMERCIAL		3	42'	ЭX		
WATER	2 STOCK 3 IRRIGATION	6 MUNICIPAL 7 PUBLIC SUPPLY		le le				
USE	4 INDUSTRIAL OTHER		NOT USED					
METHO	57 1 CABLE TOOL	€ □ BORIN						
METHO	3 ROTARY (REVE	RSE) . DETTIM	1G				10	015
CONSTRUC	S AIR PERCUSSIO	_		DRILLERS REMARKS			10	
	LL CONTRACTOR	L	ELL CONTRACTOR'S ICENCE NUMBER	DATA	5. CONTRACTOR 5.3.	NOV	19 1	391
ADDRESS	al Water Supply		1558	DATE OF INSPEC	TION INSPECTOR			
Box 49	Stittsville	ontario K2S	1A6 VELL TECHNICIAN'S LICENCE NUMBER	S REMARKS				<u></u> .
J. Mox			т0096	OFFICE				
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MINISTRY OF THE ENVIRONMENT COPY



The Ontario Water Resources Act WATER WELL RECORD

Ontario Environr	Ment 1. Print only in space 2. Check ⊠ correct		11	15274	13	MUNICIP. 115003	15 C.N	, <u> </u>	109
COUNTY OR DISTRICT		TOWNSHIP BOROUGH FITY.			CON. BLG	Con 9	ETC		25
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		fari	RC RC	ELEVATION	MILMA	27751	"	111 	IV 47
21 M 10		OF OVERBURDEN	AND BEDRO	CK MATERIAL	LS (SEE INST	RUCTIONS)			
GENERAL COLOUR	MOST	OTHER MATE				DESCRIPTION		DEPTH FROM	TO
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grey 1	meden			/3/	J				
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31					بالللا			<u>. . . </u>	
32	·	51 CASING &	OPEN HOLE	BECORD	SIZE(S)	OF OPENING	31-33 DIAMET	ER 34-38	75 80 LENGTH 39-40
	IND OF WATER	INSIDE MATERIAL	WALL	DEPTH - FEET		AL AND TYPE		INCHES DEPTH TO TOP OF SCREEN	41-44 30
	ESH 3 SULPHUR	10-11 1 CISTEEL 2 GALVANIZED	2	13.16	S				FEET
15-18 1	ESH 3 DSULPHUR	07 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	188	92	61 DEPTH SE	PLUGGIN	MATERIAL AND	(CE	MENT GROUT
20-23 1		17-18 1 □STEEL 2 □GALVANIZED 3 □CONCRETE 4 □OPEN HOLE	0	22	F ROM	3 2 14-17		LEAD	PACKER, ETC 1
25-28 1		5 PLASTIC 2 24-25 1 STEEL 2 GALVANIZED		27-30	11-0		amen	gua	
30-33 1	RESH 3 SULPHUR 34 BO	3 CONCRETE 4 COPEN HOLE 5 PLASTIC			26-2	9 30-33 60			
71 PUNPING TEST METHOD	\sim 1 \sim 2		-16 🔥 17-1		L	OCATION	OF WEL	L.	
STATIC W	ATER LEVEL 25	1	PUMPING RECOVERY	IN D	IAGRAM BELO LINE INDI	W SHOW DISTANC CATE NORTH BY	CES OF WELL ARROW.	FROM ROAD	AND
TEST J	22-24 15 MINUTES 26-28	30 MINUTES 45 MINUTE	5 60 MINUTES 2-34 35-3	1 1					$\int_{\mathcal{L}}$
S IF FLOWING.	FEET FEET 38-41 PUMP INTAKE SE	T AT WATER AT EN		7					√V .
IF FLOWING. GIVE RATE RECOMMENDED PUMP T	GPM YPE RECOMMENDED PUMP	FEET 1 CLEA 43-45 RECOMMENDE PUMPING	R 2 CLOUD	⊸i I					
SHALLOW 4	DEEP SETTING	O FEET RATE	/ O GP	<u> </u>					Ne.
FINAL	1 WATER SUPPLY 2 OBSERVATION WELL	5 ABANDONED, INS		7		7=	-		Rd
STATUS OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 UNFINISHED DEWATERING		_		- 3,0	tml	.,	_
55.56	2 STOCK	5 COMMERCIAL 6 MUNICIPAL			37 m	<u> </u>		A	
WATER USE	3 IRRIGATION 4 INDUSTRIAL OTHER	7 PUBLIC SUPPLY 1 COOLING OR AIR COM 9 N	IDITIONING OT USED			Flewell	yn Rd	,	
57	CABLE TOOL	■ □ BORING		11					
METHOD OF CONSTRUCTION	2 ROTARY (CONVENTI 3 ROTARY (REVERSE) 4 ROTARY (AIR)	9 ☐ DETTING	; ;	Test	arks Wel	1 11. 0		7	76769
	5 AIR PERCUSSION	DIGGIN	G OTHER	ES DATA	58 C	ONTRACTOR 59-	62 DATE RECEIVE		63-68 80
I WA (YM	ains Well L	Irilling 12	36 44°	SOURCE DATE OF INS		3644 INSPECTOR	SEP	1 0 19	393
ONTRACTOR NAME OF WELL	326 Rect	word Or	ELL TECHNICIAN	S REMARKS					
NAME OF WELL		SUBMISSION DATE	-5564	OFFICE					
SIGNATURE OF TE	CHNICIAN/CONTRACTOR	DAY 23 M	<u>. 8 9</u>	3 8					

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			o P	OLL #309 - S	SEP 30/93
Ministry of the Environ			一种人工作 数约数数数	ter Resources Ad LL RE	CORD
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	rene tourine	54 fareur Scarbo	10 M/M 21	75 1.79	8 93
(<u>(</u> (国)	LOC	OF OVERBURDEN AND BEDRO	CK MATERIALS (SEE 1851)	HUCTIONS!	
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41 WATER	RECORD	51 CASING & OPEN HOLE		Portains 31-33 Bram	10, 34-34 LENGTH 39-00 10, 101 CTE
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1 0 144		B-25 Davas 14 Davas 15 Davas 15	11:50	18-23 60	7
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	NO CEPEL IS MATER LE	VELS BURING 2 CO SECONORY	IN DIACRAM RELOW	SHOW DISTANCES OF WELL	
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ON SECONDED PROFES	33-41 Prose Minut 1	THE I D CTEVE & DETONDA			/ V.
D swrren &	Daniel .				
EINAL W	■ □ WATCH SUPPLY	S () - GANDONES, INSUFFICIENT SUPPLY			Shen
FINAL STATUS OF WELL	DECHABLE MET	C) DEMATRING POOR QUALITY D GENATRING		$\wedge \leftarrow $	ik.
WAYER USE	# Geomistic # Stoce # Constant Instantor Instantor Instantor	8 COMMERCIAL 9 DESCRIPT 9 COSCING OR AN COMPILIONING 1 GOSTING OR AN COMPILIONING			
METHOD OF CONSTRUCTION	DEVENT CONVENT DEVENT	0 00116 00116	Test Well No	ewellyn Pd. 1.	76768
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	THE ENVIRONM	<u></u>	6	<u> </u>	FORM NO. 0506 (11/86) FORM (



The Ontario Water Resources Act WATER WELL RECORD

Ontario 1. PRINT ONLY IN S 2. CHECK CORRI	PACES PROVIDED ECT BOX WHERE APPLICABLE	1527414 NUNICIPAL E	.an
COUNTY OF DISTRICT	TOWNSHIP, BOROUGH CITY, TOWN VILLAGE	CON . BLOCK TRACT. SURVEY, ETC	25-27 25-27
	Essent Scarlo	anish MIM 2M5 DAY	OMPLETED 49-53 93
	NG RC.	ELEVATION RC BASIN CODE II	"" "
LO	G OF OVERBURDEN AND BEDRO	CK MATERIALS (SEE INSTRUCTIONS)	.,,
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gag ximeron		Short	7,700
<u> </u>			·
31			
(41) WATER RECORD	51 CASING & OPEN HOLE R	RECORD SIZE(S) OF OPENING 31-33 D	S 75 80 IAMETER 34-38 LENGTH 39-40
WATER FOUND KIND OF WATER	INSIDE MATERIAL THICKNESS INCHES FRU	RECORD DEPTH - FEET M TO MATERIAL AND TYPE	1NCHES FEET DEPTH TO TOP
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/ 15-18 1 FRESH 3 SULPHUR 19 2 SALTY 6 GAS	4 OPEN HOLE //OO) 25 61 PLUGGING & SE	AND TYPE (CEMENT GROUT
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FRESH 3 SULPHUR 2 SALTY 6 GAS	24-25 1 STEEL 26 2 GALVANIZED	27-30 18-21 22-25	n gain
30-33 I FRESH 3 ESULPHUR 34 BO 4 E MINERALS 2 SALTY 6 E GAS	3 □ CONCRETE 4 □ OPEN HOLE 5 □ PLASTIC	26-29 30-33 80	
71 PUNPING TEST NETHOD 10 PUNPING RATE	11-14 DURATION OF PUMPING 15-16 17-18 GPM HOURS MISS	LOCATION OF WI	E L L
STATIC WATER LEVEL 25 LEVEL END OF WATER LE	EVELS DURING PUMPING RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF WE LOT LINE INDICATE NORTH BY ARROW.	LL FROM ROAD AND
19-21 22-24 15 MINUTES 19-21 /80 FEET //8 FEE	(6) (94)		1 1
FEET / SEET / FEET / FE	ET AT WATER'AT END OF TEST 42		/ / V ,
RECOMMENDED PUMP TYPE RECOMMENDED PUMP SHALLOW DEEP SETTING	43-45 RECOMMENDED 46-49		3
SO-53	OV FEET RATE GPM		Sheu
FINAL STATUS 1 WATER SUPPLY 2 OBSERVATION WEL			P.I
OF WELL 4 RECHARGE WELL	7 UNFINISHED DEWATERING	\uparrow	Pok.
WATER Domestic Stock St	5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY		
USE 4 INDUSTRIAL ID OTHER	COOLING OR AIR CONDITIONING NOT USED		
METHOD 1 CABLE TOOL 2 ROTARY (CONVENT		Flewellyn Ro	!
OF CONSTRUCTION GROTARY (REVERSE) OF CONSTRUCTION GROTARY (AIR) A P AIR PERCUSSION	DIGGING OTHER	Test Well No 1	76768
NAME OF WALL CONTRACTOR	WELL CONTRACTOR'S	DATA SA CONTRACTOR 59.62 DAYE PECS	
ADDRESS 201 D.	1 xlling 36 47	SOURCE 3644 SE	P 1 0 1993
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MINISTRY OF THE ENVIRONM	DAY 19 MO 8 9R	0	FORM NO. 0506 (11/86) FORM 9



Ontario	1. PRINT ONLY IN :	SPACES PROVIDED ECT BOX WHERE APPLICABLE	11	15274	415	15,0,03	CON.	୍ର ଜୁନ୍ତ
COUNTY OR DISTRICT		TOWNSHIP BOROUGH CITY			CON . BI	ock, tract, survey e	TC .	25
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32					ئا لىلىل لىلىل			
41 WATER	RECORD	51 CASING &	OPEN HOLE	RECORD	SIZETSI C	DF OPENING 31-3	34-38	
AT - FEET 10-13 FRE 2 SAL	TY 4 MINERALS	DIAM MATERIAL INCHES 10-11 1 Q STEEL 12	THICKNESS	13-16	MATERIA	L AND TYPE	DEPTH TO TO OF SCREEN	
)	ESH S SULPHUR	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	-188 C) 22	61	PLUGGING 8	SEALING REC	
20-23 1	SH 3 DSULPHUR 24	17-18 1 STEEL 2 GALVANIZED 3 CONCRETE	2	20.21	DEPTH SET	TO MATE	ERIAL AND TYPE LEAD	EMENT GROUT D PACKER, ETC)
25-28 1	SH 3 SULPHUR 29	4 OPEN HOLE 5 PLASTIC 24-25 1 OSTEEL 2 GALVANIZED	1 1	27-30	\cup	2 21-17 00	ment grow	ted
30-33 t FRE 2 SAL		3 CONCRETE 4 OPEN HOLE 5 PLASTIC			26-29	30-33 80		
71 PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PL	6 17-18		LO	CATION OF	WELL	
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	90 _{FEET} 9 20-21	7 7 FEET 7 FE	34 7 35-37 EET 7 FEET				1	
IF FLOWING. GIVE RATE RECOMMENDED PUMP TYP	38-41 PUMP INTAKE S	FEET 1 CLEAR	2 CLOUDY					/\(I \)
RECOMMENDED PUMP TYP	PUMP	43-45 RECOMMENDED PUMPING RATE	/O GPM					
54 7	1 WATER SUPPLY	5 ABANDONED, INSUF	FICIENT SUPPLY					Shea Rd
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MINISTRY OF THE ENVIRONM			FORM	NO. 0508 (11/86) FORM 9

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OR		Water Supply	Ltd. 1558	DATE OF INSPECTION		PR 1 3 1994	
CONTRACTOR			ville, Ontario K2S 1A6	S			
NTR,			Well technician's Licence number T0097/T0096				
	SIGNATURE OF	n	SUBMISSION DATE	I E			
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	S-S6 1 DOMESTIC	5 COMMERCIAL				7 Test	0,5
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USE	OTHER	9 □ NO.			Flewellyn Ro		
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OF CONSTRUCTI	3 ROTARY (REVERS					1 /	2255
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4 5	l Water Supply		1 1		CTION		
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The Ontario Water Resources Act

WATER WELL RECORD

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY,			CON .	BLOCK TRACT, SURVEY, I	15 ETC	22 23 74 LOT 25-27
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	OG OF OVERBURDEN A	AND BEDRO) DCK MATERIA	LS ISEE IN	ISTRUCTIONS		47
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41 WATER RECORD	51 CASING & OF	<u> </u>	<u></u>	54 	OF OPENING 31-3	65 3 DIAMETER 34-38	75 80
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71 PUMPING TEST METHOD 10 PUMPING RATE		4		LC	CATION OF	WELL	
1 PUMP 2 BAILER STATIC WATER LEVEL 25	GPM		IN DIA	GRAM BELOV	N SHOW DISTANCES OF	F WELL FROM ROAD	AND
D 19-21 PUMPING 22-24 IS MINUTES	30 MINUTES 45 MINUTES	COVERY 60 MINUTES	LOT LI		CATE NORTH BY ARROV		
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RECOMMENDED PUMP TYPE RECOMMENDED PUMP	43-45 RECOMMENDED PUMPING	45-49					
SHALLOW DEEP SETTING	FEET RATE	GPM					
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5 AIR PERCUSSION (DRILLERS REMARKS			14	2311
MAME OF WELL CONTRACTOR Capital Water Supply Lt	LICENCE	ONTRACTOR'S NUMBER	DATE OF INSPECT	58 CON1		AUG 24 19	344 10
Capital Water Supply Lt ADDRESS Box 490 Stittsvelle, C NAME OF WELL TECHNICIAN S.Miller/ J. Moore		,30	lui	TION	INSPECTOR	1 13.	-
Box 490 Stittsvelle, (ECHNICIAN'S E NUMBER	S REMARKS				
S.Miller/ J. Moore SIGNATURE OF JECHNICIAN/CONTRACTOR		7/T0096	OFFICE				1
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The Ontario Water Resources Act

WATER WELL RECORD

Ontario	1. PRINT ONLY IN S 2. CHECK CORRE	PACES PROVIDED	152820	2 NUNICIP. CON.	
COUNTY OR DISTRICT		TOWNSHIP, BOROUGH CITY, TOWN, VILLAGE Goulbourn		CON . BLOCK, TRACT, SURVEY ETC	LOT 25-27
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31					
1 2 10	TER RECORD	51 CASING & OPEN HOLE	BECORD -	54 65 SIZE (S) OF OPENING 31-33 DIAME (SLOT NO)	75 8 TER -34-38 LENGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER	INSIDE WALL THICKNESS	RECORD DEPTH - FEET FROM TO	MATERIAL AND TYPE	INCHES FEE
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20-23 1	FRESH 3 SULPHUR 4 MINERALS 5ALTY 6 GAS	17-18 1	_ F	EPTH SET AT - FEET MATERIAL AND FROM TO 10-13 14-17	TYPE (CEMENT GROUT LEAD PACKER, ETC.)
	FRESH 3 SULPHUR 4 MINERALS SALTY 6 GAS	5 7/8 4 COPEN HOLE 5 SPLASTIC 24-25 1 GSTEEL	22 85		Cement (6)
	FRESH 3 SULPHUR 34 10 4 MINERALS GAS	2		26-29 30-33 80	
71 PUMPING TEST MET		11-14 DURATION OF PUMPING		LOCATION OF WEL	L
PUMP STATIC	WATER LEVEL 25	3 GPM 15-16 17-18 HOURS MINS		BELOW SHOW DISTANCES OF WELL	
LEVEL 19-21	END OF WATER LEY PUMPING 22-24 15 MINUTES 26-28	VELS DURING 2 ☐ RECOVERY 30 MINUTES 45 MINUTES 60 MINUTES 29-31 32-34 35-37	LOT LINE	INDICATE NORTH BY ARROW.	1
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	54		1 6	Test well #5 XK	
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OF WELL	4 RECHARGE WELL	DEWATERING 5 COMMERCIAL	0.0		1
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METHOD	CABLE TOOL 20	DNAL) ' LI DIAMOND			व पूर
CONSTRUCTIO	N PROTARY (REVERSE) ROTARY (AIR) ROTARY (AIR) ROTARY (AIR)	• ☐ JETTING • ☐ DRIVING —20 5 ☐ DIGGING ☐ OTHER	DOLL		147733
NAME OF WELL C		WELL CONTRACTOR'S	DRILLERS REMARKS DATA SOURCE	58 CONTRACTOR 59-62 DATE RECEIVED	63.68 40
Capital	Water Supply L	td. 1558	SOURCE DATE OF INSPECTION	1558 OCT	0 7 1994
Capital ADDRESS P.O. BO NAME OF WELL O SIGNATURE OF T	x 490 Stittsvi	lle, Ontario K2S 1A6	M CO REMARKS		
S.Mille	r/ J. Moore	TOO97/TOO96	l l w l		
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County or District Ottawa C			i	/Borough/City	//Town/Villag	e		Con block tract	survey, etc. Lo	
Owner's surname	28-47	First name	Address	lbourn		*		9 Date		24 41-5
Technica	l Dimensions	7		Antare	es Dr.			o K2E 7W5 ^{omp}		onth 97 yea
21		Zone Eastin		18	1 24	RC Elev	vation RC	Basin Code	II III	iv
		LOG OF C	VERBURDE	N AND BEI	DROCK MA	TERIALS	(see instruc	tions)		4
General colour	Most common r	naterial	Oth	ner materials			Genera	d description	De From	pth - feet
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10 14	ER RECORD	51	CASING & C	OPEN HOL	E RECORI	<u></u>	Sizes of o		65 meter 34-38 Lengt	75 E
Water found at – feet	Kind of water	Inside diam inches	Material	Wall thickness inches	Depth -		1 (0)		inches	feet
	Fresh 3 Sulphur 14 Minerals	6 19/4	Steel 12 Galvanized	-188	0	22	Material a	nd type	Depth at top of	of screen 30
20	Fresh 3 Gas Sulphur 15	- 3 C	Concrete Open hole							feet
92	Salty 6 Gas Fresh 3 Sulphur 24	17-18 1	Plastic Steel 19			20 - 23	61	PLUGGING & SE Annular space	`	
125	Salty 6 Gas	3	Galvanized Concrete Open hole		22	129	Depth set at -	feet	☐ Abandonme	
, –	Salty 4 Minerals		Plastic				10-13 20	14-17	Cement 1	
10.33	Fresh 3 ☐ Sulphur 34	60 3 5	Galvanized Concrete			27 30	18-21	22-25	HolePlug	•
2 []	Salty 6 Gas	5 0	Open hole Plastic				26-29	30-33 80		
Pumping test me	ethod 10 Pumping ra		uration of pumping] Mins			LOC	ATION OF WELL		
Statis Isual Wa	ater level %	5 GPM vels during ; □ √2\		Recovery		In diagram		distances of well fro	m road and lot lir	ne.
	22-24 15 minutes	30 minutes 4		0 minutes				lyn Roa	Ω	
If flowing give rat	70 feet 37 fee	60 feet	20 feet	70 feet			· jewes	ign noa	α. 	
If flowing give rat	te 38-41 Pump intaka GPM	e set at W	ater at end of test	42 Cloudy						
	pump settin		ecommended imp rate	46-49						
☐ Shallow	Deep	12@et		4 GPM			_			
FINAL STATUS		ned, insufficient supp	hu o 🖂 Unfinishe			De la Care	e		15	S
, ₩ Water supp 2 ☐ Observation 3 ☐ Test hole	n well 6 ☐ Abando 7 ☐ Abando	ned, poor quality ned (Other)	ny 9 ⊟ Offiliane no ⊟ Replacer		/		9	1-louse	X	Poplarwood
4 🛚 Recharge v	vell ₈ ☐ Dewate	ring				⇔ _C ς,			11'8"	3
WATER USE	55–56 5	rcial	₃ ☐ Not used							Š
2 ☐ Stock 3 ☐ Irrigation	6 Municip 7 Public s	upply	10 Other					G		0
₄ ☐ Industrial	8 □ Cooling	& air conditioning								<u>β</u>
₁ 🙀 Cable tool	DNSTRUCTION 57 5 Air perc	ussion	9 Driving				Lo	A #15	7	
2	nventional) ₆ Boring erse) ₇ Diamon		10 Digging						17504	2
4 in notary (dir)	8 🗌 Jetting	· · · · · · · · · · · · · · · · · · ·							17564	<u>ی</u>
Name of Well Contrac			Well Contractor's	Licence No.	≥ Data source		8 Contracctor		te received	63-68 80
Capital W	later Supply	Ltd.	1558		N	of inspection	15	58	JUN 2 7 19	397 <u> </u>
P.O. Box Name of Well Technic	490 Stittsv	ille, Onta	rio K2S	146	I S				· · · •	
W. Kavana	ah		TOO95	s £icence No.	STRY Semai	rks			. 9	M
Signature of Technicia	an/Contracto		Submission date		AEMAI GENERAL SERVICES				_	1
2 - MINIST			day 26mo 5	yr 97					0506 (07/94) Fro	not Form 9

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The Ontario Water Resources Act

VATER WELL RECORD

1529428 CON . 1. PRINT ONLY IN SPACES PROVIDED 2 CHECK S CORRECT BOX WHERE APPLICABLE TUP. OF GOULBOURN OTTAWA-CARLETON TECHNICAL DIMENSIONS INC. 850-36 Antares, Ngolan, Ont. KIE Hus 21 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS DEPTH FEET MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS GENERAL DESCRIPTION 5AND BROWN SANDY CLAY FILL ORHY 5 ANI BOWNERS 12 FOULDERS TILL 20 VILLESTONE SHALE 31 32 41 WATER RECORD CASING & OPEN HOLE RECORD KIND OF WATER MATERIAL FRESH 3 SULPHUR
4 MINERALS 1 STEEL
2 D GALVANIZED
3 CONCRETE
4 OPEN HOLE
5 PLASTIC FRESH 3 SULPHUR
A MINERALS **PLUGGING & SEALING RECORD** 1 STEEL
2 GALVANIZED
CONCRETE MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) ☐ FRESH SALTY 3 DSULPHUR
4 DMINERALS
6 DGAS FRESH FRESH ☐ FRESH LOCATION OF WELL 2 G BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW. NATER LEVEL END OF PUMPING 22-STATIC LEVEL RECOVERY Fkwellyn Rd 21 Ponlar woods Dr IF FLOWING 5 ABANDONED, INSUFFICIENT SUPPLY
6 ABANDONED POOR QUALITY WATER SUPPLY FINAL **STATUS** ☐ TEST HOLE 7 | UNFINISHED OF WELL 4 | RECHARGE WELL DEWATERING DOMESTIC Z STOCK 6 MUNICIPAL WATER IRRIGATION COOLING OR AIR CONDITIONING

9 NOT USED USE INDUSTRIAL OTHER CABLE TOOL ROTARY (CONVENTIONAL) 6 BORING METHOD ☐ ROTARY (REVERSE) ☐ JETTING CONSTRUCTION 15047 OTHER DIGGING STANTON DRILLING INC 4875 JUN 2 4 1997 ONL DATE OF INSPECTION Paknham, Ont. 101. OFFICE USE CSS. S FORM NO. 0506 (11/86) FORM 9

The Ontario Water Resources Act

WATER WELL RECORD

Ontario	ironment		152942	O MUNICIP. CON	
		SPACES PROVIDED RECT BOX WHERE APPLICABLE	132342		22 23 74
OTTHWA -	CARLETON	TWP. OF GOLLA	BOURN	CONCESSION .	9 24"
OWNER (SURNAME FILE	NIMENSIONS ,	ADDRESS		NO. KRE FWS DATE COM	5° 10° 96
21	ZONE EASTING	NORTHING RC	ELEVATION 54	BUNISION SUB	101 #8
	L(OG OF OVERBURDEN AND BEDRO		(SEE INSTRUCTIONS)	47
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	DEPTH - FEET FROM TO
BROWN	SAND				07
CREY	SAND	BOUNDES			7 4
GREY	TILL	BULLDERS	Back	1 6-1	4 21
GREY	LIMESTAE	SHATE	CRUNG	V (Z3')	71
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31 1, , ,		<u> </u> 	1	. {] []	
32				┸ ┚ ┖┺┻┸┸ ┹┹┻┹┹ ┸ ┚ ┖╻╻╏╏╻╏┎	
41 WA	TER RECORD	51 CASING & OPEN HOLE		54 55 SIZE(S) OF OPENING 31-33 DIAME	75 80 TER 34-38 LENGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER 14 FRESH 3 DSULPHUR	INSIDE DIAM MATERIAL THICKNESS INCHES	ROM TO C	MATERIAL AND TYPE	INCHES FEET DEPTH TO TOP 41-44 30 OF SCREEN
28 10	MINERALS S	10-11 1 STEEL 12 GALVANIZED 3 GCONCRETE	3 3 / [FEET
2	FRESH 3 SULPHUR 4 MINERALS GAS	4 OPEN HOLE 5 PLASTIC 19		DEPTH SET AT FEET MATERIAL AND	CEMENT GROUT
2 2	SALTY 6 GAS	SH 3 GALVANIZED 3 GONCRETE 4 OPEN HOLE STATES	1 71 1	4 10-13 3/14-17 Cronca	LEAD PACKER ETC)
1 1' [FRESH 3 SULPHUR 29 SALTY 6 GAS	24-25 1 STEEL 26	27-30	18-21 22-25	
] FRESH 3 □ SULPHUR 34 DO 4 □ MINERALS] SALTY 6 □ GAS	3 □ CONCRETE 4 □ OPEN HOLE 5 □ PLASTIC		26-29 30-33 80	
71 PUMPING TEST MET	THOD 10 PUMPING RATE	5 7 15-16 D 17-18		LOCATION OF WEL	L
STATIC LEVEL	WATER LEVEL 25	GPM HOURS MINS 1 PUMPING 2 RECOVERY	IN DIAGRAI	M BELOW SHOW DISTANCES OF WELL INDICATE NORTH BY ARROW.	FROM ROAD AND
+ Z " "	# 15 MINUTES	30 MINUTES 45 MINUTES 60 MINUTES 32-34 35-37	1 5u	blot#8_ 1	
IF FLOWING.	FEET FE	ET FEET FEET FEET SET AT WATER AT END OF TEST 42		i	9
RECOMMENDED PU			12	House of	W
SHALLOW	DEEP SETTING	60 FEET RATE \$65 GPM	1 1/4	100	
FINAL	1 WATER SUPPLY	5 ABANDONED, INSUFFICIENT SUPPLY		321	2
STATUS OF WELL	2 OBSERVATION WEI 3 TEST HOLE 4 RECHARGE WELL	LL 6 ABANDONED POOR QUALITY 7 UNFINISHED DEWATERING		WELL. 1	7
	DOMESTIC STOCK	5 COMMERCIAL 6 MUNICIPAL	\	ĺ	
WATER USE	3 IRRIGATION 4 INDUSTRIAL	7 PUBLIC SUPPLY I COOLING OR AIR CONDITIONING		Parloquerock Nr.	
	57 CABLE TOOL	9 NOT USED 6 BORING	' -	Poplarwoods Dr	
METHOD OF	2 ROTARY (CONVENT) 3 ROTARY (REVERSE	TIONAL) 7 🗍 DIAMOND	Wood	kide Acies	-th
CONSTRUCTION	ON 4 ROTARY (AIR) 5 AIR PERCUSSION	9 DRIVING OTHER	DRILLERS REMARKS 5	ubdivision	150476
NAME OF WELL	CONTRACTOR ON DRILLING	WELL CONTRACTOR'S	> DATA SOURCE	4875 JUN	
NAMES WELLOW	19 Pollers	en, Ort. 40120	DATE OF INSPECTION	INSPECTOR	1 4 7 1331
A PARTY WELL	L TECHNICIAN	WELL TECHNICIAN'S	O REMARKS		
SIGNATUR OF	AGHNICIAN/CONTRACTOR	SUBMISSION DATE DAY SI NO 10 YEB	OFFICE		css. s
MINISTRY	OF THE ENVIRON	MENT COPY	•	FO	RM NO. 0506 (11/86) FORM 9

The Ontario Water Resources Act

WATER WELL RECORD

1529448 CON. 1,5,0,0,3 1. PRINT ONLY IN SPACES PROVIDED 11 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE COUNTY OR DISTRICT CONCESSION TOP. OF GOLLBOURN OTTAWA - CARLETON 850-36 Antons, Negron, Ont. KRE 7W5 TECHNICAL DIMENSIONS INC LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET MOST COMMON MATERIAL GENERAL DESCRIPTION GENERAL COLOUR OTHER MATERIALS FROM 0 8 BROWN-GRET SAND 8 10 BROWN TILL 10 120 GREY 1/MESTONE 152 RED-GREY SHALE GREEN 32 51 **CASING & OPEN HOLE RECORD** WATER RECORD DEPTH MATERIAL 1 STEEL
2 DGALVANIZED
3 CONCRETE
4 OPEN HOLE
5 PLASTIC) "XIDT RESTEL BB +2 ZD **PLUGGING & SEALING RECORD** 20.2 MATERIAL AND TYPE 152 ZD 3 SULPHUR
4 MINERALS
6 GAS STEEL
GALVANIZED
CONCRETE
OPEN HOLE
PLASTIC Z SALTY ☐ FRESH 30-33 LOCATION OF WELL BAILER 1 [] PUMP IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW. PUMPING RECOVERY ABANDONED, INSUFFICIENT SUPPLY **FINAL** OBSERVATION WELL 6 ABANDONED POOR QUALITY **STATUS** TEST HOLE UNFINISHED OF WELL ☐ DEWATERING DOMESTIC STOCK COMMERCIAL Pophroad Ar ☐ MUNICIPAL
☐ PUBLIC SUPPLY WATER ☐ IRRIGATION COOLING OR AIR CONDITIONING

9 NOT USED USE INDUSTRIAL OTHER Woodside Acres Subdivision 6 | BORING **METHOD** ROTARY (CONVENTIONAL) DIAMOND ROTARY (REVERSE)
ROTARY (AIR) ☐ JETTING
☐ DRIVING OF CONSTRUCTION 4 150478 5 AIR PERCUSSION ☐ DIGGING ☐ OTHER DRILLERS REMARKS STANTON ORILLING MC ONLY 4875 JUN 2 4 1997 DATE OF INSPECTION By 219, Pakenham Ont. KON ZXO OFFICE USE FORM NO. 0506 (11/86) FORM 9 MINISTRY OF THE ENVIRONMENT COPY

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Municipality	Con.	09
	COIL	

		1 2			10 14 15	an,	22 21
County or District		Township/Borough/Cit	y/Town/Village		Con block tract surv	ey, etc. Lot	25.2
Ottawa Ca Owner's surname		Goulb	ourn		9		24
	B 28-47 First name	Address			Date		43-5
	U Zone Eas	850-36 Antar	es Drive		Basin Code ii	3 day 6 mo	onth 97 yea
21	T 10 12	17 18	1 1 24 25		L L L L L L	11111	
	LOG OF	OVERBURDEN AND BE	DROCK MATE	ERIALS (see instructi	ons)		4
General colour	Most common material	Other materials		General	description		oth - feet
D						From	То
Brown	SAnd	***		Fil	1	0	2
Brown	Sand	Gravel		Pac	ked	2	5
Gray	Lipestone			HAr	rđ	5	110
Brown	Limestone						
		A. A		Med		110	139
Gray	Limestone			Har	ď	139	155
					10.4.		
	244						
					7-146		
		1. F. W. C					
31						1111	1 , 1 !
32							ا لنداد
10 14 1 WAT	ER RECORD 51	CASING & OPEN HOL	E RECORD	54 Sizes of op	ening 31-33 Diameter	34-38 Length	75 8
Vater found t feet	Kind of water Inside diam	Material Wall thickness	Depth - fee		Ì	nches	feet
	Fresh 3 Sulphur 14 inches	inches	From	To (Slot No.) Material and		Depth at top of	f screen 30
92	Salty 6 Gas 6 10/4	Galvanized • 188	0	25°			41-44 feet
n	C_IL. 4 ☐ Minerals .	☐ Open hole ☐ Plastic			DI HOONG & CEALIN	0.05000	
143	17 18	☐ Steel 19 ☐ Galvanized		20.23	PLUGGING & SEALIN	☐ Abandonmer	
152 º º	Gas 5 5 7/0	Concrete Copen hole	25]	Depth set at - for	Material and type (Ce	ment grout, ben	tonite, etc.)
	Fresh D Minerals	∐ Plastic	2.7	10-13	14-17		•
	6 Gas 24-25 1	☐ Steel 26 ☐ Galvanized		27 30 20 18 21	O Grouted Ce	•	•
	Fresh 3 Sulphur 34 60 3 Salty 6 Gas 5	☐ Concrete ☐ Open hole ☐ Plastic		26-29	30-33 80 HC	le Plug	(1)
Pumping test me		Duration of pumping		LOCA	ATION OF WELL		
	ater level 25	Pumping 2 Recovery		diagram below show di licate north by arrow.	stances of well from ro	ad and lot lin	e.
	22-24 15 minutes 30 minutes	45 minutes 60 minutes	$\parallel \mathcal{L} \parallel$	ilicate north by arrow.			
27 feet If flowing give rat	26-28 29-31	32-34 35-37	/ `	İ			
27 feet If flowing give rat	80 feet	78 80 feet		Lot # 1	3		
B	GPM feet	☐ Clear 🦅 Cloudy			T		
1	pump setting	Recommended 46-49 pump rate	,	Steps-[
50-53	X Deep 130 feet	<u>5</u> дрм		8 H 2	House		
NAL STATUS	OF WELL 54		il '	0 106			
Water supp	n well 5 ☐ Abandoned, insufficient su 6 ☐ Abandoned, poor quality	oply 9 🔲 Unfinished 10 🗎 Replacement well		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<u> </u>		
₃ ☐ Test hole ₄ ☐ Recharge v	7 Abandoned (Other)		1	13'5"			
				3			
ATER USE	55-56 5 Commercial	գ □ Not used		4	\ 51	Se	
2 ☐ Stock 3 ☐ Irrigation	6 D Municipal 7 D Public supply	10 Other		0	,)000	4	
₄ ☐ Industrial	8 Cooling & air conditioning		(외	Noogs,	e	
ETHOD OF CO	DNSTRUCTION 57	\$444-A	\ <u>\</u>		1,21,2		
Cable tool	5 Air percussion	g Driving		1 2 6	-		
3 Rotary (rev	rerse) 7 🗌 Diamond	10 Digging	Fleu	vellyn Rood	1 -	75050	1
,	8 Li ocuity				<u>L</u>	75650	J
ame of Well Contrac	ctor	Well Contractor's Licence No.	> ⊃ata	58 Contracctor	59-62 Date rece	ived	63-68 80
apital Wa	ater Supply Ltd.	1558	ONT Source		58 JÜÜ		97 "
					pector		
O. Box 4	190 Stittsville,Ontar	io K2S 1A6 Well Technician's Licence No.	HSO ARE of ins				
. Kavanao	-	T0095	E Tremarks			W	1
ignature of Technicia	an/Contractor	Submission date	IJ≝Ï			Y	7
12//	<i>i</i> 1				<u> </u>	`	U
Myrc	und	day 4 mo 6 yr 97	Σ		· · · · · · · · · · · · · · · · · · ·	9506 (07/94) Fro	7

0506 (07/94) Front Form 9

Print only in spaces provided. Mark correct box with a checkmark, where applicable. 1529462 11 15003 CON 09 County or District Township/Borough/City/Town/Village Con block tract survey, etc. Lot Ottawa Carleton Goulbourn a Address Owner's surname First name Date completed 18 6 month 97ear 850-36 Antares Drive Nepean, Ontario u Zone Easting 21 ______ 1 1 LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General colou Most common material Other materials General description From Brown Sand **Fill** 0 2 Brown Hardpan Boulders 5 Packed 2 Gray Limestone 5 Hard 57 Gray Limestone Medium 57 155 نسيبالنسا لبلا Sizes of opening (Slot No.) WATER RECORD **CASING & OPEN HOLE RECORD** 51 Length Water found at - feet Inside Depth diam thickness То inches ☐ Sulphur ☐ Minerals ☐ Gas Fresh 3 Material and type Depth at top of screen 6 1º/4 | Steel | Galvanized | Galvanized | Concrete | Open hole | Plastic .188 0 22 2 🛘 Salty 54 ☐ Sulphur ☐ Minerals ☐ Gas ı 🗌 Fresh , ☐ Salty **PLUGGING & SEALING RECORD** 61 96 Steel
Galvanized
Concrete
Copen hole
Plastic 20-23 3 ☐ Sulphur
4 ☐ Minerals
6 ☐ Gas □ Fresh Annular 2 🗌 Salty Depth set at - feet 149 Material and type (Cement grout, bentonite, etc.) 5 7/8 22 155 From To Les Sus phur 1 Steel 2
2 Galvanized
3 Concrete
4 Open hole
5 Plastic 20 2 🗆 Saity Grouted Cement (2) 27-30 Sulphur Minerals Gas 30-33 ⊥ ∏ Fresh Hole Plug (1) > ☐ Salty Duration of pumping Pumping test method Pumping rate **LOCATION OF WELL** 2 🛘 Bailer 4-5 GPM Pump In diagram below show distances of well from road and lot line. Water levels during Static level ₁ 🖫 Pumping ₂ ☐ Recovery end of pumping Indicate north by arrow. 22-24 15 minutes 26-28 30 minutes 45 minutes Woodside acres. 100 feet **12**eet 45eet 68 **98** feet PUMPING If flowing give rate Water at end of test 38-41 Pump intake set at GPM ☐ Clear Cloudy Recommended pump type Recommended Recommended 43 - 45 pump setting pump rate ☐ Shallow ☐ Deep 130 GPM FINAL STATUS OF WELL 54
5 Abandoned, insufficient supply 9 Unfinished
6 Abandoned, poor quality 10 Replacement well
7 Abandoned (Other)
8 Dewatering Water supply
Observation well
Test hole
Recharge well Lot 19 WATER USE 55-56 Domestic
Stock
Irrigation 5 Commercial
6 Municipal
7 Public supply
8 Cooling & air conditioning 9 Not used 10 Other √ Industrial METHOD OF CONSTRUCTION 57 | Cable tool | 5 | Air percussion | 2 | Rotary (conventional) | 6 | Boring | 7 | Diamond | 8 | Jetting | □ Driving 10 Digging Place **17565**7 Name of Well Contractor Well Contractor's Licence No ONLY **5** 5 8 JUL 1 5 1997 Capital Water Supply Ltd. 1558 Date of inspection USE P.O. Box 490 Stittsville, Ontario K2S 1A6 **IISTRY** U Fernarks W. Kavanagh **T0095** hum day 18 mo 6

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Municipality	Con.		
15003	CON		09
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0506 (07/94) Front Form 9

		1 2	, ,	, 2 3 4	03	1,50	14 CO	N	22 23 24
County or District Ottawa Ca	** ·	Township/Borough/City/	/Town/Village				tract survey	, etc.	Lot 25-27
Owner's surname		Address				9	Date		24
Technica.	l Dimensions	850 - 36 Anta	ares Dr		an Ont.	Basin Code	completed	23 m	7 97 year
21	U Zone	2 17 18		25 26		Basin Code			iv
	LOG	OF OVERBURDEN AND BED	ROCK MA	TERIALS	(see instructi	ons)		1 ,	Danish 64
General colour	Most common material	Other materials			General	description		From	Depth - feet To
Brown	Sand	Gravel		fil	<u> </u>			0	4
Brown	loam			loo	3e			4	5
Grey	limestone			hare	3			5	48
Grey	limestone	brown layers		med:	1 700			48	130
•				arcu.	LUM				
31 , , ,		· · · · · · · · · · · · · · · · · · ·	11	 		11.1.			
32			_ 	 				.	
1	TER RECORD 51	CASING & OPEN HOLI			Sizes of or (Slot No.)	pening	65 B1 33 Diameter	34-38 Le	75 80 ngth 39-40
Water found at - feet	Kind of water Inside diam inches	Material Wall thickness inches	Depth -	feet To				ches	feet
90 2 C	Fresh 3 Sulphur 14 Minerals Salty 6 1%	2 Galvanized	0	20 13-16	Material ar	nd type		Depthat to	op of screen 30
125'5-18 ' 1	Sulphur 19 Salty 6 Gas	Grant Concrete Grant							feet
	17-18			20-23	61	PLUGGIN Annular space	G & SEALING	Abando	
2	Salty 6 Gas 6	3 ☐ Concrete 8 4 ★ Open hole	22	130	Depth set at ~ From	To Mate	rial and type (Cen	nent grout,	bentonite, etc.)
	Fresh 3 □ Sulphur 29 Salty 4 □ Minerals Gas 24-25	5 Plastic		27-30	200-13 0	14-17 Gr	outed cer	nent	(3)
	Fresh 3 Sulphur 34 60	2 Galvanized 3 Concrete 4 Open hole			26-29	30-33 80			
2	Salty 6 Gas	5 ☐ Plastic							
Pumping test m	1	15 40 47 19		·	LOC	ATION OF	WELL j	² O #	493
	Vater level 25 Water levels during	₁ X Pumping ₂ ☐ Recovery			below show dorth by arrow.	listances of	well from roa	d and lo	t line.
19-21	22-24 15 minutes 30 minutes 26-28 29	45 minutes 60 minutes 32-34 55:37			·		· R		
18 feet If flowing give ra		tet	12						
If flowing give ra		et Clear Cloudy	_ ^		Lot.	42			
Recommended □ Shallow	pump setting	pump rate			,	150	-	_	
50-53	100 fe	et 5 GPM			ارعار			000	
FINAL STATUS		nt supply 』 □ Unfinished	:		45	House	ı	Ź,	
Water sup Doservation Test hole Recharge	¬ □ Abandoned (Other)	ity i₀ □ Replacement well		•	+ \(\)		→	<u>ā</u>	
					37 10 -			ક્	
WATER USE Domestic	55-56 Commercial	9 ☐ Not used					Ì	א ל ג	
2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial		10 Other	Wood	Iside			ŀ	oplarwod	
METHOD OF O	CONSTRUCTION 57		Acr	Iside es			k	20	
, 🙎 Cable too	on 20-130 \$ Air percussion 0-2 onventional)	O g Driving							
3 ☐ Rotary (re	everse) 7 🗍 Diamond	Other			Flowe	ilyn I	10ad 17	56	80
Name of Well Contra		Well Contractor's Licence No.	Data source		Contracctor	58	Date receiv		63-68 90 1 QQ 7
	ater Supply Ltd.	1558	⊔ ш Date d	of inspection		spector	AVU	, , 🔫	1231
Box 490, S Name of Well Techn	<u>Stittsville, Ont. K</u> _{nician}	2S 1A6 Well Technician's Licence No.	RINISTRY US	rks	-		•		
W. Kayana	agh /	10095	IISTE						W
Signature of Technic	A Va A C. (b)	Submission date	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ja.	.				3

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10	14	15		22	23	2

Mark Correct box	k with a checkmark, where applic	11 1 2	1 -	2330		15003 C10	וו אי	22 23 24
County or District		Township/Boroug	h/City/Town/Village		Со	n block tract surve	ey, etc. Lot	24
Owner's surname	First name	Address 850–36 Ant	eroe Driv	e Nonest	n,Ontario	Date completed	7 day 8 mo	48-43 nth 97 vear
	9	Easting K2E 7W5Northi		RC Elevation	RC Bas	in Code ii	111	iv
21	, LOG	OF OVERBURDEN AND	BEDROCK MA	ATERIALS (sec	30 31			17
General colour	Most common material	Other mate			General desc		Dep From	th – feet To
	3				Fill		0	2
Brown	Band	Gravel			Packe	đ	2	7
Brown	Loam	Graver			Hard		7	47
Gray	Limestone Limestone	Brown La	avora		Mediu	m	47	175
Gray	DIRECTOR							
31								1
32	14 15	CASING & OPEN	HOLE PECOE		54 Sizes of openir	65 ng 31-33 Diamete	r 34-38 Lengt	75 E
Water found	TER RECORD 51 Inside diam	Wall	Depti cness	n - feet	(01-4-11-3)	.9	inches	feet
	□ Fresh 3 □ Sulphur 14 6 10	// □ Steel 12 _ 18		To 22	Material and ty	ре	Depth at top	of screen 3
46	☐ Saity 6 ☐ Gas	3 ☐ Concrete 4 ☐ Open hole	ļ					feet
242 2	☐ Salty 6 ☐ Gas	5 Plastic		20-23	<u> </u>	.UGGING & SEAL ular space	ING RECOR ☐ Abandonm	
160 2	☐ Fresh 3 ☐ Sulphur 24 ☐ Minerals ☐ Salty 6 ☐ Gas 6 1	Galvanized Concrete Open hole	22	175	Depth set at - feet From To	Material and type (Cement grout, be	entonite, etc.
N	Fresh 3 Dulphur 29	5 Plastic		27-30	20	O Grouted (Cement ((3)
30-33	☐ Fresh ³ ☐ Sulphur ³⁴ ⁶⁰	Galvanized Galvanized Goncrete Goncrete	ļ			-33 80		
2	☐ Hresh 3 ☐ Minerals ☐ Gas	5 Plastic		<u> </u>				
Pumping test i	ineurod is running rate	Duration of pumping	Mins			ION OF WELL		t
01.11.1	Water level end of pumping 25 Water levels during	1 Pumping 2 Rec	covery	In diagram b Indicate nort	elow show dist h by arrow.	ances of well from	$^{+}$ $^{+}$	
19-21	22-24 15 minutes 26-28 30 minut	es 45 minutes 60 min	utes 35-37	1			LOT	1
37 feet USU If flowing give		feet 55 feet Water at end of test	5.5feet 42	. !	House			
d I ioming give	GPM	feet Clear Clear	oudy 46-49	1	De	1 1		
Recommende	pump setting	pump rate	GPM		Steps	715		
50-53				1	26	ا ا * لا		RA
FINAL STATU Water st	upply 5 Abandoned, insuffice ation well 6 Abandoned, poor q	cient supply 9 🔲 Unfinished uality 10 🗎 Replacement	well	Po	plarue	000		
₃ ☐ Test hol	le 7 Li Abandoned (Other)			, -	Y		TA	ewellyn
WATER USE	55 56						<i>//</i>	3
Domesi Stock	€∐ Municipal on 7 ☐ Public supply	₉ Dot used ₁₀ Other						j j
₃ ☐ Industri		tioning		<i>لح</i>	side			14
METHOD OF	CONSTRUCTION 57	_2∩ ₉ □ Driving		Soow Ac				•
2 Rotary 3 Rotary 4 Rotary	tool 20_175	10 ☐ Digging 11 ☐ Other		(-)c	くとつ	1	17569	96
		i Well Contractor's Lic	ence No.	ata 58	Contracctor	59-62 Date	received	63-64
Name of Well Con	Water Supply Ltd.	1558	ONIC	ource ate of inspection	155	S SI	EP 15	1997
Address Page Box	x 490 Stittsville,	Ontario K2S lA	6 IS		, inisp			
Name of Well Ted	chnician	Well Technician's Lic	ence No.	emarks				O.
S. Mill Signature of Fect	er/W. Kavanagh miglan/Contractor	T0097/T009 Submission date						-71
[/h/ /	wance !	day 8 mo 8	yr 97 ≥					



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15003	CON	1	ļ
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0506 (07/94) Front Form 9

		1 2		295/5	Con block tract sur	rvev. etc. Lot 25
County or District Ottawa Carle	at on	Township/Borough/City/T			Con block tract sur	23
Official Cort	<u> </u>	Address			Date	dos 0 07
**·	U Zone Ear	850-36 Antares		Nepean Ontai	Basin Code ii	d 27day 8 month 97 ye
2	M 10 12	17 18	24 25		31	
	LOG O	FOVERBURDEN AND BEDF	ROCK MAT			Depth - feet
General colour	Most common material	Other materials		General	l description	From To
Brown	SAnd, Loom	Stones		Fil	1	0 6
Brown	Sand ,Clay					6 10
Gray	Hardpan	Boulders				10 20
Gray	Gravel	Gray Sand	3			20 22
-	Limestone					22 87
Gray	Libescone					
		<u></u>				
				<u></u>		
				<u></u>	·	
				<u> </u>	· · · · · · · · · · · · · · · · · · ·	
1						
2 10 14 15	21	32	43	54		75
WATER	R RECORD 51 Inside	CASING & OPEN HOLE Wall	RECORD Depth -		· –	
- teet	Kind of water diam inches	Material thickness inches	From	To Material a	and type	Depth at top of screen
¹⁰⁻¹³ 1 ☐ Fre 2 ☐ Sa	esh 3 Sulphur 5 1 10/4	Steel 12 Galvanized • 188	0	27 0		feet
<u> </u>	esh ³ ☐ Sulphur ¹⁹	3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			DI LICCINO 9 SEA	
2	esh S Gas 17-18	1 Steel		20-23	PLUGGING & SEA Annular space	☐ Abandonment
2 🗍 Sa	alty 6 □ Gas	2 ☐ Galvanized 3 ☐ Concrete 4 Open hole	27	Depth set at From	- feet To Material and type	e (Cement grout, bentonite, e
25-28 Fre	esh ³ Sulphur ²⁹	5 Plastic	21	27-30	20 ₂₅ Grouted	Cemeta (5)
2 ☐ Sa 30-33	6 Gas 34 60	1 ☐ Steel 26 2 ☐ Galvanized 3 ☐ Concrete				
¹ ☐ Fre	4 □ Minorals	Open hole Plastic	30	87	30-33 B0	
Pumping test metho	od ¹⁰ Pumping rate 11-14	Duration of pumping	· ·		CATION OF WELL	
Pump 2 R	Bailer 15GPN	1 Hours Mins	4-	n diagram below show	distances of well from	າ road and lot line.
Static level end o	of pumping water levels during ,	Pumping ² Recovery 45 minutes 60 minutes		Indicate north by arrow	'.	į
	22-24 15 minutes 30 minutes 29-3	32-34 35-37		Poplaru	5000	
17 feet 2	2 feet 22 feet 22 feet 38-41 Pump intake set at	et 22 feet 22eet Water at end of test		*	×	
	GPM fee			1 14'8'	131	
Recommended pum Shallow	pump setting	pump rate				
50-53	60 fee	GENI				3
INAL STATUS O		t supply ⁹ 🔲 Unfinished			ì	5-
 2 Observation w 3 Test hole 	vell 6 🗌 Abandoned, poor qualit 7 🗎 Abandoned (Other)			!	‡	3
4 🔲 Recharge wel	8 Dewatering			\$	†	
VATER USE	55-56 5 Commercial	9 🗌 Not used		Lot * 3	1	3
2 ∰ Stock 3 ☐ Irrigation	 ⁶ ☐ Municipal ⁷ ☐ Public supply 	10 🗍 Other		,,,		
4 🗌 Industrial	8 Cooling & air condition	ing				
METHOD OF CON						
2 🚰 Rotary (con🕶	Air percussion 0-3	_ D.999				183312
3	se) 7 🗍 Diamond 8 🗍 Jetting	11				TOOTE
		Well Contractor's Licence No.	Data	58 Contracctor	59-62 Date	received 63-68
Name of Well Contracto			Source	<u> </u>	558	SEP 1 5 1997
Capital Wat	er Supply Ltd.	1558	Date o	of inspection	Inspector	
P.O. Box 49	Stittsville,Ont	Well Technician's Licence No.	│ 	rks		<u></u>
		T0097/T0095	VISTR			The state of the s
Signature of Technician	Contractor	Submission date				

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County or District	1		Township/I	Borough/City/	Town/Village	9		Con blo	ck tract surve	ey, etc. Lot	25-27
				Goulbo	ourn				9	,,	23
			Address						Date completed.	1 day 10 mg	
				Northing		RC Box	1,3000 _F	Basin Cod		I day I O mo	iv
21	M 10	12	Ontario	K2K	2 A 6	25 26	1 30	31			47
		LOG OF O	/ERBURDE	N AND BED	ROCK MA	ATERIALS (see instru	ctions)		Do	oth – feet
General colour	Most common materia		Oth	er materials			Gene	ral description	1	From	To
	_							.			
Brown	Sand		— Stone	es (Sha	le)		- Pacl	ked		0	6
Gray	Limestone									6	20
Gray	Limestone						HArc	ð		20	48
Gray	Limestone						Med:	ium		48	79
Brown	Limestone						Med:	ium		79	141
							Med:			141	165
Gray —	Limestone										
Brown	Limestone			-			Med:			165	172
Gray	Limestone						Med	ium		172	190
						-					-
											<u> </u>
31			النبا ا	Litte							لا ليلي
32					الليا ال		54		65		75 80
41 WA	ATER RECORD	51	CASING &	OPEN HOL			/CI-4.4	of opening	31-33 Diamete	r ^{34–38} Leng	th 39-40
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	From	feet To				inches	feet
	☐ Fresh ³ ☐ Sulphur ¹⁴ ☐ Solby ⁴ ☐ Minerals	6 1/4	Steel ¹² Galvanized	.188	0	22.5	Materi S	ial and type		Depth at top	41-44
144/	☐ Salty 6 ☐ Gas ☐ Fresh 3 ☐ Sulphur 19		Concrete Open hole							<u></u>	feet
2	☐ Salty 6 ☐ Gas		Plastic Steel			20-23	61		ING & SEAL	NG RECOF	
20-23 1	☐ Fresh ³ ☐ Sulphur ²⁴ ☐ Minerals ☐ Salty ₆ ☐ Gas	2 [Galvanized Concrete				Depth set	N	ace laterial and type (0		
	T Free STED ulphur 29	5 <u>15</u> ; x	Open hole Plastic		22.5	190	From 10–13	14-17			
2	☐ Salty ⁴ ☐ Minerals ☐ Gas		Steel ²⁶ Galvanized			27-30	23.	Q ₋₂₅ G	routed C	ement (:	3)
	☐ Fresh ³ ☐ Sulphur ³⁴ 60 ☐	3 [☐ Concrete ☐ Open hole				26-29	30-33 80			
	☐ Salty 6 ☐ Gas	5 [Plastic					<u> </u>	l		
71 Pumping test	1	11-14 D	uration of pumpi Hours		\parallel \checkmark			OCATION (
Chatia Issuel	Water level end of pumping Water levels of			Recovery	$\ \mathbf{A} \ $		n below sho		of well from t	oad and lot	line.
1. 10.01			15 minutes	60 minutes 35-37			•	welly	n Rd		
H Confeet	46 feet 3 deet	AA feet	_	46 feet	17 -		. , , ,				.
SA feet If flowing give Recommende	rate 38-41 Pump intake set	at v	Vater at end of te	:51		1			. 4	se.	
Recommende	GPM Recommended		☐ Clear Recommended	Cloudy	1				Woods	,es	
☐ Shallow	Deep pump setting	140 ^{feet}	ump rate	5 GPM]				(A)	<u>ن</u>	
50-53		140					14 40				
FINAL STATU	upply 5 Abandoned,		ply ⁹ ☐ Unfinis ¹⁰ ☐ Replac	shed			e, — .				
2 ♣ Observa 3 ☐ Test hole 4 ☐ Recharg	le ⁷ 🔲 Abandoned (Other)	- Д Порис	John Jan Woll		and a		1	2'3"		
Hecharg						poor			1411		
WATER USE	55-56 tic ⁵ 🗌 Commercial		9 ☐ Not us	ed		7	Dase		1		
¹ Domest ² Stock ³ Irrigatio	on 7 🔲 Public suppl		□ Dther.			g	ى,	, ACCO	1		
4 🗌 Industri	ial 8 🗌 Cooling & air	conditioning				4		est Go	ove Pr		
	CONSTRUCTION 57		9 D-1-1-1-			Popla	1 01				
1 ☐ Cable to 2 X Rotary 3 ☐ Rotary	(colonia) 5 Air percussion 6 Boring (reverse)	on 0-20	9 Driving 10 Diggin			V				1832	257
3 ☐ Hotary 4 ☐ Rotary			U Otner								
			Well Control	or's Licence No	Dat	a	58 Contraco	tor _	59-62 Date re	eceived	63 68 80
Name of Well Cor						irce		558			1997
Capital V	Water Supply Ltd.		1558		Dat Dat	e of inspection		Inspector			
P.O. Box Name of Well Tex	490 Stittsville	,Ontari	Well fechnic	A Licence No	A Ser	marks					<u> </u>
1			TOO97/T		MINISTRY USE					(14,
Signature of Tech	r/W. Kavanagh Inician/Contractor		l .		Z						-3-
L			dav2] mo	10 yr97	ــــــالــ				<u> </u>	0506 (07/94)	Front Form 9

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Municipality	Con.	ı	1	:	0	9
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				22	23	24

0506 (07/94) Front Form 9

		$\begin{bmatrix} 11 \\ 1 \end{bmatrix}$		10 14 15	22 23 24
County or District		Township/Borough/City/To	wn/Village	Con block tract surv	· .
Ottawa Car		Goulbourn Address		Date	24
	Dimensions Inc	850-36 Antares	Br. N	Nepean Ontario K2E 7W5 mpleted	4 day 12 month 97/ea
21	_{ປຸ} Zone Ea	sting Northing	RC	Elevation RC Basin Code	
2	LOG O	F OVERBURDEN AND BEDR	OCK MATE		4
General colour	Most common material	Other materials		General description	Depth - feet From To
	_			Fill	0 5
Brown	Sand		-		5 11
Brown	Hardpan	Boulders		Packed	11 132
Gray	Limestone			Hard	132 145
Brown	Limestone			Soft	1.32 14.7
Water found at - feet	Salty Gas Fresh 3 Sulphur 19 Salty 5 Gas Fresh 3 Sulphur 24 Salty 5 Gas 5 Cas Cas	2 Concrete 4 Open hole 5 Plastic	Depth - fe From	Material and type 61 PLUGGING & SEAL Perform To 10-13 PLUGGING & SEAL Annular space Depth set at - feet From To Material and type (Depth at top of screen 41-44 feet
71 Pumping test m	Bailer 10 GP	Galvanized Gal	ļr lr	LOCATION OF WELL a diagram below show distances of well from adicate north by arrow.	
The transfer of the transfer	Pump type Recommended 43	nt supply 9 🔲 Unfinished		28'7"	
WATER USE Domestic	55-56 5	9 ☐ Not used 10 ☐ Other	6	of percent	'
METHOD OF C	construction 57 ol 20_145s Air percussion 02 convertional)	9 Driving 10 Digging 11 Other		Flewellyn Rd	182762
Name of Well Cont		Well Contractor's Licence No.	Data source	58 Compactor 59-62 Date	received 63 68 AN 0 8 1998
Capital	Water Supply Ltd.	1558	Date o	f inspection Inspector	מעלן ט ט איז
P.O. Box Name of Well Tech	490 Stittsville,O	T0097/T0095	Remar		M
Signature of Technic	ician/Contractor	Submission date day5 mo 12 yr 97	N N N N N N N N N N N N N N N N N N N		0500 (0704) Front Form

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Municipality	Con.	09
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County or District		Township/Borough/City/Towr	n/Village	Con block tract surv	rey, etc. Lot	25-27
Ottawa Ca		Goulbourn Address		Date		48-53
	Dimensions Ltd.	850-36 Afi tares	Dr. Nepean	Ontario K2E 7W5	Zolay mont	th 97ear
21	⊔ Zone Easti	ng Northing	RC Elevatio	n RC Basin Code	; <u> </u>	iL_
2	LOG OF	OVERBURDEN AND BEDRO	CK MATERIALS (se	e instructions)		
General colour	Most common material	Other materials		General description	From	h – feet To
	Cond & Shones			Fill	0	3
Brown	Sand & Stones			Dry	3	9
Brown	sandy Clay				9	33
Gray	Limestone			Medium	33	125
Gray	Limestone				- 33	127
				,		
				4		
						·
						. 1.1
31					<u> </u>	- -
32	14 15	CASING & OPEN HOLE R	43 PECORD	Sizes of opening 31-33 Diamet	er 34 38 Length	75
Water found	TER RECORD 51 Inside diam	Wall Material thickness	Depth - feet	(OI - N -)	inches	feel
at – feet	Fresh 5 Sulphur 14 inches	1 D Steel 12 100	from To 0 44 16	Material and type	Depth at top of	screen 41-44
85 -	Salty 6 Gas	Galvanized Concrete Open hole		<u> </u>		feet
101 2	☐ Salty 6 ☐ Gas	5 ☐ Plastic	20-23	61 PLUGGING & SEAI	ING RECORD	
20-23	resh 4 Minerals	Galvanized		Depth set at - feet Material and type	(Cement grout, ben	
1 -	Fresh 3 Sulphur 29 5 15	Open hole	44 125	From To Water at 18 4, 17	- Cement	
1	6 Li Gas	Steel 26 Galvanized Concrete	27-30	18-21 22-25	- CURCIIC	
	☐ Fresh 3 ☐ Sulphur 34 60 ☐ Minerals ☐ Salty 6 ☐ Gas	Open hole Plastic		26-29 30-33 80		
Pumping test n	nethod 10 Pumping rate 11-14	Duration of pumping		LOCATION OF WELL		
71 ₁ Pump ₂	Bailer 15 GPM		In diagram b	pelow show distances of well from	road and lot lin	
Static level	end of pumping Water levels during 122-24 15 minutes 30 minutes	Pumping 2 Recovery 45 minutes 60 minutes	Indicate nor	th by arrow.		1
LES	26-28 29-31	32-34 35-37 16 feet 16 feet				1
19 21 12 feet 11 flowing give Recommended	rate 35-41 Pump intake set at	Water at end of test 42			side	
Recommender	GPM feet d pump type Recommended 43-45				>5.0	
☐ Shallow	Deep pump setting 90 feet	5 GPM	Lot#27			
FINAL STATU	IS OF WELL 54			11'7"		
, ₩ater su 2 🚺 Observa	upply 5 ☐ Abandoned, insufficient s tion well 6 ☐ Abandoned, poor quality	supply 9 Unfinished 10 Replacement well		11'3" P		Poplarwood
3 ☐ Test hole 4 ☐ Recharg			H	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		3
WATER USE	55 56	₀ □ Not used	v	eranda to		J'A
ı ☑ Domest ₂ ☐ Stock ₃ ☐ Irrigation	ic 5 ☐ Commercial 6 ☐ Municipal n 7 ☐ Public supply	10 Cther	G) Ve		0
₄ ☐ Industria		g		+P		12
METHOD OF	CONSTRUCTION 57	n				
Cable to Cable to Rotary (Rotary (convertional) 5 Air percussion 0.44 (convertional) 6 Boring (reverse) 7 Diamond	10 Digging	Flee	wellyn-Road.	18279	q
₄ ☐ Rotary ((air) 8 Detting				10213	<u> </u>
Name of Well Con	ntractor	Well Contractor's Licence No.	Data 5		received	63-68 OO Q
<u>Capital</u>	Water Supply Ltd.	1558	No Deterof ingression	Inspector	IAN 0 8 1	998
	490 Stittsville,Ont	ario K2S 1A6	nsi			
		Well Technician's Licence No.	Remarks			\mathcal{N}
S. MILLS Signature of Techn	er/W.Kavanagh	TOO97/TOO95 Submission date	¥			` \
Signature yr regin	ntelan/Contractor	day 24 mo 12 yr 97	Ś			-

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15003 CON 0	9
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County or District		Township/Borough/City/To	own/Village	Con block tract su	ırvey, etc. Lot	25 - 27
ounty or District Ottawa Car	leton	Goulbourn		9		23
wner's surname	28-47 First name	Address		Date complete	ed	48-50
echnical I	Dimensions	850–36 Antares	Dr. Nepean,O	ntario K2E 7W5	Theat 12 mg	onth o 7 yea
1	i l	sting Northing	24 25 26			
2		F OVERBURDEN AND BEDF	ROCK MATERIALS (s	ee instructions)	1 0-	oth foot
General colour	Most common material	Other materials		General description	From	oth - feet To
				Fill	0	20
ray	Hardpan	Slab Rocks			20	54
ray	Limestone			Hard		
ray	Limestone			Medium	54	83
ight Gray	Limestone			Medium	83	128
Brown	Limestone			Soft	128	147
				Soft	- 147	200
Fray	<u> Limestone</u>					
						-
						٠
31						البلا
32			<u> </u>	54 6	5	75
41 WATI	ER RECORD 51 Inside	CASING & OPEN HOLI	Depth - feet	(OLANIA)	neter 34-38 Leng	
Nater found at – feet	Kind of water diam	Material thickness inches	From To	(Slot No.)	inches Depth at top	of screen
	Fresh 3 Sulphur 14 6 17	Steel 12 .188	0 2216	Material and type	Departación	41-44
68 -	Sarty 6 Gas	Grant Concrete		was to sug		feet
3.25	Salty 6 Gas	5 Plastic	20 23	61 PLUGGING & SE	ALING RECOI	
20-23 ;	Fresh 3 Sulphur 24 17-18	2 Galvanized		Depth set at - feet Material and the	pe (Cement grout, t	
	Salty 6 Gas 6 1/	S Concrete C	22 200	10-13 14-17		
	Salty 4	□ Steel 26	27-30	20 4 Groute	d Cement	(3)
30-33 1	Fresh 3 Sulphur 34 60	Galvanized Concrete Copen hole		26-29 30-33 80		
2 🗆	Salty 6 Gas	5 Plastic				
Pumping test me		15-16 12-18		LOCATION OF WELL		1
71 , 🙀 Pump 2 🗆	Bailer 8 GP		In diagram	below show distances of well fro	om road and lot	line.
Static level er	Water levels during 22-24 15 minutes 30 minutes	X	Indicate no	rth by arrow.		
19 21		9-31 32-34 35-37	700	larwood		1
27 feet If flowing give ra	00 01	Water at end of test 42	O			7
If flowing give ra	GPM fe	eet 🗆 Clear 🖳 Cloudy				
	pump setting	Recommended 46 49 pump rate				
☐ Shallow	X Deep 125 te	eet 5 GPM				
FINAL STATUS	S OF WELL 54		1 14			
Water sup	ply 5 ☐ Abandoned, insufficie on well 6 ☐ Abandoned, poor qua	nt supply 9 🗍 Unfinished lity 10 🗍 Replacement well	14-	30'		
₃ ☐ Test hole ₄ ☐ Recharge	Abandoned (Ower)					
	C. (A)					
WATER USE 1 D Domestic 2 D Stock	55-56 5 Commercial	g ☐ Not used		' ' 		1
₃ ☐ Irrigation	7 Public supply	ning Other	73	1G Lot 39		ļ
₄ ☐ Industrial						
METHOD OF C	ONSTRUCTION 57	⊃∩ 9 □ Driving	-			1
, ₩ Cable too ₂ ☐ Rotary (co	ol 20_200; Air percussion 0 onventional) 6 Boring everse) 7 Diamond	20 g Diving 10 Digging 11 Other			1007	<u>م</u> ۲
3 ☐ Hotary (re	ir) a □ Jetting	i]		1827	<u> </u>
N - 224 0 -		Well Contractor's Licence No	Data	58 Contracctor 59-62 [ate received	63-6
Name of Well Contr		1558	Source	1558	JAN 0 8	1008
Capital W	ater Supply Ltd.	1536	Date of inspection	Inspector		
P.O. Box Name of Well Techn	490 Stittsville,On	tario K2S 1A6 Well fechnician's Licence No	」 ⊃			<i>\\</i>
	TICHET		Remarks			•
	/W. Katvanagh cian/Contractor	T0097/T0095 Submission date] <u>#</u>			
WKvar		day 19 mo 12 yr 97				a) Front Fo

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Municipality	Con	
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County or District		Township/Borough/City/T	own/Village		Con block tract s	survey, etc. Lo	t 25 27
Ottava Ca	rleton	Address Address			9		23
		38 Arque Drs	nyi+_2/K	Nonoan Onto	Date comple	ted	onthoo year
21	T 10	K2E 8A5	HC HC	Elevation AC	Basin Code ii		
1 2		TOF OVERBURDEN AND BEDI	ROCK MATER	IIALS (see instructi	ions)		47
General colour	Most common material	Other materials			description		pth - feet
						From	То
Brown	Sandy Clay	Stones		Packe	ed	-	5
Brown	Sand			Wet		5	23
Gray	Hardpan	Boulders		Packe	ed	2 3	29
Gray	Limestone			Mediu	m Hard	29	115
	,						
			·				
_,					, .		
31							
32						111111	
	TER RECORD 51	CASING & OPEN HOLE	RECORD	Sizes of o	pening 31-33 Dian	neter ³⁴⁻³⁸ Leng	75 80 th 39-40
Water found at - feet	Kind of water Inside diam inche	Material thickness	Depth - feet From To	(Slot No.) Material a		inches	feet
	Fresh ³ Sulphur ¹⁴ 6 10	Steel 12 Galvanized -188		Material a	nd type	Depth at top	of screen 30
05	Fresh ³ Sulphur ¹⁹	3 ☐ Concrete 4 ☐ Open hole					feet
	Salty 6 Gas 17-	5		20-23	PLUGGING & SEA		
1	Salty 6 Gas	2 Galvanized 3 Concrete		Depth set at -	Material and tw	Abandonm	
25-28 1	Fresh ³ Sulphur ²⁹	" I Flastic	40 11	10-13	14-17		
30-33	Gas Gas 34 60	25 : Steel 26 2 Galvanized 3 Concrete		27-30 39	O Grouted	Cement (8	1
] Fresh ³ □ Sulphur ³⁴ log	4 ☐ Open hole 5 ☐ Plastic		26-29	30-33 80		
Pumping test m	nethod 10 Pumping rate	11-14 Duration of pumping 17-18					
/1 1 □ Pump 2	Bailer 20 G	GPM Hours Mins	l Indi	LOC iagram below show	CATION OF WELL distances of well from	m road and lot !	ine.
Static level e	Vater level Water levels during	Pumping ² Recovery		cate north by arrow.		Jose and lot !	
TES	26-28 30 minutes	29-31 32-34 35-37		- \ ^	~		
In feet If flowing give re Recommended	16 feet 16 feet 16 ate 38-41 Pump intake set at	feet 16 feet 16 feet Water at end of test 42		Forest C	rove Dr	<u> </u>	
Recommended	GPM	feet Clear Cloudy 43-45 Recommended Glear Cloudy 46-49	18	į	AK 376" -		1
☐ Shallow	Deep X Deep	pump rate	17	604)	×, ×, ×, ·	G	1
50-53		reet g GrM	}	!			1
FINAL STATUS	oply 5 🗌 Abandoned, insuffic	ient supply 9	73	H	صعو		•
²	on well 6	uality 10 🗆 Replacement well	3	<u> </u>		1	1
			🛱	•			1
WATER USE 1 Domestic 2 Stock	55-56 Commercial	9 Not used		1	, <u>w</u> on		1
2 1 Stock □ Irrigation □ Industrial	⁷ Public supply	10 ☐ Otherioning	'	٢	ot #32		
		-		10			
	construction of Air percussion O-	g. ☐ Driving		podside			
² X Rotary (c ³ □ Rotary (re ⁴ □ Rotary (a	everse) ⁷ 🗌 Diamond	-40 □ Digging □ Other	ا ل <i>ب</i> اد	Soct 6 2		1838	367
- 🗀 Hotary (a	ir) a 🗋 Jetting			`			
Name of Well Contr	ractor	Well Contractor's Licence No.	Data source	58 Contracctor	59-62 Dat	e received	63-68 8 0
Capital W	ater Supply Ltd.	1558	Date of ince	pection III	nspector C	JUL 2 2 1	998
	490 Stittsville, C	ontario KOS 116	USE		•		\mathcal{C}
			Hernarks Remarks			100	λ
S. Miller Signature of Technol	W.Kaganagh cian/Contractor	T0097/T0095 Submission date	SINIE		(css. s	DA.
LIN Km	~	day 29 mo 5 yr 98	2			0506 (07/94) F	Front Form 9
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Municipality	Con.					
115003	CON	1	1		0	9
10 14	15	 		20	22	2

ounty or District			lownship/E	Borough/City/T	own/village				madi danto	y, etc. Lo	ot 25
Ottawa Ca	rleton		Goull Address	bourn			-		9		25
				ook Bol-	whta s	tittsvil	1.a ~-4	-anda	Date completed	9 lay 6m	າະ ionth ໘ຊ y
1 :			K2S 1C	est Heio 3 ^{Northing}	urs S	C Elevation	RC I I I	Basin Code	ii .	· iii	iv
1	M 10	12	17	18	24 25		30	31			
		LOG OF OV	ERBURDEN	AND BEDF	ROCK MAT	ERIALS (see	instructi	ons)		D.	epth – feet
General colour	Most common material		Oth	er materials			General	description		From	To
Draws	03				Ţ		Dry			0	
Brown	Sand						- 4				
Brown	Sandy Clay						Pack	20		6	12
Gray	Sandy Clay						Stone	3d		12	18
Gray	Limestone									18	73
-											
			Person								1
											-
							,				-
	1.1.1.1.1.1.1.1				<u> </u>						
	1			 ,							أبلل
10 14 WAT	TER RECORD	51	CASING & (OPEN HOLE	RECORD		Sizes of o	pening	65 1-33 Diameter	³⁴⁻³⁸ Len	jth
ater found		Inside	Material	Wall thickness	Depth -	leet Z	(Slot No.)		i	nches	
	Fresh ³ Sulphur ¹⁴	inches		inches	From	To 22.1355 S	Material a	nd type		Depth at top	
A 2 [Salty 6 Gas	3	Galvanized Concrete	•100	9						feet
15-18 1	Fresh ³ Sulphur ¹⁹ 4 Minerals Salty 6 Gas		Open hole Plastic					PLUGGIN	G & SEALIN	IG RECO	RD
u	Teres St. Sulphur 24		Steel ¹⁹ Galvanized			20-23		Annular space		☐ Abandonr	
2 🗆	Salty 6 Gas	3 4	Concrete Open hole	,	22.5		epth set at - From	To Mate	rial and type (Ce	ement grout, b	entonite,
	Fresh ³ Sulphur ³ Minerals	, U	Plastic Steel ²⁶			27-36 2	10-13	6 ₂₋₂₅ Gro	uted Ces	ent (3	3)
30-33	Gas 34 60	2 🗍	Galvanized Concrete			1 1	16-21	3 ₀₋₃₃ Hol		(1)	,
	Fresh ³ ☐ Sulphur ⁴ ☐ Minerals ☐ Salty ₆ ☐ Gas	4 🗆	Open hole Plastic		_		626-29	50-33		τ±/	
Pumping test m	ethod ¹⁰ Pumping rate	11-14 Du	ration of pumpin	ng ₁₇₋₁₈				ATION OF	WELL		
Pump 2	Bailer 20	GPM		Mins	,	n diagram beld		CATION OF distances o		ad and lot	line.
Static level er	Vater level Water levels du			Recovery] i	ndicate north t	by arrow.			a Rd	_1
19-21	22-24 15 minutes 30	minutes 45	minutes 32-34	60 minutes 35-37							
In the state of th	1514#et 1214#et 13		5 1 deet	15 4 deet	1						
If flowing give ra			ater at end of tes	☐ Cloudy	1						ı
1	GPM	feet	☐ Clear .	L Cloudy 1				_		· 	_
Recommended	pump type Recommended	43-45 Re	commended	46-49						· -	-
☐ Shallow		43-45 Re						-		·	- Joan
☐ Shallow 50-53	pump type Recommended pump setting 30	43-45 Re pui	commended	46-49				-			Road
□ Shallow 50-53	Deep Recommended pump setting 30	feet Reput	commended mp rate	46-49 5 GPM				- -			Road
Shallow So-53 NAL STATUS Water sup Observati Observati Test hole	Deep Recommended pump setting 30 S OF WELL sylyy	feet Reput	commended 'mp rate	46-49 5 GPM				- - -)'/		yen Road
Shallow Sa-53	pump type Deep Recommended pump setting S OF WELL S	feet Reput	commended 'mp rate	46-49 5 GPM				- -	27/		Jily on Road
Shallow So-53 NAL STATUS 1	pump type Deep Recommended pump setting S OF WELL ply S Abandoned, in Abandoned, in Abandoned (C) well S Dewatering S COF WELL S Abandoned (C) Dewatering S COF WELL S Abandoned (C) Dewatering S COF WELL S Abandoned (C) C COF MELL S Abandoned (C) S COF WELL S COF W	feet Reput	y 9 Unfinish 10 Replace	5 GPM The department well and details and				- - - -			lewly on Road
Shallow Shallow	pump type Deep Recommended pump setting S OF WELL pply S Abandoned, in Abandoned, in Abandoned (Commercial S Dewatering S COMMERCIAL Municipal Fublic supply	feet A3-45 Reput	commended mp rate y 9	5 GPM The department well and details and	2			- -	27/		Flew Myen Road
Shallow Saction	pump type Deep Recommended pump setting S OF WELL pply S Abandoned, in Abandoned, in Abandoned (Commercial S Dewatering S COMMERCIAL Municipal Fublic supply	feet A3-45 Reput	y 9 Unfinish 10 Replace	5 GPM The department well and details and	×	<		- - -			Trewilyen Road
Shallow So-53 INAL STATUS 1	pump type Recommended pump setting S OF WELL pply 5 Abandoned, ir Abandoned (Commercial well 5 Commercial Municipal Public supply Cooling & air of	feet Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other	5 GPM The details of	N	<			12		1.28 1.28
Shallow So-53 NAL STATUS 1	pump type Deep Deep 30	feet Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other	5 GPM	No.	Huntle	<u> </u>		12	100	1.28 1.28
Shallow Status	pump type Recommended pump setting S OF WELL ply 5 Abandoned, ir Abandoned (Commercial 6 Municipal 7 Public supply 8 Cooling & air of the conventional) Public supply 8 Dononventional 9 Deverse) Air percussion on ventional 9 Deverse Public supply 8 Dononventional 9 Deverse Public supply 8 Dononventional 9 Deverse Public supply 8 Dononventional 9 Deverse Public supply 9 Deverse Public supply 8 Dononventional 9 Deverse Public supply 9 D	feet Reput	y 9	5 GPM	B	Huntle	yRa		12	183	1.28 1.28
Shallow Saction Shallow	pump type Deep Deep 30	feet Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other	5 GPM ned ement well			•).C.*5		数 第 9 7
Shallow NAL STATUS Water sup Doservatir Recharge NATER USE Domestic Stock Infigation Industrial STATUSE Recharge NATER USE Recharge NATER USE Recharge NATER USE Recharge NATER USE Rotack Rotacy (cd. 3 Rotacy (cd. 3 Rotacy (cd. 4 Rotacy (ad. 4	pump type Deep Deep 30	feet Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other	5 GPM ned ement well	Data	58 C	y Roo		3. C. * 5	eived	397 897
Shallow Shallow	pump type Deep Deep 30	feet Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other	5 GPM The definition of the d	Data source Date o	58 C	ontracctor).C.*5		397 897
Shallow So-53 Water sup 2	pump type Deep Deep 30	feet A3-45 Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other 9 Driving 10 Digging 11 Other	5 GPM The department well are strongly and strongly are	Data source Date o	58 C	ontracctor	2d C	3. C. * 5	eived	397 897
Shallow	pump type Deep Deep 30	feet A3-45 Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other 9 Driving 11 Other Well Contractor 1558	5 GPM ned ement well r's Licence No.	Data source Date o	58 C	ontracctor	2d C	59-62 Date reco	eived 221	397 897
Shallow	pump type Deep Deep 30	feet A3-45 Reput	y 9 Unfinish 10 Replace 9 Not use 10 Other 9 Driving 10 Digging 11 Other	5 GPM ned ement well r's Licence No.	Data source Date o	58 C	ontracctor	2d C	3. C. * 5	eived 221	397 897

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Municipality	Con.	
15003	CON	9

0506 (07/94) Front Form 9

County or District	t			ip/Borough/City	/Town/Villag	je		Con block	tract survey	, etc. Lo	ot 25 27
Ottawa Co Owner's surname		First name	Address	ulbourn				9	Date		24
Technical	l Dimensions		850 -	- 36 Anta	ares Di		an Ontar	io Basin Code	completed	81ay 6 n	nonth Q S vear
21		T III	K2E 7	W5 18	24	25 26	30	L L L L		<u> </u>	1 1 47
Particular of the second of th		LOG	OF OVERBURD		DROCK M	ATERIALS	(see instruc	tions)		1 D4	epth - feet
General colour	Most commo	n material	C	Other materials			Genera	d description		From	To
Brown	Sandy So	oil		Stones			Dry			0	9-
Gray	Limestor	10		Dark Lay	yers		Medi	un .		9	130
											-
											
			•					· · · · · · · · · · · · · · · · · · ·			-
31 , , , ,			1 . 1			11,1,					
32					_						ں تینید لا لیلی
41 WA	TER RECORD	51	CASING 8	& OPEN HOL			Sizes of (Slot No.)	opening	65 Diameter	³⁴⁻³⁸ Leng	75 80 Jth ³⁹⁻⁴⁰
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	From	n – feet To	E		1	nches	feet
	☐ Fresh ³ ☐ Sulphur ☐ Salty ₆ ☐ Gas	6 17	Steel 12 2 Galvanized 3 Concrete	-188	0	22:4	Material a	and type		Depth at top	feet
15-18 1	☐ Fresh ³ ☐ Sulphur 4 ☐ Minerals ☐ Salty 6 ☐ Gas	19	4 ☐ Open hole 5 ☐ Plastic				61	PLUGGING	G & SEALIN	G RECOE	
20-23	Fresh STED lphur	24 17-18 S	1 Steel 19			20-23		Annular space		Abandonn	
	Salty & Minerals Gas □ Fresh 3 □ Sulphur	6 1/	Concrete Open hole Plastic		22.4	30	From	To Mater	rial and type (Cer		
2	☐ Salty 6 ☐ Gas	S 24-25	1 Steel 26 2 Galvanized	3		27-30	21	3 Gro	uted <u>-</u> C	ement	(6)
1 C 2 C	☐ Fresh ³ ☐ Sulphur 4 ☐ Minerals ☐ Salty ₈ ☐ Gas	5 7/8	3 Concrete 4 Open hole 5 Plastic		30	130	26-29	30-33 80			
Pumaina test m		ig rate		ping 17-18][CATION OF			
	Water level 25	15 GP er levels during		s Mins 2 Recovery	15x	ın diagram	n below show	distances of		ad and lot	line.
6	end of pumping 22-24 15 minu		45 minutes	60 minutes	^^	. Indicate n	orth by arrow.				
18 feet If flowing give r Recommended			eet 25 feet	25 feet		يسبسد		10			
If flowing give r	rate ³⁸⁻⁴¹ Pumpii GPM	ntake set at fe	Water at end of t	test ⁴²] -	1 10	rest Gr 17	<u> </u>	T		
1-1	pump s	mended 43- etting	Recommended pump rate	46-49		1	17	16"	1		
☐ Shallow 50-53	Deep X	75 fe	et	5 GPM]		_		1		
FINAL STATU	noly 5 Abi		nt supply ⁹ Unfin	ished					1		
2 Observati 3 Test hole 4 Recharge	. '∐ Aba	andoned, poor qual andoned (Other) watering	ity ¹º □ Repla	acement well			1-louse		1		
WATER USE		55-56			-				1		
Domestic	c ⁵ □ Col	mmercial nicipal	9 ☐ Not u	sed) }				
3 ☐ Irrigation 4 ☐ Industrial	, , , , , , , , , , , , , , , , , , ,	blic supply oling & air condition				F-	ot #24				
METHOD OF C	CONSTRUCTION	57	<u> </u>								
Cable too	ol 30—130 5 Air aconventional) 6 Box	percussion 0-3 ring		ng						1838	
3	reverse) 7 🗍 Dia air) a 🗎 Jet	ting	□ Uther] [<u> </u>	TO 2 (, o s
Name of Well Contr	ractor		Well Contrac	tor's Licence No.	> Data		58 Contracctor	* 0	59-62 Date recei		63-68 80
Capital V	Water Supply	y Ltd.	1558	}	Sour	of inspection	15	nspector	JUL	5 5	998
,	490 Stitte		n tario K 2	2 S. 1A6							<i></i>
ł					MINISTRY	narks			000	<u></u>	\mathcal{N}
Signature of Techni	Kavanac iclan/Contractor	J#1	Submission of		Ä				CSS.	.59	r_7

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Ministry of Environment and Energy

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Municipality	Con.			_	_
15003	CON	1 1		0	9
10 14	15		22	23	24

ounty or District	Township/Borough/City/Town/Village	ge Con block ii	24
	Address		ate
	P.O. Box 98 Gree	y Ontario KOA 120 RC Elevation RC Basin Code	ompleted 15 y 8 month 98
	2 17 18 24	25 26 30 31	
LOG	OF OVERBURDEN AND BEDROCK N		Depth - fee
eneral colour Most common material	Other materials	General description	From To
Brown Sand	Stones	Dry	0
	Boulders	Pawked	5 _ 1
	Boulders	Packed	16 2
Gray Hardpan		Hard	25 10
Gray Limestone			
	1.11		
WATER RECORD 51	CASING & OPEN HOLE RECO	Sizes of opening 31-3	BS 75 Diameter 34-38 Length
ater found Kind of water diam	Wall Der Material thickness	th - feet (Slot No.)	inches
10-13 1 Fresh 3 Sulphur 14 inches	M Steel 12 188	To (Siot No.) Material and type	Depth at top of scree
Salty 6 Gas	2 Galvanized 3 Concrete 4 Open hole		feet
2 Salty Minerals	₃ ☐ Plastic	20-23 1	& SEALING RECORD
1 20-23 1 Chesh Syllambur 24	8 1 Steel 19 2 Galvanized 3 Concrete	☐ Annular space Depth set at - feet	Abandonment
2	A-L- CONTRACTOR LA CONTRACTOR	50 From 10	l and type (Cement grout, bentonite,
2 Salty 6 Gas	5 1 ☐ Steel ²⁶ 2 ☐ Galvanized	27-30 39 ₁₈₋₂₁ Q-25 Gre	uted Cement (5)
30-33	3 Concrete	0 105	
	7 9 5 Plastic	V	
Pumping test method " Pumping rate	Duration of pumping 17-18 PM Hours Mins	LOCATION OF V	
Static level water level end of pumping 25 Water levels during	¹ □ Pumping ² □ Recovery	In diagram below show distances of v Indicate north by arrow.	vell from road and lot line.
	es 45 minutes 60 minutes 32-34 35-37	1	#
e feet 10 feet 10 feet	feet 10 feet 10 feet Water at end of test		·
If flowing give rate 238-41 Pump intake set at	Water at end of test feet ☐ Clear ☐ Cloudy	\ 0	
Recommended pump type Recommended pump setting	Recommended 46-49 pump rate	Forest Grove	
□ Shallow □ Deep 75	feet 5 GPM	1 Lot 34	1
INAL STATUS OF WELL 54	ient supply 9 Unfinished		i 1
Water supply Sequence	ient supply ⁹ Unfinished ality ¹⁰ Replacement well		
3 ☐ Test hole 7 ☐ Abandoned (Other) 4 ☐ Recharge well 8 ☐ Dewatering			
ATER USE 55-56			
1 Domestic 5 Commercial 2	9	1	366"
3 Irrigation 7 Public supply 4 Industrial 8 Cooling & air conditi		1 1 0 7	
_		496	7. 7
	11		4
IF I HOD OF COMPTROCTION	9 Driving		ar n
Cable tool Air percussion Air percussion	9		19470
Cable tool Rotary (con50ato 1056: Air percussion Refrection Boring	-50 10 □ Digging		19470
Cable tool	-50 10 Digging 11 Other		9-62 Date received 63-
Cable tool	Well Contractor's Licence No. 1558	00.00	
Cable tool	Well Contractor's Licence No. 1558	ource 558 Date of inspection Inspector	9-62 Date received 63-
Cable tool	Well Contractor's Licence No. 1558	ource 1558	9-62 Date received 63- OCT 1 5 1998
Cable tool	Well Contractor's Licence No.	ource 558 Date of inspection Inspector	



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٦	County or District		Township/Borough/City/	Town/Village	Con block tract s	urvey, etc. Lot 25-27
	D# "	en-Carloton	Address POST	Carletin	Date comple	ted 2 7 78
	0 ا		Northing	RC Elevation	RC Basin Code 😁 🖟	day month year
 - 	2	M 10	G OF OVERBURDEN AND BEL	DROCK MATERIALS (see	instructions)	Porth foot
	General colour	Most common material	Other materials		General description	Depth - feet From To
	0 Kcy	1, mestage	Doopered			82 150
-	2 1			· ·		
\downarrow						
\vdash			42	:		
-						
<u> </u>	1	2-1-1 3-1		-		
					y and	

Ļ	31 , , ,					
	32				54	35 75 80
- H		TER RECORD 51	CASING & OPEN HO	Depth - feet	(CI-4 No.)	meter 34-38 Length 39-40 inches feet
	Water found at - feet	Kind of water dia inc	m Material thickness inches	Pepth - feet From To 13-16	Material and type	Depth at top of screen 41-44
	114 2	Fresh 3 Sulphur 19	2 Galvanized 3 Concrete 4 Open hole			feet
	2 [☐ Salty 6 ☐ Gas	5 □ Plastic 19 17	20-23	PLUGGING & SE	Abandonment
		☐ Salty 6 ☐ Gas	2 Galvanized 3 Concrete 4 Open hole		repth set at – feet From To Material and t	ype (Cement grout, bentonite, etc.)
		☐ F[esh ³ ☐ Sulphur ²⁹ ☐ Salty ⁴ ☐ Minerals ☐ Gas	5	27-30	18-21 22-25	
	30-33	☐ Fresh ³ ☐ Sulphur ³⁴ ⁶⁰ ☐ Salty ⁶ ☐ Gas	3 Concrete 4 Open hole 5 Plastic		30-33 80	
į	Pumping test r		11-14 Duration of pumping 17-18		LOCATION OF WELL	
	71 Pump 2	Bailer Water level	GPM Hours Mins	In diagram bel	low show distances of well fr	1
		end of pumping value levels during the levels du			by arrow.	
	TSAIGM If flowing give	7 Carriot	feet 6 feet 6 fee			
	If flowing give	. GPM	feet Clear Cloudy 49-45 Recommended 46-46	9		
	Recommende	pump setting	pump rate / OGPM	<u>"</u>		, x
	FINAL STATU	IS OF WELL 54		- Minsty	SKM	100
	1 Water su 2 Observa 3 Test hole	upply 5 Abandoned, insulation well 6 Abandoned, pool	fficient supply ⁹ ☐ Unfinished r quality ¹⁰ ☐ Replacement well er)		\\	***
	4 🗆 Recharg		1		Flav	ellyn
	WATER USE 1 Domest 2 Stock	55-56 tic 5 Commercial 6 Municipal	9 ☐ Notused 10 ☐ Other	Ga	ula	•
	3 ☐ Irrigatio	n / D Public supply		GI	rent	
d.	METHOD OF	CONSTRUCTION 57			H_{i}	4-
N. A.	1 ☐ Cable t 2 ☐ Rotary 3 ☐ Rotary	(conventional) Boring	9 ☐ Driving 10 ☐ Digging 11 ☐ Other			192750
	4 ☐ Rotary	(air) 8 🗇 Jetting				
	Name of Well Co	ntractor	Well Contractor's Licence I	No. Data 58 source	Contracctor 59-62 (Date received 63-68 80
	Address	HOCK PRIME	D. L	Date of inspection	Inspector	
	Name of Well Ted	chnician	Well Technician's Licence	No. Remarks	*	CSS. ES9
	Signature of Tech	anition Put cel	Subiliasion date	No. ALSINIW	E ou de la company de la compa	
	1 1 22	ine &	- 133 007 4yil	<u> </u>		0506 (07/94) Front Form 9

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Municipality	Con.		ı	_	Δ	
12003	CON	1 1 1		0	3	
10 14	15		20	22	24	

County or District	·	Township/Borough/City/	Town/Village		Con block tract survey	, etc. Lot	25-27
OttoWA Ca	arloton	Goulbourr Address	1		Q Date		24
		Technical Dis	ension		completed	22ay 2 mo	nth 99 rea
21	T 10 12	Nepean Northing Ontar	:ioK2	RC 7W5 RC	Basin Code ii	iii 	iv
		F OVERBURDEN AND BED		TERIALS (see instruc			4/
General colour	Most common material	Other materials	!	Genera	al description	Dep From	th – feet To
Brown	Sand	Gravel		Back:	ei 11	0	q
_	Hardoan	Gravel		Pack	_	3	6
Gray		GLGVET		Media		6	74
Gray	Limestone			Media		74	123
Dark Gray						'-	
Ligh Redd				Medi		123	140
Gray	Limestone			Medi	UKO	140	200
31 , , ,						<u> </u>	1 . 1 1
32	<u> </u>			╶╏╻╏╻╏╻╏╻	,		اللل
10 14 15 41 WATE	R RECORD 51	CASING & OPEN HOL	E RECORD			34-38 Length	75 8 39-40
Water found at - feet	Kind of water lnside diam inches	Wall Material thickness inches	Depth -		ir	nches	feet
!2 □ 9	Fresh 3		0	25 ¹⁶ Material	and type	Depth at top o	f screen 41-44
15-18 1 D F	Fresh ³ Sulphur ¹⁹	3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic					feet
165 ° 0 5	Salty 6 Gas	¹ ☐ Steel 19		20-23 61	PLUGGING & SEALIN Annular space	G RECORE Abandonme	
195 2 0 5	Salty 6 Gas 5 7/8	2	25	Depth set at From	- feet Material and type (Cer	ment grout, ber	ntonite, etc.
	resit Suls Diphur 29 Salty Minerals 24-25	4 © Open hole 5 ☐ Plastic 1 ☐ Steel 26		27-30 23-5		iole Pl	wa (4
30-33 1 G	Fresh ³ Sulphur ³⁴ ⁶⁰	2 Galvanized 3 Concrete		26-29	30-33 80		
2 🗆 5	4 ☐ Minerals Salty 6 ☐ Gas	4 Open hole 5 Plastic			30-33		
Pumping test metr	, ,	15-16 17-18	-1	LO	CATION OF WELL		
Statis lavel Wat	ter level 25	☐ Pumping 2 ☐ Recovery		Indicate north by arrow	distances of well from roa		ie.
	22-24 15 minutes 30 minutes 29-31	45 minutes 60 minutes 35-37	- ,		Poplaruso	<u>d</u>	_
世 22 feet	60 feet 40 feet 5]fee				Poplaruso Woodside Acr	,	
22 feet If flowing give rate Recommended pu	Pump intake set at GPM fee	Water at end of test t ☐ Clear ♣ Cloudy			Moodside	- -	
	pump setting	Recommended 46-49 pump rate			Acr		
☐ Shallow ★	150 feet	5 GPM					19
FINAL STATUS		supply 9 Unfinished	١٩		Lot #40 House #21		8
 Water supply Observation Test hole 	well ⁶ Abandoned, poor quality ⁷ Abandoned (Other)		ZON	ļ	rot =10		Flewellyn Road
4 ☐ Recharge we	ell ⁸ Dewatering		9	House	House #21		7
WATER USE Domestic Stock	55-56 5 Commercial	9 🗌 Notused	4				1
2	6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditionir	10 Other	ll .ğ	* Gar	rage		ا م
		-5	-				1 L
METHOD OF CO 1	NSTRUCTION 57 25-200 Air percussion 0-2 Perdonan 0-2	5 9 Driving					\
2 📅 Rotary (conv 3 □ Rotary (reve 4 □ Rotary (air)	erse) ⁷ 🗌 Diamond	10 Digging 11 Other			-	1948	23
Tiotary (all)	• C Jetting						
Name of Well Contract	tor	Well Contractor's Licence No.	≥ Data source	58 Contracctor			63-68 8
Address Pital	Water Supply Ltd.	1558	Source Date o	f inspection	58 APR	1 2 19	199
P.O. Box	490 Stittsville, (Ontario K2S 1A6 Well Technician's Licence No.	sn	ks			
	_	TOO95	NININININININININININININININININININI		C	SS.ES9)
Mayani Manufacture of Technician	n/Contractor 0	Submission date	Z				
gralle	stavanigh	day23 mo 2 yr 99	I L		(0506 (07/94) Fr	ont Form 9
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1500	3	C	ON	!	i	1		0	9
10	14	15					22	23	24

County or District		Township/Borough/City/	Town/Village	Con block tract surve	y, etc. Lot 25-27
<u> </u>	Carloton	Address Goulbou	ırn	Date	24
		6 Eagle Rock	Way Stitts	wille Ontario	19ey 5 month 99rea
21	Ţ	Northing		evation RC Basin Code ii	lii iv
1 2	10 12	DVERBURDEN AND BED	ROCK MATERIAL	S (see instructions)	
General colour	Most common material	Other materials		General description	Depth - feet
G0,1012 001041					From To
Brown	Sand # gravel			Fill	0 5
_Gray	Limestone			Medium	5 97
Brown	Limestone			Medium	97 147
Gray	Sandstone			Hard	147 177
Stay	Jarkasoone			1302 0	14,
			- 1		
	÷				
31 , , ,					1 1 1 1 1
32					
10 14 WA	TER RECORD 51	CASING & OPEN HOL	E RECORD	Sizes of opening 31-33 Diameter	75 34-38 Length 39-4
Water found at – feet	Kind of water lnside	Wall Material thickness	Depth - feet From To	(Slot No.)	inches fee
10-13 1	Fresh 3 Sulphur 14 inches inches 6 10-1/4.	inches Steel 12 Gelvanized 188	0 22"	(Slot No.)	Depth at top of screen 41-44
109	Salty 6 Gas	Galvanized Concrete Open hole			feet
1 0 -	Salty 6 Gas	Plastic	20-23	61 PLUGGING & SEALIN	NG RECORD
1 /20-23 IN	O Fresh S 115 Diphur 24	☐ Steel 19 ☐ Galvanized ☐ Concrete		Annular space Depth set at – feet	Abandonment
1		Open hole Plastic	22 177	From To Material and type (Co	ement grout, bentonite, etc
2	Salty 4 Minerals 24-25 1	☐ Steel ²⁶ ☐ Galvanized	27-30	20 ₈₋₂₁ 4 ₂₂₋₂₅ Grouted	- Cement
30-33	☐ Fresh ³ ☐ Sulphur ³⁴ ⁶⁰ 3	☐ Concrete ☐ Open hole		26-29 30-33 80	
2	Salty 6 ☐ Gas 5	☐ Plastic			
71 Pumping test m		Duration of pumping 17-18		LOCATION OF WELL	
Statio level V	Water level 25	Pumping ² Recovery	In diagra	am below show distances of well from ro north by arrow.	oad and lot line.
	22-24 15 minutes 30 minutes	45 minutes 60 minutes	Midicale	TIOIDI BY AITOW.	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		32-34 35-37 3c feet 3cfeet		Flewelyn Rd	
If flowing give r	ate 36 feet 36 feet 9 Pump intake set at 36	Water at end of test		Joods de	, 0
Recommended	GPM feet spump type Recommended 43-45	Clear Cloudy Recommended 46-49	g	il hodside	
□ Shallow	Deep pump setting	pump rate		in wase	7
50-53	200		9	4	1
FINAL STATUS	pply 5 🗌 Abandoned, insufficient su			Lot 2	3
2 Observati	7 🔲 Abandoned (Other)	¹⁰ ☐ Replacement well	9	Z Lot a	
4 ☐ Recharge			[]	n 29'	
WATER USE	55-56 Commercial	⁹ ☐ Not used			
Domestic Stock Irrigation	⁷ Dublic supply	10 🗋 Other		32'	
4 🗍 Industria	8 Cooling & air conditioning				
	CONSTRUCTION 57	9 🛘 Driving			
1 ☐ Cable too 2 ☐ Rotary (c 3 ☐ Rotary (r	ol 20 1775 Air percussion 0—22 Conventional 7 Boring Ceverse) 7 Diamond	Digging Other		/	194849
4 🛭 Rotary (a	air) 8 Jetting		<u> </u>		
Name of Well Contr	ractor	Well Contractor's Licence No.	Data	58 Contraccter 59-82 Date rec	eived 63-68
			source	1558 Ju	
,	Water Supply Ltd.	1558	l m	on Inspector	
Name of Well Tech	x 490 Stittsville, On	well fechnician's Licence No.	Nemarks		
So Mille	er	т0097	Remarks	•	CSS.ES9
Signature of Techni	ician/Contracto	Submission date	N		
Mull	en gen anam	day 19 mo 5 yr99	J <u> </u>		0506 (07/94) Front Form
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Municipality	Con.			_
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			Town abin (Paraugh/Cib/	Forum A/illiago			Con block	tract survey	etc.	Lot 25-27
County or District	and ahan		Iownship/i	Borough/City/ Goulbo	_	,			9	, 0.0.	24
			Address	· · · · · · · · · · · · · · · · · · ·					Date completed_	.	48-53
			2.O. B K2S 1B	lox 955 Northing	Stitt		Ontar ation RC	Basin Code	i i	7 day 8 ∷	month Oppa
21	M 10	12	17	18	1 1 24	25 26	30	31		نطلل	4
		LOG OF O	VERBURDEN		OCK MA	TERIALS (De	pth - feet
General colour	Most common mater	ial	Othe	er materials		<u> </u>	Gener	al description		From	То
Brown	Sand									0	5_
Gray	Limesto	ne			· ne-		Me	dium	ar	5_	60_
Gray	Limesto	ne		- <u></u> -			Ha	rd		60	90
Black	Stone		Sì	ale						90	110
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				110							
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31			ــــــال		نـــا لــ		4414				النأبا
32	15 21		1	11111	43	بايلي	11111		1	<u>. </u>	
41 WATE Water found	R RECORD	51 Inside	CASING & OI	PEN HOLE Wall		ı - feet		o, opolinig	31-33 Diameter		ength 39-40
at - feet	Kind of water	diam inches	Material	thickness inches	From	To	Mater	al and type		Depth at t	op of screen
106	Salty 5 Gas	6 1/4	Steel Galvanized Concrete	.188	0	22.5	Š				feet
	Fresh 4 Minerals Salty 5 Gas	5	☐ Open hole ☐ Plastic				61	PLUGGING	& SEALING	RECO	RD
20-23	Fresh 3 Sulphur 24 Minerals	2	☐ Steel 19 ☐ Galvanized ☐ Concrete			20-23	Depth se	Annular spac		☐ Abando	
25.25	Salty 6 Gas Sulphur 29	l6 l₄	☐ Concrete ☐ Open hole ☐ Plastic		22.5	60	From 10-13	To 14-17	erial and type (Ce		
2 [Salty ∈ ☐ Gas	2	Steel 26 Galvanized			27-30	18-21	0 G1	couted -	Cene	at
30-33 1 2	□ Fresh ³ □ Sulphur ³⁴ 60 □ Salty 6 □ Gas	- 15 7/8 ⁴	☐ Concrete ☐ IX Open hole ☐ Plastic		60	110	26-29	30-33 8C			
		11:14		isa	· · · · · · · · · · · · · · · · · · ·			<u></u>			
71 Pumping test m		15 GPM	Duration of pump 15-16 Hours	17:18 Mins		In diagra		OCATION OF ow distances		road and	l lot line.
I. I Static level I	Water levelsend of pumping Water levels	•		☐ Recovery		Indicate	north by an	ow.			
E T	22-24 15 minutes 26-28	30 minutes 29-31	45 minutes 32-34	60 minutes 35-37							
18 feet If flowing give ra	40 feet 40 feet ate 38-41 Pump intake se	40 feet et at	40 feet Water at end of te	40 feet st 42		<u> </u>			-		
Recommended p	GPM Recommended	feet	☐ Clear Recommended	Cloudy 46-49	 						
☐ Shallow	pump setting	7 5 feet	pump rate	5 GPM		3					
FINAL STATUS	S OF WELL 54				, ,	g	Q);	, 41505			
1 Water sup		d, insufficient su	pply ⁹ ☐ Unfinisi	hed ement well)	,				
3 ☐ Test hole 4 ☐ Recharge	7 🗆 Abandone	d (Other)			;		Lot 3		- 		
WATER USE	55-56			**		19	~0.0				
1 Stock			9 ☐ Not use 10 ☐ Other	8		17					
3 ☐ Irrigation 4 ☐ Industrial											
	CONSTRUCTION 57				1 _						
1 ☐ Cable too 2 ☐ Rotary (co 3 ☐ Rotary (re	onventional) onventional overse) Air percus Boring Diamond	sion 0–22	 9 ☐ Driving 10 ☐ Digging 11 ☐ Other 				Flen	sellyn	Rd	~~	~ . ~ ~
" ☐ Rotary (ai										20	8435
Name of Well Contr	ractor		Well Contract	or's Licence No.	> Dat		58 Contracto		59-62 Date rece		63-68
Capital	Water Supply	Ltd.	155	8	┦┃ ⋛ ┠╗	rce e of inspection		558	SEF	15	1999
1			atario K2	S 146							
Name of Well Techn		- 	Well Technicia		MINISTRY	narks				CSS	S.ESO
S. MILL	er		T0097	•	110					-~~	
Signature of Techni	ician/Contractor		Submission d	late							

Ministry of the Environment

The Ontario Water Resources Act WATER WELL RECORD

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Municipality	Con.	
15003	CON	1 1 09

County or District			Township	/Borough/City/	•				tract surve	y, etc. Lo	
Obtava	Carloton		Address	Goulb	ourn			<u> </u>	9 Date		24 48 98
			Box	190 Car	p, Onta	ario M	KOA 1LO			3 0 tay 10 m	ionth 99 ai
21	U	.		Northing		RC Eleva		Basin Code	. 1	111	IV I
1 2	M 10	1.00 OF OV		LAND DEDE	OCK MAT	EDIALC (a.	30 30 30 30 30 30 30 30 30 30 30 30 30 3	31			17
	Mant annual moto	LOG OF OV		er materials	IOCK IVIAI	ENIALS (SE		description		Depth	ı - feet
General colour	Most common mater	riai	Oth	er materials			General	description		From	То
Brown	Soil		Brok	en Rock						0	6
Gray	Limesto	ne					Mediu	m Soft		6	75
_											
						,					
				3.7872 7							
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			*								
31	<u> </u>		11 1	1 1 1 1	11				1,11,1	. . !	
32				11 111						<u></u>	
10 1±	R RECORD	51 C	ASING & O	PEN HOLE	RECORD		Sizes of o		11-33 Diameter	34-38 Leng	th 39.40
Water found at - feet	Kind of water	Inside diam	Material	Wall thickness	Depth -		(Siot No.) Material a		i	inches	feet
10-13 1	Fresh ³ Sulphur ¹⁴ Minerals	inches 6 11/4 5	Steel 12	inches •188	From		Material a	and type	,	Depth at top	of screen
54 ² 15-18	Salty 6 ☐ Gas	3 2	Concrete	•100			6				feet
1	☐ Fresh 4 ☐ Minerals ☐ Salty ☐ Gas	17.10	Plastic			20 23	61	PLUGGING	& SEALING	RECORD	
20-23	Fresh 3 Sulphur 24	2	☐ Steel ☐ Galvanized ☐ Concrete			20 20	Depth set at	Annular space		☐ Abandonm	
25.28	J Salty 5 ☐ Gas		Open hole		22	50	From 10-13	To Mate	erial and type (Ce	ement grout, be	entonite, etc.)
2 [☐ Fresh ☐ Guprul ☐ Guprul ☐ Guprul ☐ Minerals ☐ Gas		☐ Steel ☐ Galvanized			27-30	21	0 Gr	couted -	Cement	(3)
30-33	Fresh ³ Sulphur ³⁴ ⁶⁰ Salty Minerals	3 [Concrete Open hole Plastic		50	75	26-29	30 33 80			
	☐ Salty 5 ☐ Gas	5	Plastic								
71 Pumping test m		25 GPM	uration of pump	ing 17-18 Mins			LOC	ATION OF	WELL		
Static level V	Vater level 25		•	☐ Recovery	K	In diagram	n below show orth by arrow	distances	of well from r	oad and lo	t line.
19-21 e	end of pumping 22:24 15 minutes		5 minutes	60 minutes 35-37	1	maicate n	siai by airon	•			
If flowing give ra	10128et 101eet	Ì	1912#et	1912 5 et							
If flowing give ra	ate 38.41 Pump intake se	t at V	Vater at end of te	st 42			Forest	Grove	<u> </u>		
Recommended p			☐ Clear Recommended	⊋ Cloudy 46-49		1			1		
☐ Shallow	Deep pump setting	50 feet	pump rate	5 GРМ		ı			1		
50-53	S OF WELL 54		······································			1	G		ŀ		
FINAL STATUS Water sup boservation		d, insufficient suppl	y 9 🗆 Unfinis	hed		1			1		RA
2 ☐ Observation 3 ☐ Test hole 4 ☐ Recharge	⁷ ☐ Abandoned	d (Other)	¹⁰ ☐ Replac	ement well		1	1"111	1/131	_ '		- 1
						ŀ	$^{\odot}$	y = 1 1	1		Flewellyn
WATER USE 1 Domestic 2 Stock	55-56 5 Commercia	al	9 🔲 Not use			ł ;	_				1 =
3 ☐ Irrigation	7 Public supp		10 🔲 Other			1	Lot #6		1		3
□ Industrial	8 🗆 Cooling & a	an conditioning							Aside Poses		100
1	CONSTRUCTION 57	eion.	⁹ ☐ Driving					\\C	8°°		11
1 Cable tool 2 Rotary (co	everse) / 🗌 Diamond		10 Digging)				حرين	Coca	000	100
⁴ □ Rotary (air	ir) 0-50 * • Jetting									208	492
Name of Well Contro	ractor		Well Contracto	or's Licence No.	Data	5	is Contractor		59-62 Date rece	ived	63-68 8
Capital	l Water Supply	Ltd.	155		Source			58	DEC	0 7 19	99
Address				_	I I ш Расс с	of inspection	1	nspector			
P.O. Bo	ox 490 Stittsv	111e Ont	ar10 K2 Well Technicia	S 1A6 an's Licence No.	Rema	rks					
	_		I	1							
S. Mil	ler /		TOO	97	<u> </u>					COO E	CA
S. Mill Signature of Technic	cian/Contractor		Submission day 30 mo	97 ate 10 yr 99	MINISTRY					CSS.E	SO



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Municipality	Con.								
5003	CON	1	i	i	1	4	0	9	-
10 14	15					m'	23	24	_

County or District	wa-Carloton	Township/Borough/City	/Town/Village		Con bloo	ck tract survey,		22+ <u>7</u> 3
Owner's surname	Gerard Home	Address	Hisvi	4 BON		Date completed 2	27 17	Z. 99
21	Ĭ.	asting Northing	ا لننا	RC Elevation	RC Basin Code	1 1 1 1 1	iii	iv
	10 12	DF OVERBURDEN AND BED	PROCK MAT		ructions)			47
General colour	Most common material	Other materials		. Ge	neral description		From	oth feet To
1	Sandyclaya	ravel					0	12
Rey	Imestane!)					12	70
		· · · · · · · · · · · · · · · · · · ·		en e				
		3 1 1	1 1	4 1 1 1	i 4 1	1 1 2		
31 32		 			<u> </u>		<u> </u>	
41 WA	1 15 21 51 51	CASING & OPEN HOL		1 (6)-	es of opening t No.)	65 31-33 Diameter	34-38 Lengt	75 80 h 39 40
Water found at - feet	Kind of water Inside diam inches	Wall Material thickness inches	Depth – From	To III	erial and type		ches	feet
63	Fresh: Sulphur 10-11	Steel 12 2 Galvanized 3 Concrete		13-16 J 0	епагано цуре	,	Depth at top o	feet
1 1	Fresh 3 Sulphur 19 Salty 6 Gas	4 Open hole 188	0	ZZ 61	PLUGGI	NG & SEALING	RECOR	D ·
	Fresh ³ Sulphur ²⁴ Minerals Salty ₆ Gas	2 Galvanized 3 Concrete		<u> </u>	Annular space	terial and type (Cem	Abandonme	
25-28 1	Fresh ³ Sulphur ²⁹	4 Open hole 5 □ Plastic	0	20 From	10	20men		, I
30-33 1	Gas Gas Sulphur 34 60 Fresh 3 ☐ Sulphur 34 60	2 Galvanized 3 Concrete		27-30	22-25		0	<u> </u>
5 [Salty 6 Gas	Open hole Plastic	70	70	9 30-33 80			
71 Pumping test m		Duration of pumping			LOCATION O			
Static level el	and of pumping	☐ Pumping ² Hecovery		n diagram below si ndicate north by ar		of well from roa	d and lot li	ne.
TEST 19-21	22-24 15 minutes 30 minutes 29-3	45 minutes 32-34 60 minutes 35-37						
If flowing give ra	feet feet feet feet ate 38-41 Pump intake set at	Water at end of test 42						γ
Récommended				1				
1 1	Deep pump setting fee	· · · · · · · · · · · · · · · · · · ·			To	rest prov	eDr	•
FINAL STATUS		t supply ⁹ ☐ Unfinished		de 1	//mx	Ü		
² ☐ Observation of the control of	ion well Government Governme			•	w//			
4 ☐ Recharge	s well • Dewatering				/,			
1 Domestic 2 Stock	5 ☐ Commercial 6 ☐ Municipal	9			\	(
3 ☐ Irrigation 4 ☐ Industrial					-	-		
	CONSTRUCTION 57	9 🗆 Driving				wellyn 1	ed	
3 ☐ Rotary (re	onventional) 6 🗍 Boring everse) 7 🗍 Diamond	9			Fle	merry 1	972	20
4 🗌 Rotary (a	ir) 8] [
Name of Well Contra	actor Pock Dr. 11mpCol	Well Contractor's Licence No.	Data source	58 Contrac	T T Q	59-62 Date receiv		63-68 80
Address	D 7 Ton)+	Пш Рисси	inspection	Inspector	11 1-10	10 40	
Name of Well Techn	1) 10	Well Technician's Licence No.	Remark	(\$				
Signature of Technic	onturully	Submission date	NIN SHEMAN			(CSS.E	S0
Komi	\	Lay Rol OU				09	506 (07/94) Fi	ront Form 9
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County or District			Township/	Borough/City/T	own/Village	<u> </u>		Con block	tract surve	y, etc. L	ot 25-27
Ottawa Ca				oulbourn	_				9		23
Owner's surname	28-47	First Name	Address					000	Date completed	178av 6	
	untain Homes	Zone Ea	sting	730 Ric Northing	nmond	Ontar RC Elev	vation RC	Basin Code	ii ii	17ay 6	month()(year)
21		M 10 12	17	18	24	25 26		31			
· · · · · · · · · · · · · · · · · · ·			OVERBURDEN		OCK MA	TERIALS (Dep	th - feet
General colour	Most common	material	Othe	er materials			Genera	al description		From	То
brown	Sandy S	oil	Sto	nes				~		0	5
Gray	Limesto	ne				<u> </u>	Medi	um Hard		5_	172
										ļ	
			40.0								

									72.00 E		
31 , ,			1,11,11				1 i	, , ,		1 1	
32				<u> </u>]				ندا ليل	ــــــــــــــــــــــــــــــــــــــ	ب لا لبطـــ
41 WATE	ER RECORD	51	CASING & OF				1 1 /01		31.23 Diameter	34-38 Len	gth 39-40
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	Depth From	- feet To				inches	feet
	☐ Fresh ☐ Sulphur ☐ Minerals ☐ Salty ☐ Gas	6 17/	11 Steel 12 2 Galvanized	.188	0	22°	S	al and type		Depth at top	feet
15-18	☐ Fresh 3 ☐ Sulphur	19	3 Concrete 4 COpen hole 5 Plastic					DI 11001110	0.0541111	2.55000	I
I TOO N	J Salty 6 ☐ Gas	17.18	1 Steel 2 Galvanized			20-23		Annular space	& SEALING	☐ Abandon	
2 [☐ Fresh ↓ ☐ Minerals ☐ Salty 6 ☐ Gas	_ 6	3 ☐ Concrete 4 ★Open hole		22	172	Depth set From	at - feet Mat	erial and type (C	ement grout, I	pentonite, etc.)
25-28 1 C	☐ Fresh 3 ☐ Sulphur 4 ☐ Minerals ☐ Gas	24-25	5 Plastic 1 Steel 26			27-30	19-13 21 18-21	0 GC	outed -	Cement	(3)
30-33 1	☐ Fresh ³ ☐ Sulphur	34 60	2 Galvanized 3 Concrete 4 Open hole	1			26-29	30-33 80			
2 [☐ Salty ¹ ☐ Gas		5 Plastic								
71 Pumping test n	l l	rate 11-14 7 GPM	15.16	ing 17-18 Mins				OCATION OF			
Static laval	Mater Invol 25	r levels during 1		☐ Recovery			m below sho north by arro	ow distances ow.	of well from	road and I	ot line.
19-2·	22-24 15 minute	es 30 minutes 29-3	45 minutes 32-34	60 minutes 35-37				i			
8 feet If flowing give r	70.41	feet 90 fe	et 110 feet Water at end of tes	125eet				1		_	
If flowing give r	GPM	fe	et 🗆 Clear	Cloudy 46-49					200/17	į	
Recommended p	pump type Recomm pump se	tting	pump rate	7 GPM				39'5"	/	i	
50-53		150 ¹⁶					_				
FINAL STATU		ndoned, insufficient	supply 9 🗆 Unfinish	ned			3				
1 Water sup 2 Observati 3 Test hole		ndoned, poor quality ndoned (Other) atering	y ¹⁰ □ Replace	ement well			5		\e		-3
4 Recharge									cack es		Ŋ
water use 1 Domestic 2 Stock		mercial	9 ☐ Not use	•			3	مري	CXCK		1
3 ☐ Irrigation 4 ☐ Industrial	7 🔲 Publ		ng				图		•		
METHOD OF	CONSTRUCTION 5	7					•				6
1 Gable too	ol 50-172 Air p	ercussion G -50	9 ☐ Driving 10 ☐ Digging	,	_						
3 ☐ Rotary (re	reverse) 7 🔲 Dian	nond	11 Other				Tlew	ell du	Rd	208	609
Name of Well Cont	tractor		Well Contracto	or's Licence No.	Data	a	58 Contractor		59-62 Date rec		63-68 80
l .	Water Supply	y Ltd.	1558		Sour	rce e of inspection		558	JUL	17	2000
i			thania MOC	136	OSE Date	e or inspection	,	тарестог			
Name of Well Tech	x 490 Stitt	2ATTT6\0			Ren	narks		•			
S. Mille Signature of Jechn	er nician/Contractor		TOOS Submission de		MINISTRY					CSS.E	CSO
Kelly	Kranall		day19 mo	6 yr 00	Σ					0506 (11/	98) Front Form

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Ministry of the **Environment**

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1531197

11

Municipality	Con.		
15003	CON	1111	09

County or District		·	1	Borough/City/	_	9		Con block	tract survey	, etc. Lo	ot 25.23
			Address	-1 - 31	f.l 3	7	Ombowie		Date completed	Eday En	ಾಣ nonth ()@ ar
21	U;		193 N	linding Northing	way r	RC Ele	Ontario vation RC	Basin Code	<u> </u>	6day 6 n ∷ii	iv
1 2	, T M	122 55	17	AND OCCU	24	25 26 TEDIS 2 1	30	31			1 1 1 1
General actions	Most common mate		OVERBURDEN Othe	AND BEDF r materials	OUK MA	IERIALS (see instructio General d				h - feet
General colour		, (0)	Oute	. materials			Jelielai U			From	То
Brown	Clay		11.141.2			-				0	10
Brown	Hardpan	-	Boul	ders						10	30
Gray	Hardpan									30	65
Gray	Sand & Gra	evel								65	71
Gray & W	hite Sandstone		37111-1-1-				Very	Hard		71	90
					7-8116						
31 32 32 32 33							1:11:1:				
41 WATE	ER RECORD	51	CASING & OP				Sizes of op	ening 3	1-33 Diameter	34-38 Leng	76 eo jth 39-40
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	Depth From	- feet To	(Slot No.) Material an		ir	nches	feet
	☐ Fresh ☐ Sulphur 14 ☐ Minerals ☐ Salty ☐ Gas	6 1/4	1 Steel 12 Galvanized	.188	0	73⁵	Material an	d type		Depth at top	41-44
15-18 ,	OT TESTES 19		3 ☐ Concrete 4 ☐ Open hole								feet
20.22	Gas	17-18	Plastic Steel			20-23		LUGGING Annular space	& SEALING	RECORD Abandonm	
1 1 1	☐ Fresh 3 ☐ Sulphur 24 ☐ Minerals ☐ Salty 6 ☐ Gas	6	2 ☐ Galvanized 3 ☐ Concrete 4 🖫 Open hole		7 3	90	Depth set at -	feet Mate	rial and type (Cer	ment grout, b	entonite, etc.)
25-28 1 [☐ Fresh	24-25	5 ☐ Plastic			27-30	10-12 60	14-17 O Gro	outed -Be	entonit	e (3)
30-33	☐ Fresh ☐ Sulphur 34 60	0	² ☐ Galvanized ³ ☐ Concrete				18-21 26-29	30-33 80			
2 [☐ Salty 6 ☐ Gas		□ Open hole □ Plastic								
Pumping test n	' 7	11:14 25 GPM	Duration of pumpir	17:18			LOCA	ATION OF	WELL		
	Water level			☐ Recovery			m below show north by arrow.	distances (of well from re	oad and lo	ot line.
IS 19-2 19-2 If flowing give in	end of pumping 22:24 15 minutes 25:28	30 minutes 29-3:		60 minutes 35-37		maioate i					
21'9#	35 feet 85 feet	60 fee	et 50 feet	35 feet							
If flowing give i	rate 38-41 Pump intake se	et at fee	Water at end of test	t ⁴² ⊟ ⊮ Cloudy							
Hecommended	pump type Recommended			46-49		1					
☐ Shallow	Deep	50 fee		5 GPM							
FINAL STATU											. —
1 Water sup 2 Doservati 3 Dest hole	ion well 6 🗌 Abandoned	d, poor quality	supply 9 Unfinishe	ed ment well					× / ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		
2						ع	`	+			
WATER USE	55-56 5 Commerci	al	9 ☐ Not use	- 844		#1		3	1-1		
² ☐ Stock ³ ☐ Irrigation	6 ☐ Municipal 7 ☐ Public sup	ply	10 🗌 Other			7		-g	Angelia de la marca de la companya d		
4 🗍 Industrial			g			A		J	House "	193 -	
METHOD OF	CONSTRUCTION 57 ol 5 🐼 Air percusa	sion	9 ☐ Driving	***************************************		2		Ą			
² ☐ Rotary (c ³ ☐ Rotary (re	conventional) ⁶ Dering everse) ⁷ Diamond		10 Digging 11 Other			4		3		000	000
⁴ 🙀 Rotarý (a					L			<u> </u>	 	208	800
Name of Well Cont	tractor		Well Contractor	r's Licence No.	> Data		58 Contractor		59-62 Date receiv		63-68 80
Capital Address	Water Supply L	td.	1558		Sour Date	of inspection		58 spector	JUL	172	000
P.O. Box Name of Well Techn	490 Stittsvi	lle,Oni	tario K2S Well Technician	LA6 I's Licence No	3SO ★ Rem	arks					
S. Mille	ar				MINISTRY					CSS	S.ESO
Signature of Technol	ician/Contractor		T0097 Submission dat day19 mo		Z					-~	
	INISTRY OF THE	FNVIR								0506 (11/98	3) Front Form 9

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The Ontario Water Resources Act WATER WELL RECORD

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0506 (11/98) Front Form 9

			•	2				10	14 15		22 23 74
County or District	<u></u>	·	Township/	Borough/City/	Town/Village	•		Con bl	ock tract surve	ey, etc. Lo	t 25.55
	Carleton	h 61	Address	Goulbou	ırn				9 Date		24
Owner's surname	Construction	t Name	Address P_O_	Box 129	Stitt	eville	Ontario	K2S		28/ay 6 m	onth ()() ear
21	Zo.	ne Easting		Northing		RC Elev	ation RC	Basin Co		ini 1 , , ,	iv
	M 10	100 05 01		18 DEDE	24 24	25 26 TEDIAL C /-	30	31		4-1-1-1-	47
0	Γ	LOG OF OVI		er materials	OCK MA	ERIALS (S		description		Depti	ı - feet
General colour	Most common materia	31	Otrie	er materials			General	description		From	То
Brown	Soil		Ro	ck			#I-1			0	10
Gray	Limeston	е					M∈	dium	Soft	10	88

	******		•				. =		.,		1
			1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			1			-12-2		
						<u> </u>	- Avis			_	
									****	<u> </u>	
31] [1111	ـــا لــــــ		ـــا لـــــــــــــــــــــــــــــــــ	1111	لالبلا
32	4 15 21		32				54		65		
41 WATE	R RECORD	51 C/	ASING & OI	PEN HOLE I Wall	RECORD Depth	- feet	Sizes of (Slot No.)		31-33 Diameter		
at - feet	Kind of water	diam inches	Material	thickness inches	From	To	(Slot No.) Material	and type		Depth at top	feet of screen
02	☐ Salty 5 ☐ Gas	6 1/4	Steel '- Galvanized Concrete	188	0	22°	မြ				feet
.2 .8 1	OT TRSTE Dohur 19	4	Open hole Plastic				61	DI LIGGE	NG & SEALING	PECOPO	
20-23	Salty 6 Gas Fresh 3 Sulphur 24		Steel 19 Galvanized			20-23		Annular sp		☐ Abandonm	
2 [☐ Salty ⁴ ☐ Minerals ☐ Gas	6 1/84 9	Concrete Open hole		22	50	Depth set at	To	faterial and type (Co	ement grout, be	entonite, etc.)
25-28 1 E	☐ Fresh ³ ☐ Sulphur ²⁹ ☐ Minerals ☐ Salty ₆ ☐ Gas	24-25 1	Plastic Steel			27-36	21	14-17 O 1	Grouted-C	ement ((4)
30-33	Fresh 3 Sulphur 34 60	3 🗆	Galvanized Concrete		50		26-29	30-33 50	·		
2 [☐ Salty ⁴ ☐ Minerals ☐ Gas	6 4 5	Open hole Plastic		50	88					
71 Pumping test n			uration of pump				LOC	CATION C	OF WELL		
Static level	Water level 25 Water levels of	g GPM		Mins ☐ Recovery	1 1	In diagram	m below show	v distance	es of well from	road and lo	t line.
19-21 e	ena or pumping		5 minutes	60 minutes	⊉	indicate r	north by arrov	v.	es of well from		
19-21 SM feet If flowing give r	16 feet 18 feet	1 A feet	17 feet		'			.00	Fen	- LE 55	, ,)
If flowing give r	rate 38-41 Pump intake set	at W	ater at end of te					no o	دیا	1011 10	rout
Recommended p	GPM pump type Recommended		☐ Clear Recommended	Cloudy 46-49					,	42007	5
☐ Shallow	pump setting	40 feet	pump rate	5 GPM							- +
50-53	S OF WELL 54								F.	5 = ZO	
FINAL STATUS 1 Water sup 2 Observati	only 5 Abandoned.	insufficient supply	y ⁹ □ Unfinish	ned	1 -			(2.7		Fore
3 ☐ Test hole Graph Graph	7 Abandoned		· □ пераск	sinent well	1	1.	<u>lewell</u> a	10	70		
	55-56				1						
WATER USE 1 Domestic 2 Stock			9 🔲 Not use	•	刊						
3 ☐ Irrigation 4 ☐ Industrial	7 Public supply		.∘ ∐ Ottlet		tan						
					17						
	CONSTRUCTION 57 DI 50-88 5 🗆 Air percussion	on	⁹ Driving								
Cable too Rotary (or Rotary (re	everse) 7 🔲 Diamond		10 Digging	l 						200	604
4 Rotary (a	iir) 0—50 ⁸ 🗆 Jetting									208	024
Name of Well Contr	ractor		Well Contracto	or's Licence No.	Data source		58 Contractor	P 0	59-62 Date rece		63 68 80
Capital	Water Suuply L	td	1558			of inspection		58 Inspector	JUL	172	
1			rio K25	186		·					
1	ox 490 Stittsvi			n's Licence No.	H Rem.	arks				<u> </u>	.ESO
S. Mill Signature of Techni	er/P. Stanton ician/contractor		TOO97 Submission da	ate	MINISTRY					C00	・エンリ
Kelly	than af		day 30mo	6 yr 00	Σ						



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where applicable. 1531659

Municipality Con.

0506 (07/00) Front Form 9

County or District	t			Townshi	ip/Borough/City/	Town/Villag	l o			С		tract surv	rey, etc.	Lot ²
Ottown C	arleten				Goulbour	<u>n</u>		-			9	Date		23
				P.O.	Box 190	Carp	,Onta	rio	KO	A 1LO)	completed	d 2Q _{ay} 1	1 _{month} 0Q
21		Ÿ,	1 1 ,		Northing	1	RC	Elevat	ion F	RC B	asin Code	ii	. l	iv
1 2		M 10		OVERBURDE	N AND REDE	ROCK MA		S (se		o 31				
General colour	Most c	ommon materia			her materials					eral des			From	epth - feet
		. 2 . 0 . 2 3							Ver	cy We	.+		C	
Brown		ndy Soil					1			_			7	
Gray	Li	mestone				·			mec	31 UKB	Hard	- w	+- '	102
							<u> </u>						+	
		····								-				
											·		<u> </u>	
										 				
				, ***										
31		 				 		لبل	ــا لـــ		ــــــــــــــــــــــــــــــــــــــ	ــا لىل		
32	14 15	ــــــــــــــــــــــــــــــــــــــ				لــــــا كــ			يا لــ	لبب	بلب		بللب	75
41 WAT	ER RECORD	21	51 Inside	CASING & C	OPEN HOLE	RECORD	- feet	7	Size	s of openi	ing 3	1-33 Diamete	er 34-38 L	_ength 39
Water found at - feet	Kind of wa		diam inches	Material	thickness inches	From	To			erial and t	wne.		inches Denth at	top of screen
	C Colty 4	Sulphur 14 Minerals Gas	6 191/	1 Steel 1: 2 Galvanized	² -188	0	22	·•		stial and i	ypo		Борати	feet
15-18 1 [□ Fresh ³ □	Sulphur 19 Minerals		3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic					- L		100110	4 OF AL II	IO DEGG	
20.23	OF TESTE	Gas Sulphur 24	17-18		9		20-	-23	61	🛣 Anr	nular space	& SEALIN	Aband	
2 [☐ Salty 6 ☐	Minerals Gas	6 1/	3 Concrete Open hole		22.5	102		Depth s	set at - fee To	— Mate	rial and type (Cement grou	rt, bentonite, et
		Sulphur 29 Minerals Gas	24-25	i □ Steel	26		27	-30	22-18-21		5 ¹⁷ Gro	outed -	- Cemer	nt (4)
	□ Fresh 3 □	Sulphur 34 60 Minerals		2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole					26-29		33 80			
2 [Salty 6			5 Plastic					L					
Pumping test r	I	Pumping rate	11-14 Q GPM	15 10	nping				L	LOCAT	ION OF	WELL		
	Water level	25 Water levels of	<u> </u>	Pumping	2 Recovery	D	In dia	gram	below s	how dis	stances o	of well from	road and	lot line.
19-21	end of pumping 22-24		30 minutes		-	1			-			١		
5 6 feet	14 feet	_	12 fee	7.4	14 feet			7-1	وسو	mh	- Re	\	**************************************	
6 feet If flowing give	rate 38-41 GPM	Pump intake set a	it fee	Water at end of t	test ⁴² Cloudy									1
Recommended	pump type	Recommended pump setting	43-45											l
☐ Shallow	Deep		60 fee	t `	5 GPM			_			-			-8
FINAL STATU	JS OF WELL	54												8
1 Water sug	tion well 6	Abandoned, Abandoned,	poor quality		ished acement well		h	*+c	5 1	ر لـ	* 2			9
3 ☐ Test hole 4 ☐ Recharge		7 ☐ Abandoned (B ☐ Dewatering	отнег)					*+c	`-	PI	es 8			71
WATER USE		55-56		. C Net					_6		ن ا	;		丑
1 S Domestic 2 Stock 3 ☐ Irrigation	•	5 ☐ Commercial 5 ☐ Municipal 7 ☐ Public supply	,	9 ☐ Not us 10 ☐ Other			_	e			\\\	•		
4 🗌 Industrial		□ Cooling & air)		moe!	D'O'C	5			0.00	•		•
METHOD OF			. A FF	a C 5 · ·		$ \omega_{o_{c}} $	ر جور _				۲			
¹ by Cable too ² ☐ Rotary (c ³ ☐ Rotary (re	conventional)	Air percussion Boring Diamond	n U-55	9 ☐ Drivin 10 ☐ Diggir 11 ☐ Other	ng									
4 🕱 Rotary (a	oir) 0-55	Jetting											22	<u> 471</u> 4
Name of Well Cont	tractor			Well Contract	ctor's Licence No.	> Data		58	Contract		· · ·	59-62 Date re		63-68
Capital		upply Lt	d.	1558		Soul				55		JA	<u>N 3 0</u>	2001
Address	- 400 -		10.0	towic mos	1116	Date	e of inspec	ction		Inspe	ector			
Name of Well Tech	nnician	ELEESVI!	TelOU		cian's Licence No.	STRY USE	narks							
S. Mille	er,			T0097	7	 							С	SS.ES1

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Municipality	3 C	on. ON:	1	ı	l	0	8
10 1	4 15				22	23	24

County or District		Township/Borough/City/1	Town/Village	***	Con block tract survey	, etc.	Lot 25-27 23
		Address 41 Delamere D	Or., Sti	ttsville, ON	Date K2S 1R2completed	O8 (05 01 48-53 month year
21	л м 10	Northing	RO	C Elevation RC	Basin Code ii	iii	iv
		F OVERBURDEN AND BEDRO	OCK MATEI	RIALS (see instruct	ions)		47
General colour	Most common material	Other materials		Genera	l description	From	pth - feet To
Brown	Soil	Stoned		t		0	5
Brown	Sand	Stones		wet		5 10	10
Grey	Sand Limestone	Stures		med soft	-	24	70
JLEY	Manual LANG			and spett			,,,
				· · · · -			
31			<u></u>			<u>. </u>	<u> </u>
32	15 21	32	43	1 1 1 1 1 54			75 80
41 WATE Water found	R RECORD 51	CASING & OPEN HOLE R Wall Material thickness	Depth - fee	Sizes of	opening 31-33 Diameter	34-38 Ler	ngth 39-40
at - feet 69 10-13 1 N	OTeshTESTS phur 14 inches 6 10 11	Material thickness inches	From	To Slot No Material	and type	Depth at top	
15-18 1	Fresh 3 Sulphur 19	2 Galvanized 3 Concrete 4 Open hole					feet
20.22	Salty 6 Gas 17-18	5				RECOR Abandon	
2 🗆	Salty 6 Gas 6	3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	27	70 Depth set a	To Material and type (Cer		
2 2	Salty 6 Gas	1 ☐ Steel 26 2 ☐ Galvanized		27-30 27 18-21	O Grouted-ce	ment(4	4)
1 1 1	Fresh 3 Sulphur 34 60 Salty 6 Gas	3 Concrete 4 Open hole 5 Plastic		26-29	30-33 80		
Pumping test m		The second secon		LO	CATION OF WELL		,
Static level W	ater level 25 Water levels during	Pumping 2 ☐ Recovery	In In		w distances of well from ro	ad and k	ot line.
19-21	22-24 15 minutes 30 minutes 29-30 50 50	45 minutes 32-34 60 minutes 35-37 40 30		-		11	
5 6 feet If flowing give ra	teet teet te	water at end of test feet 42	1		A		
necommended po	numn eatting	Recommended 46-49	' '		7 8		
☐ Shallow 50-53	Deep pump setting 40 fe		1		· •	1	
FINAL STATUS		supply ⁹ ☐ Unfinished	1			ħ	
² ☐ Observatio ³ ☐ Test hole ⁴ ☐ Recharge	n well 6 ☐ Abandoned, poor qualit 7 ☐ Abandoned (Other)		1		」 ;		
WATER USE	55-56		1		1	1	<i>)</i>
1 Domestic 2 Stock 3 Irrigation	5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply	9	l l		· · · · · · · · · · · · · · · · · · ·	16	
4 🗌 Industrial	8 🗌 Cooling & air conditionir	ng	1 1	t 6140 wellyn R	t .		
1 ☐ Cable tool	ONSTRUCTION 57 5 🕱 Air percussion	9 ☐ Driving	Fle	wellyn R	d.	1	
² ☐ Rotary (cor ³ ☐ Rotary (rev ⁴ ☐ x Rotary (air)	erse) ⁷ Diamond	10 Digging 11 Other		-		230	090
Name of Well Contra	ctor	Well Contractor's Licence No.	Data	58 [Contractor	59-62 [Date receiv		63-68 80
	ater Supply Ltd.	1558	Source Date of in	15	58 JUN	152	
Box 490,		2S 1A6	USE	·	mapactoi		
Name of Well Technics Miller	· ·	Well Technician's Licence No. TOO97	Remarks			C	SS.ES1
Signature of Technic	ian/Contractor	Submission date	N N				į
/_	TRY OF THE ENVIRONM					0506 (07/0	00) Front Form 9

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10	4 15				22	23 2	4

0506 (07/00) Front Form 9

County or District	arlaton		Township/	Borough/City/	Town/Villaç	je		Con block	tract survey		ot ²⁵⁻²⁷
ULTAWA (ALICLAI		Address		escen	t, Kanat	a ON/K	2L 2K9	Date completed 2	day i	nonth year
21	U T	.		Northing		RC Eleva		Basin Code	ii <u> </u>		iv
1 2	M 10	LOG OF OV	ERBURDEN	AND BEDF	OCK MA	TERIALS (se	e instructio	ons)			
General colour	Most common materi	al	Othe	er materials			General	description		From	th - feet To
Brown	sand		stones	-						0	11
Grey	limestone					EDE	d hard			11	50
Grey	limestone								_	50	64
-											
						-				<u> </u>	
	N					bove gr	ound lev	rel		 	
		at	time of	orilli	ng.		<u> </u>			<u> </u>	1
31			ــــــــــــــــــــــــــــــــــــــ	1111	ــــا كــــــــــــــــــــــــــــــــ		حنا لبل			<u> </u>	
	4 15 21 21 ER RECORD	51 C	ASING & O	PEN HOLE	RECORD		Sizes of c	pening	65 31-33 Diameter	34-38 Len	75 8 ngth 39-40
Water found at - feet	Kind of water	Inside diam	Material	Wall thickness		h - feet To	(Slot No.) Material)		inches	feet
58 10-13 1N	Ores PS PS Pohur 14		Steel 12 Galvanized	inches •188	0	21 '6"	Material	and type		Depth at top	41-44
15.10	☐ Salty 6 ☐ Gas ☐ Fresh 3 ☐ Sulphur 19 ☐ Minerals	3 [Concrete Open hole								feet
30.22	Safty 6 Gas	17-18 1	☐ Plastic☐ 19☐ Steel☐ Galvanized			20-23	1	Annular space	& SEALING	□ Abandon	
1 ''	Fresh 4 Minerals Salty 6 Gas	6 1/8	Concrete Open hole		21'6	50	Depth set at	To Mat	erial and type (Ce	ement grout, I	bentonite, etc.)
	☐ Fresh 3 ☐ Sulphur 29 ☐ Minerals ☐ Gas	24-25 1	☐ Plastic ☐ Steel 26 ☐ Galvanized			27-30	21,18-21	0 G	routed-c	ement	(4)
	☐ Fresh 3 ☐ Sulphur 34 60 ☐ Salty 6 ☐ Gas	5 3/4	Concrete Den hole		50	64	26-29	30-33 80			
	- Cas		Plastic	1	<u> </u>						
71 Pumping test n	□ 3B ailer	16 GPM	Ouration of pump 15-16 Hours	17-18 Mins		In diagran		CATION OF	of well from r	oad and k	ot line.
	Water levels end of pumping 22:24 15 minutes	-		2 Recovery		Indicate n	orth by arrov	v	0		
F _	12 8	7	5 minutes 32-34	60 minutes 35-37							
If flowing give i	1		feet Vater at end of te				\mathcal{C}				
Recommended	pump type Recommended pump setting	43-45	☐ Clear Recommended pump rate	Cloudy 46-49				1			
☐ Shallow	Deep purify setting	40 feet	panp rate	5 дрм]			34			
FINAL STATU					1		9				
¹	ion well 6 Abandoned		ly ⁹ ☐ Unfinis ¹⁰ ☐ Replac				3 2	_للأنهار	7		
4 ☐ Recharge] · · · · · · · · · · · · · · · · · · ·						,		Lo	t*31
WATER USE 1 Domestic		al	9 ☐ Not use			_	# - ·				
2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial			to [] Other.				e e				
METHOD OF	CONSTRUCTION 57				 	r	ğ				
1 Cable too	on 50-64 5 XAir percuss conventional) 6 Dering	sion	9 ☐ Driving	g	-		11,,,	0	 		
3 ☐ Rotary (n 4 ☐ Rotary (a			11 🗌 Other		1	t le	vellyn	KOC	id	230	0141
Name of Well Cont	tractor		Well Contract	or's Licence No		ata urao	58 Contractor	· P ^	59-62 Date rec		2001
Capital Address	Water Supply I	.td.	155	8	8 ₁₂	urce ate of inspection	115	58 Inspector	JUL	18	<u> </u>
Box 49	O, Stittsville	ON. K2S	1 A6	ionio i in **		emarks				<u></u>	
Name of Well Tech	ler <i>P. 57 h</i>	2 NTON	TOO97	ian's Licence No TOOS 6	MINISTRY	erner KS				~ ~ ::	
Signature of Techr			Submission d							CSS	ES1
2 MAINIC	TRY OF THE ENV	IDONIMEN		y - U					***	0506 (07/	(00) Front Form

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10	14	15			22	23	24

0506 (07/00) Front Form 9

County or District	Township/Borough/City/Town/Village	9	Con block tract survey	7, etc. Lot 25-27
	Address Stitti	sui le Di	Date completed	Say Onth year
21 U U U U U U U U U U U U U U U U U U U	Northing 17 18 24	RC Elevation RC	Basin Code ii	iii iv
LOG OF OVI	ERBURDEN AND BEDROCK MA Other materials		description	Depth - feet
General colour Most common material	Outer materials	30.1012		From To (6
ace limestora				16 61
	<u> </u>			
31 []]]]]]]]]				
32 10 14 15 21	32 43 43 43 43 43 43 43 43 43 43 43 43 43	54	ppening 31-33 Diameter	75 80 34-38 Length 39-40
Water found at - feet Kind of water linside diam	ASING & OPEN HOLE RECORD Wall Depth thickness inches From	- feet Sizes of of (Slot No.) To Material a		inches feet
10-13 1 AZ Fresh 3 Sulphur 14 Minerals 10-11 1 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Steel 12 Galvanized	13-16 Material a	and type	Depth at top of screen 41-44 feet
15-18	Concrete Open hole Plastic 188		PLUGGING & SEALING	
20-23 1 P Fresh 4 D Minerals 2 Salty] Steel 19] Galvanized] Concrete	Depth set at	- feet	Abandonment ement grout, bentonite, etc.)
25-28 1 Fresh 3 Sulphur 29 5 5 5 1 2 Salty 5 2 Salty 5 24-25 1	Open hole Plastic O	27-30	ZZ Camen	trout
30-33 1 Fresh 3 Sulphur 34 60 2 3 3 3 4 Minerals	Galvanized Concrete Open hole Plastic	18-21 26-29	30-33 80	<u></u>
Pumping test method 10 Pumping rate 11-14 Dr	uration of pumping		ATION OF WELL	
1 Pump 2 Bailer 26 GPM Statis lovel Water level 25 Water level during 1 PR	15-16 17-18 Hours Mins 17-19 umping 2/12 Recovery		ATION OF WELL distances of well from r	road and lot line.
Static even end of pumping Water news during 19-21	5 minutes 32-34 60 minutes 35-37	maioato nortir by anon	à i	4
Static even end of pumping water evens during 19-21 22-24 15 minutes 26-28 30 minutes 29-31 45 45 45 45 45 45 45 45 45 45 45 45 45	feet feet feet feet feet feet feet feet		2	
Hecommended pump type Hecommended 19 19 19 19 19 19 19 19 19 19 19 19 19	Clear Cloudy Recommended 46-49 pump rate	g our or of the second	4	
Shallow Deep feet	26 GPM	>	£	4
FINAL STATUS OF WELL 1/ Water supply 2 Observation well 54 Abandoned, insufficient supply 6 Abandoned, poor quality	/ ⁹ ☐ Unfinished 10 ☐ Replacement well		106K	90'
3 ☐ Test hole 7 ☐ Abandoned (Other) 4 ☐ Recharge well 8 ☐ Dewatering	. — неріасыпын weii		Floor	Rd.
WATER USE 55:56 y □ Domestic 5 □ Commercial	9 ☐ Not use			
2 Stock 6 Municipal 3 Imigation 7 Public supply 7 4 Industrial 8 Cooling & air conditioning	10 Other			
METHOD OF CONSTRUCTION 57		•		
1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (reverse) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond	9		1	237772
⁴ ☐ Rotary (air) ⁸ ☐ Jetting				
Name of Well Contractor A ? r - Roce Dilling Colty	Well Contractor's Licence No.	rce 111	19 Date receipt	
Address RR & 2 Jaspe Ot			Inspector	
Shannon Purce CC	T2122 E	narks	CS	SS.ES2
Signature of Technician/Contractor	Submission date Submission date Submission date			0506 (07/00) Front Form

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Municipality 5003	CON.	1 1	1	POL
10 14	15			22 23 24

County or District Township/Borough/City/T								tract survey	, etc.	Lot 25-27
Ottawa Ca Owner's sumame		First Name	Goulbour Address	n			9	Date	i	24
	ntain Homes		P.O. Box 730		ond,Ontario			completed ₂		mont 2 year
21		Zone Easting	Northing	, , , l l	RC Elevation	RC 	Basin Code		1111 1 1 1	iv
1 2		10 12	RBURDEN AND BED	ROCK MAT	FRIAIS (see inc	tructic	31 ng)			47
General colour	Most common ma		Other materials	ILOUR IVIAII			lescription			pth - feet
General Colour	WADSI COMMINGEN IN						. Josephon		From	То
		Previousle	ey Drilled and	i Plugge	ed .				0	
		Open Hombe	## 10m. e						0	6
		Hole Plug							6	120

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			···							
31						سيا			تلل	لا لىلىل
32	عبا ليليليا			حبيا لـ		<u></u>	ىلىلل		Щ	75 80
41 WATE	R RECORD		SING & OPEN HOLE			Sizes of or Slot No.)	ening	31-33 Diameter	34-38 Le	ength 39-40
Water found at - feet	Kind of water	Inside diam inches	Material Wall thickness inches	Depth -	To III	•		· ir	nches	feet
	☐ Fresh 3 ☐ Sulphur 10 4 ☐ Minerals ☐ Salty 6 ☐ Gas	4 10-11 1			13-16	Material ar	nd type	İ	Depth at to	op of screen 30 41-44
15 10	Fresh 3 Sulphur 19	9 3 4	Concrete Open hole							feet
ļ	Salty 6 Gas	17-18 1	Plastic Steel 19		20-23 61		LUGGING Annular space	& SEALING	RECOF Abando	
	☐ Fresh ³ ☐ Sulphur ² ☐ Salty ⁴ ☐ Minerals ☐ Gas	3 🗆	Galvanized Concrete		De · Fro	oth set at -	feet	erial and type (Cer		
	Fresh 3 Sulphur 2	9 5 🗆	Open hole Plastic			10-13	14-17			
30-33	J Salty 6 ☐ Gas		Steel 20 Galvanized Concrete		1 1	18-21	22-25		•	
1 1 1	☐ Fresh	4	Open hole Plastic			26-29	30-33 80	3.p.		
Pumping test m	nethod 10 Pumping ra	ate 11-14 Dur	ration of pumping	1		l				
71 Pump 2	☐ Bailer	20 GPM	15-16 17-18 Hours Mins	11	In diagram below		ATION OF		and and	lot line
	ena ot pumping	evels during X Pur	· •		Indicate north by			or well from it	au anu	iot iiile.
Salic level 6 19-21 UN 6 2 2 feet If flowing give r.	22-24 15 minutes 26-2	30 minutes 29-31 45 I	minutes 32-34 60 minutes 35-37	⊅						
6 2 2 feet If flowing give r.	20 feet 115 fe ate 38-41 Pump intake		60 feet 20 feet ter at end of test 42	/ `						
S II NOWING GIVE I	GPM	feet	☐ Clear X ☐ Cloudy]	1					
Hecommended p	Dump type Recommen pump settin		ecommended 46-49 ump rate 5 GPM		,					
50-53		30 leet]	J GPM	<u> </u>	ŧ	1				1
FINAL STATU			0.7.1.5.1.1	1	1	·	7			`
¹ ▼ Water sup ² □ Observati ³ □ Test hole	on well 6 Abando	oned, insufficient supply oned, poor quality	 9 ☐ Unfinished 10 ☐ Replacement well 		1			- C		
4 ☐ Recharge					•	36	2' /20	o, 		1
WATER USE	55-5		9 ☐ Not use		- 1		***			
1 ▼ Domestic 2 ☐ Stock 3 ☐ Irrigation	5 ☐ Comme 6 ☐ Municip 7 ☐ Public s	pal	10 Other		1					.
4 Industrial		g & air conditioning								<u> </u>
METHOD OF	CONSTRUCTION 57			11	FI	وسو	Myn	Rd		
1 ☐ Cable too 2 ☐ Rotary (co	onventional) 6 🗌 Boring		9 Driving 10 Digging				•			
3 ☐ Rotary (re	everse) 7 □ Diamor ir) 8 □ Jetting		11 Other						238	194
				J						
Name of Well Contr		i i	Well Contractor's Licence No.	Data source		15	58	59-62 Date recei		2002
Address	Mater Supply	I-CO.	1558	I I III Pare a	of inspection		spector		- 1	
P.O. Box Name of Well Tech	490 Stittsv	ville, Ontar	rio K2S 1A6 Well Technician's Licence No	Remai	rks				<u> </u>	
S. Mille			T0097	STR.					22	S.ES
Signature of Jechni			Submission date	NIM Remai					J	U.L.U
4 1 ma	The state of the s		day5 mo 7 yr 02			·			0506 (07	/00) Front Form 9

of the Environment

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Municipality	Con.			_	_
15003	CON	1		2	4
10 14	15		22	23	24

0506 (07/00) Front Form 9

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County or District		Township/Borough/City/	Town/Village	L	k tract survey, etc. Lot	25-21
httaua Car	·leton	Goulbourn Address		9		48-53
		Box 190 Carp.	Ontari	o KOA 1LO	completed day88 month2	vear
21	V)	Northing		RC Elevation RC Basin Code		v
1 2	M 10 11	17 18	24 2	25 26 30 31		47
	LOG O	F OVERBURDEN AND BEDR	OCK MAT	ERIALS (see instructions)	Depth - feet	
General colour	Most common material	Other materials		General description	From To	
brown	soil	stones			0 8	
		DCORCO				
grey	limestone			med hard	8 181	
ļ						
	Note: Casing was let	ft. 1 foota above o	round 1	evel at time of dril	ling	
	THE WALL STREET	The second second y		The second secon		
31		<u> </u>	i I			1.1
32	<u> </u>					
10 1	4 15 21 51 51	CACING & ODEN LIGHT	J LJ LL	54 Sizes of opening	65 7. 31-33 Diameter 34-38 Length	5 60 39-40
Water found	R RECORD 51 Inside	CASING & OPEN HOLE	Depth -		inches	
at - feet	inches	Material thickness inches	From	To (Slot No.) Material and type	Depth at top of scree	
lace l'u	Fresh 4 Minerals 10-11 1	2 Galvanized	0	21 6 8	41-d	
	Fresh 3 Sulphur 19	4 ☐ Open hole 5 ☐ Plastic	٠			
20.22	Sarry 6 Gas 17-18	1 Steel 19		20-23 61 PLUGGING	& SEALING RECORD Abandonment	
1/0 2 [Salty 6 Gas	2 Galvanized 3 Goncrete	21'6	Depth set at - feet Met	erial and type (Cement grout, bentonite,	etc.)
25-28 1 T	Fresh Sulphur 29	9♣☐ Open hole 5 ☐ Plastic		211+6 014-17 are	outed cement (4)	,
2 [☐ Salty 6 ☐ Gas	2 Galvanized	48	27-30 27-30 3 GFC 18-21 22-25 22-25	Juleu Cement (4)	
	☐ Fresh 3 ☐ Sulphur 34 60 ☐ Minerals ☐ Salty 6 ☐ Gas	3 ☐ Concrete 4 ☐ Open hole	1.	26-29 30-33 80		
	Salty 6 Gas	€ ☐ Plastic				
71 Pumping test n	I	5 16 17 19		LOCATION OF	WELL	
Static level	Vater level 25 Water levels during	Pumping 2 Recovery		In diagram below show distances Indicate north by arrow.	of well from road and lot line.	
Static level 6	end of pumping 22-24 15 minutes 26-28 30 minutes 29			muicate north by allow.		
Salar lever 6 19-21 24 19-21	50 42 45	48 50	1	/		
If flowing give r	56.11	Water at end of test 42				
S Becommended	GPM fe	eet Clear Cloudy Clear Cloudy Recommended Cloudy			10	
Recommended p	pump setting	pump rate		\	> \	
50-53	75	get 5 GPM	-		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
FINAL STATU				· , \	61'	
¹ X Water sur ² □ Observati	on well 6 Abandoned, poor quali			` _	4	
³ ☐ Test hole ⁴ ☐ Recharge	7 ☐ Abandoned (Other) well 8 ☐ Dewatering			59'	0	>
WATER USE	55-56					
1 Domestic		9 Not use		wood-	side Akros.	
3 ☐ Irrigation 4 ☐ Industrial	7 ☐ Public supply 8 ☐ Cooling & air condition	_		7	· -	
	-	-		g		
	CONSTRUCTION 57 50-181 % Air percussio 0-50	⁹ ☐ Driving		4		
¹ X Cable too ² ☐ Rotary (or ³ ☐ Rotary (re	onventional) From the process of th	10 Digging		Flewelyn		- 2
4 🗆 Rotary (ai		_ Outgi		,	23824	4
		TW-FS	15	co IControlos	so so I Date received	601
Name of Well Control		Well Contractor's Licence No.	Data source	58 Contractor 55 5 8	59-62 Date received 63 SEP 1 6 2002	68 80
Address	ater Supply Ltd.	1 1008	ш Госто	of inspection Inspector		
Box 490 St	ittsville, Ontario	K2S_1A6				
Name of Well Tech	nician	Well Technician's Licence No.	WINISTRY US	rks	000	つり
Signature of Jechn	ician/Contractor	T0097 Submission date	NIS.		しつつ・レー	فكمنسا نتيك
thua		day13 mo 08 yr 02	Σ	4. · · · · · · · · · · · · · · · · · · ·	0506 (07/00) Front	
- 7	ī :				· · · · · · · · · · · · · · · · · · ·	_

Well Record

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ntion 903 Ontario Water Resources Act

				WATER STORES I REMAINS AT	Sample o Senate we natural Institute (A real	D Philosophia (1922 a 11 a no mhliataca a	r 6. Westernight schools and delicated the control of the control		00.2840.W4880.00		to to 1887 to thought	
Well Location Address of Well	Location (Street Nu	mber/Name)		Township			Lot		Concession	<u> </u>	oj pozitkih vistikih
	rwood (Lot	43)			Goulbou			23		9		
County/District/N	, ,				City/Town/Vi Stittsv	-			Provin Onf	nce tario	Posta	l Code
UTM Coordinates	Zone Easting		lorthing	1	Municipal Pla		ot Number		Other			<u> </u>
NAD 8 3			501018		**************************************				ele redecember elek		Marian	
General Colour	d Bedrock Mater	non Materia	- 1		o rd <i>(see instr</i> her Materials		back of this form	n) General Description			De	pth (<i>m/ft</i>)
***************************************				ly Dril				out of the second of the secon			From	To
		F_	evious	TA DITI	rrea				· · · · · · · · · · · · · · · · · · ·		0	33.52
											0 =0	02.20
										3	3,32	83.20
VIII.						.,,		1.				,

						****					***	
		Annula	r Space				100	Results of We	ell Yie	ld Testing		
Depth Set at (n	n/ft) 「o	Type of Se (Material a	alant Used			e Placed ³/ft³)	After test of we	ell yield, water was:	Dr Time	raw Down Water Leve		Recovery Water Level
			7.2				☐ Other, sp	ecify	(min)	(m/ft)	(min)	(m/ft)
							If pumping dis	continued, give reason:	Static Level			
									1	11.10	1	24.57
							Pump intake s	set at <i>(m/ft)</i> 0.95	2	12.12	2	22.26
Method o	of Construction			Well Us			Pumping rate		3	13.35	3	19.18
Cable Tool	☐ Diamono	1 == 1		Comme	ercial 🔲	Not used	1	5.5	4	14.49	4	18.98
Rotary (Conver			omestic vestock	☐ Municip☐ Test Ho		Dewatering Monitoring	Duration of pu	min	5	15.41	5	16.58
Boring Air percussion	Digging		igation		& Air Condition	-		el end of pumping (m/ft)	10	19.12	10	
☐ Other, specify			dustrial ther, <i>specify</i>				***	7 . 32 rate (<i>l/min / GPM</i>)	15	19.62	15	9.26
	Construction R	ecord - Ca			Status	of Well		, ,	20		20	
Diameter (Ga	en Hole OR Material Ivanized, Fibreglass,	Wali Thickness	Dept From	th (<i>m/ft)</i> To	Water S Replace	Supply ement Well	1	d pump depth <i>(m/ft)</i> 9.62	25	20.59	25	8.32
(cm/in) Cor	crete, Plastic, Šteel)	(cm/in)	17000	10	☐ Test Ho	ole	Recommende		30	23.96		8.48
				_	Dewate	-	(Vmin / GPM)	5.5		24.80	30	8.44
						ation and/or ing Hole		n (I/min / GPM)	40	25.52	40	8.31
					Alteration (Construction		Disinfected?		50	26.03	50	8.26
					Abando		X Yes		60	27.32	60	8.24
Outside '	Construction R	ecord - Scr	7	h (<i>m/ft</i>)	☐ Abando Water 0	ned, Poor	Please provide	Map of We a map below following			ack	
Diameter	Material tic, Galvanized, Steel)	Slot No.	From	То		ned, other,	'					
					Specify					1		
					Other, s	specify				,,		1
	Water Det	ails		F	lole Diamet	ter		#14	X	RUE		1
	epth Kind of Wate		X] Untested	J Dep	th (<i>m/ft)</i> To	Diameter (cm/in)		HOUSE				, -
Water found at D	Gas Other, spe	r: Fresh	▼ Untested		83.20	15.23		LOT # 43		1		
81.98 _(m/ft)	Gas Other, spe	cify			100.20	13.23		_		071		
	epth Kind of Water		Untested	I						100		
(111/14)	Well Contracto		Technicia	in Informa	tion							
Business Name o	f Well Contractor				ell Contractor's		-	FLEWELL	IN	ROAD		
	ter Supply (Street Number/Na			Mi	1 5 unicipality	5 8	Comments:	/				
Box 490		ŕ	******		Stittsv:	ille						
Province Ontario	Postal Code K2S 1 A6	1	s E-mail Add	dress			Well owner's	Date Package Delivere	<u>. </u>	B#1212	(20071120	
	(inc. area code) Na	me of Well	Technician (ipitalwa Last Name,	ater.ca First Name)		information	1 1		Audit No.	try Use	Only
61 3 836 17	66	Midler/	, Steph	en			delivered	2/ 0 1 1 1 1 1 1 1 Date Work Completed	J 2	Z ;	139	9723
0 0 9	7 Signature	M / M	an and/or C		te Submitted 이 기 기 네		No No	2 0 1 1 1 1	0,2	FI Received	EB 0 !	9 2012
		11211		14	<u></u>					and the second second second second second	- construction (III)	section and the section of the secti

Ministry of	Well Tag No. (Place Sticke	Well Record					
Ontario Willistry Of the Environment	1 201761	MW 14+801/12	Regulation 903 Ontario Water Resources Act				
Measurements recorded in: 🔀 Metric 🗌 Imperial	A136701	PW 1448017K	<u> </u>	, 49			
Well Owner's Information First Name Last Name / Organization CITY OF OTTE		E-mail Address			Well Constructed by Well Owner		
Mailing Address (Street Number/Name)	Municipality	Province ()~	Postal Code K2G6	1 .	e No. (inc. area code)		
100 CONSTELLATION (RESCENT	- GTTAWA	3.4					
Well Location Address of Well Location (Street Number/Name)	Township		Lot	Concess	ion		
FLEWELLY ROAD /SHEA ROA County/District/Municipality	City/Town/Village			Province Ontario	Postal Code		
UTM Coordinates Zone Easting Northing	Municipal Plan and S	Sublot Number		Other			
NAD 8 3 1 8 4 3 0 5 1 5 5 0 1 0 Overburden and Bedrock Materials/Abandonment Se	SG9	n the back of this form)			Dordh (m/ft)		
General Colour Most Common Material	Other Materials	Gene	eral Description)	Depth (m/ft) From To		
GREY FILL G	RAVELLY SOND, TRACE	Sier			0.0 0		
Till S,	ANDY SILT, GRAVEL		E TO DEN	N.E.	4.1 5.1		
GRET TILL S	ILLTY SAND, GRAVEL	Very	DENSE		7. 0.		
Annular Space Depth Set at (m/ft) Type of Sealant Used	Volume Place	After test of well yield		ell Yield Testi Draw Dow	n Recovery		
Depth Set at (<i>mlft</i>) Type of Sealant Used From To (<i>Material and Type</i>)	(m³/ft³)	☐ Clear and sand☐ Other, <i>specify</i>	free	Time Water L	1		
O O. BENTON ITE		If pumping discontinu	ued, give reason:	Static Level			
				1	1		
Market State Control of the Control		Pump intake set at	(m/ft)	2	3		
		Pumping rate (Ilmin	/ GPM)	3	3		
Method of Construction ☐ Cable Tool ☐ Diamond ☐ Public	Well Use ☐ Commercial ☐ Not us	ed		4	4		
Rotary (Conventional) Jetting Domestic	☐ Municipal ☐ Dewate	II hrs +	g min	5	5		
☐ Rotary (Reverse) ☐ Driving ☐ Livestock ☐ Boring ☐ Digging ☐ Irrigation	Cooling & Air Conditioning	Final water level end	of pumping (m/fi	10	10		
☐ Air percussion ☐ Industrial ☐ Other, specify ☐ Other, specify ☐ Other, specify	Address of the Control of the Contro	If flowing give rate (llmin I GPMI)	15	15		
Construction Record - Casing	Status of We	il		20	20		
Diameter (Galvanized, Fibreglass, Thickness	oth (<i>m/ft</i>)	Recommended pur	рр аерtn (<i>тіπ)</i>	25	25		
Contracte, Plastic, Steely (Chilin)	Test Hole Recharge Well	Recommended pur	np rate	30	30		
5,08 PVC 40 0	Dewatering We	ell	LODAN	40	40		
	Monitoring Hole	I I I VOII Production (iii)	iin i GPM)	50	50		
	(Construction) Abandoned,	Disinfected? Yes No		60	60		
Construction Record - Screen	Insufficient Sup	pply	Map of V	Vell Location			
Outside Material Slot No.	oth (m/ft) Water Quality	Please provide a ma	p below following	g instructions on t	he back.		
(cmlin) (Plastic, Galvanized, Steel) From	To Abandoned, ot specify	ilei,			NI		
5.8 pvc 10 3.6	Other, specify						
					nacorium too reto orange gang men bin nga golistiida asan ng uum da da gank da dengan melika-		
Water Details Water found at Depth Kind of Water: Fresh Unteste		eter					
(m/ft) Gas Other, specify	From To (cm.		FLE	MELLYN			
Water found at Depth Kind of Water: Fresh Unteste	d	SMES	MW 12-21	WELLYA)	ander 1970 de 1970 page 1970 abbilla antiquation as a _{s sell} de grapper pro-		
Water found at Depth Kind of Water: Fresh Unteste	d		* 22.2				
(m/ft) ☐ Gas ☐ Other, specify	- Information						
Business Name of Well Contractor	Well Contractor's Licence						
Business Address (Street Number/Name) HO RVE PRINCIPALE GREN Province Postal Code Business E-mail Ad	NG L 8 4	Comments:					
HID BY E PRINCIPALE GREN	VILLE SUR-LA-POVI	SE MILLIA NO	c A-	- /	1, 5,		
Province Postal Code Business E-mail Ac	ddress	Well owner's Date	ノミス アナラ Package Deliver		Tしい inistry Use Only		
Bus. Telephone No. (inc. area code) Name of Well Technician.	S (6) NOW K (Last Name, First Name)	information package		Audit N			
		delivered	Work Completed	 	161278		
Well Technician's Licence No. Signature of Technician and/or C	Contractor Date Submitted 2014304		0 13 0 5	213 Receive	AUG 0 7 2013		
0506E (2007/12) © Queen's Printer for Ontario, 2007	Ministry's C		<u> </u>	t to the same of t			

Ministry of the Environment and Climate Change Measurements recorded in: Metric Merial	lell Tag No. (Place Sticker an NJA	d/or Print Below)	_	Well Record Water Resources Act Page of
Well Owner's Information				
First Name Last Name / Organization Last Name / Cheniel	r Company Ltd C	E-mail Address	11 Andoria	Well Constructed Well Owner
Mailing Address (Street Number/Name) 9094 Cavanagh Road	Municipality AShTon	Province	1 0.2 - 1	one No. (inc. area code)
Well Location Address of Well Location (Street Number/Name) 62/9 Fembank Road	Township Goulbourn		Lot P/L 3 Conce	şsion Î ()
County/District/Municipality Ottawa-Carleton	City/Town/Village Stittsville		Province Ontario	Postal Code
VTM Coordinates Zone Easting NAD 8 3 1			Other	
Overburden and Bedrock Materials/Abandonment Sealin General Colour Most Common Material	g Record (see instructions on the Other Materials		ral Description	Depth (m@) From To
	RILLED WELL			0' 27'
montoring well	<u></u>			
Annular Space	Volume Placed	After test of well yield	Results of Well Yield Tes water was: Draw Do	
Depth Set at (m♠ Type of Sealant Used From To (Material and Type)	(m³/ft³)	Clear and sand fr	Time Wate	r Level Time Water Level
21' 6' 3/8 Hole-Plug	1 B-9	Other, specify	d dive reason: Static	n/ft) (min) (m/ft)
6' 0' Back full "		m pumping discontinue	Level 1	
		Pump intake set at (n	- (C1)	
		i lanp mano oor ar (m	· 2 7	2
Method of Construction	Well Use	Pumping rate (Vmin /	GPM) 3	3
	Commercial Not used Municipal Deviatering	Duration of pumping	4	4
Rotary (Reverse) Driving Livestock	Test Hole		nin 5	5
☐ Air percussion ☐ Industrial	Cooling & Air Conditioning	Final water level end o	r pumping (m/n) 10	10
Other, specify Other, specify		If flowing give rate (Vn	nin / GPM) 15	15
Construction Record - Casing Inside Open Hole OR Material Wall Depth (n	Status of Well 1/fi)	Recommended pump	depth (m/ft) 20	20
Diameter (Galvanized, Fibreglass, Thickness (cm/in) Concrete, Plastic, Steel) (cm/in) From	Replacement Well		25	25
	Recharge Well	Recommended bump (I/min / GPM)	rate 30	30
	☐ Dewatering Well☐ Observation and/or	Well production (I/min	40 (GPM)	40
	Monitoring Hole Alteration		50	50
	(Construction)	Yes No	60	60
Construction Record - Screen	Insufficient Supply Abandoned, Poor		Map of Well Location	1
Outside Diameter (Plastic, Galvanized, Steel) Slot No. From	Water Quality	Please provide a map	below following instructions of	n the back.
(cm/in) (Plastic, Galvanized, Steel) From	specify	tion		山
	① Sther, specify		_	、半
Water Details	Hole Diameter Depth (m/ft) Diameter		0.9K	M
Water found at Pepth Kind of Water: Fresh Untested (m/f) Gas Other, specify	From To (cm/in)			
Water found at Depth Kind of Water: Fresh Untested	600	۱	EM C	
(m/ft) ☐ Gas ☐ Other, specify			* 1219	7 2 3
(m/ft) Gas Other, specify			# GONK	LOVE # 8
Well Contractor and Well Technician I Business Name of Well Contractor, Air Rock Drilling Co. Ltd.	Well Contractor's Licence No.		the 6279	100
Business Address (Street Named (Name)	Municipality and Richmend	Comments:		<u> </u>
Province Postat Godez Business E-mail Address				
and Konda 20		information ,		Ministry Use Only t No. Z2 2 7 1 2 Q
Bus Telephone No. (inc. area code) Name of Well Technician (Las 6 3 8 38 9170		package delivered	[A5] [3] [3]	Some Sal I audie: Sal Sal
Well Fedhnician's Licence No. Signature of Technician and/or Control		Yes Date V	ZU10 O / Z0	NOV 2 8 2016
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Ontario Ministry of the Environment and Climate Change	Well Tag	No. (Place Sticker al	nd/or Print Below)	Regulation	903 Or			ecord
Measurements recorded in: Metric Imperial	11415	110		1 (-21	790	Page_		of
Well Owner's Information						The state of the s		
First Name Last Name Organiza	To - To no	ancy/clo	Tartan L	and Cor	Sulf			onstructed I Owner
Mailing Address (Street Number/Name)		unicipality/	Province	Postal Code		elephone No		
237 Somerset St. W		ottawa	ON	KIZIPI a	J3		į	
Well Location								
Address of Weil Location (Street Number/Name)	ewellyn	wnship		Lot	(Concession		
County/District/Municipality		ry/Town/Village } ,			Provinc	ce	Postal	Code
UTM Coordinates Zone . Fasting . Northing	5	HHTV, LLC unicipal Plan and Sublo	t Number		Onta Other	rio		
Overburden and Bedrock Materials/Abandonment S		ជី (see instructions on th	e back of this form)					
General Colour Most Common Material		r Materials		eral Description		F	Depti rom	h (<i>m/ft</i>)
BRN to D Soil			30 \$				Ĵ	,3/
0 22	-7+ -La	ne25	soft				۲/	7 44
Chy sand	1	nes	<u></u>			一方	प्र मे	457
c p s l / l	5 tones		dense			4		10 01
ORG SLAW			1 ages ex			7.	<u> </u>	10.00
			and the same of th					
			A CONTRACTOR OF THE CONTRACTOR					
Annular Space				Results of Wo	ell Yiek	Testing	50 (415) (510)	ana negarakan kes
Depth Set at (m/ft) Type of Sealant Use From To (Material and Type)	d ,	Volume Placed	After test of well yield	*		w Down		covery
	100 00	(m³/ft³)	Clear and sand	rree	(min)	Water Level (m/ft)	(min)	Nater Level (m/ft)
	iment		If pumping discontinu	ed, give reason:	Static			
.31 5.49 Dentonite				_	Level		1	
5.4910.06 Filter Sand			Pump intake set at (n	~ <i>∰</i>)				
			I ump make set at (n	vitj	2		2	
Method of Construction	Well Use		Pumping rate (Vmin /	GPM)	3		3	
Cable Tool Diamond Public	Commerci			***************************************	4		4	
☐ Rotary (Conventional) ☐ Jetting ☐ Domestic ☐ Rotary (Reverse) ☐ Driving ☐ Livestock	☐ Municipal Test Hole		Duration of pumping hrs +	min	5		5	
Boring Digging Irrigation	44444	Air Conditioning	Final water level end	of pumping (m/īt)	10		10	
☐ Air percussion ☐ Industrial ☐ Other, specify ☐ Other, specify	;,		Mary Company					
Construction Record - Casino	y	Status of Well	If flowing give rate (Vr.	nin / GPM)	15		15	
	epth (<i>m/ft</i>)	☐ Water Supply	Recommended pump	o depth (m/ft)	20		20	
Diameter (Galvanized, Fibreglass, Com/in) Concrete, Plastic, Steel) (cm/in) From	То	Replacement Well	And a simple company	,	25		25	
5,20 PUC .390 O	7 31	Test Hole Recharge Well	Recommended pump (I/min / GPM)	o rate	30		30	
3120 1000	1.01	Dewatering Well			40		40	
		Observation and/or Monitoring Hole	Well production (I/min	/GPM)	50		50	
		Alteration (Construction)	Disinfected?					
		Abandoned,	Yes No		60		60	
Construction Record - Screen		Insufficient Supply Abandoned, Poor		Map of W				
Diameter (Plastic Calvanized Steel) Slot No.	epth (<i>m/ft)</i> To	Water Quality Abandoned, other,	Please provide a ma	ap below followi	ng instri	actions on th	е раск.	A
(cm/in)		specify		1/11/			A	
6.03 PVC 10 7.0	0110.06	Other, specify		/ Hydr	0		1	()
				Jowe	نس		ı	V
Water Details		le Diameter	TO STATE OF THE PARTY OF THE PA					j
Water found at Depth Kind of Water: Fresh Untest	ted Depth From	(m/ft) Diameter To (cm/in)	11 X				,	
(m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untest		6./ 1143	$\parallel / \setminus \setminus $	600	. 1. 1	†		
(m/ft) Gas Other, specify	77		1 / \		120		A .	
Water found at Depth Kind of Water: Fresh Untest	ted (2 - /	j 0.067, 62					17/	•
(m/ft) Gas Other, specify] , / ,			× "\`	Y	
Well Contractor and Well Technic Business Name of Well Contractor			11 /		\nearrow_{τ}	1-ewell		
S/L 37 1 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /	Vveii	Contractor's Licence No.			-			
Business Address (Street Number/Kame)	Muni	icipality	Comments:			<i>y</i>	·····	·
165 Shullos CoxX	[Nich	larkham	degramment of the state of the					
Province Postal Code Business E-mail A	Address 1		Mollowers To	Poolenge De'	18	0.8:2222	.,	OFI:
ON LIBRATION DESCRIPTION OF WELL TECHNICIAN Bus. Telephone No. (inc. area code) Name of Well Technician	n (bast Name F	irst Name)	information	Package Delivere	Special Property Control of the Cont	Minist Audit No. 7	y ⊔se ′) 7°	70∩1
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Well Technician's Licence No. Signeture of Technician and/or	Contractor Date		II □ Yes /	VV 6 0 9	الريم	AUG :	4 U Z[IID
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