



REVISED

Servicing Options Statement, Terrain Assessment and Hydrogeological Study in Support of Development

Part Lot 25, Concession 12
Beckwith Township, Ontario

Prepared for:

**Douglas Landing
Developments**
1 Forillon Cres.
Kanata, Province, ON K2M 2W5

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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed, signed by Dr. Gillian Espie of Douglas Landing Developments (Client), to conduct a Servicing Options Statement, Terrain Assessment and Hydrogeological Study in Support of Development at the property located at Part of Lot 25, Concession 12 Beckwith Township, Ontario (hereafter referred to as the Site). The Site location is shown on Figure 1 and Figure 2 (all figures are provided in Appendix I).

The purpose of the Hydrogeological Study and Terrain Assessment in Support of Development is to fulfill the Municipality requirements for a Services Options Statement, a Terrain Analysis, and a Hydrogeological Study to be completed as components for the development application.

This revised report provides additional information to address comments received from the Municipality and the Municipality's peer reviewer.

1.1 Background

The Client intends to develop the Site into a rural residential development with amenities. The concept plan supplied by the Client indicates that the proposed subdivision will be comprised of twenty-three (23) residential lots, and two (2) stormwater management lots. The average lot size for the residential lots is approximately 0.60 ha.

The Municipality requires a Services Options Statement, a Terrain Analysis, and a Hydrogeological Study to be completed as components by qualified consultants and the investigations are to conform to the Ministry of Environment, Conservation, and Parks (MECP) D-5 Planning for Sewage and Water Services, an implementation guide for municipal planning, servicing, and infrastructure with a focus on sewage and water services (Provincial Policy Statement under Section 3 of the Planning Act) and the guidance document "Scoped Hydrogeological Report Requirements for Development by Consent in Lanark County" authored by Mississippi Valley Conservation Authority and Rideau Valley Conservation Authority.

1.2 Site Setting

The Site is bounded by ditches that have been dug to the east and south, and agricultural fields to the north and west. Beyond the ditch to the east are single family residential dwellings, and beyond the ditch to the south is a private, undeveloped property. The Site consists of agricultural fields, mixed meadows, swamps, forests and hedgerows, with the wetlands found more centrally, and the upland biological communities generally found around the outside. The agricultural field and heavily disturbed mixed meadow are found close to the northern boundary of the Site, while the more natural communities are found closer to the southern boundary. To the north and west of the Site there are agricultural fields, and



to the east is a residential development in progress. South of the Site is primarily undeveloped lands, including forests and Provincially Significant Wetlands. The area is zoned as "Rural" in both the County and City Official Plans. A good portion of the Site is largely undisturbed or naturalized, due to the immediate surrounding areas being mostly urbanized or used for agricultural purposes. Thomas Cavanagh Construction Limited (Cavanagh Construction) has a large yard facility to the south of the Site, between Douglas Side Road and Cavanagh Road.

1.3 Site Geologic Setting

The Ontario Geological Survey classifies the bedrock underlying the Study Area as consisting primarily of Middle Ordovician (approximately 470 million years ago to 458.4 million years ago) limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group, with the northeast corner being Lower Ordovician (approximately 485.4 million years ago to 470 million years ago) dolostone and sandstone of the Beekmantown Group (Figure 3). The quaternary geology on the Site is a mix of glaciomarine and marine deposits of silt and clay basins and quiet-water deposits in the northwest, with the southeastern corner being Paleozoic bedrock (Figure 4). The surficial geological features of the Site consist of bedrock in the southeast, and fine-textured glaciomarine deposits of silt and clay, with minor sand and gravels in the northwest. The site is situated in the Smiths Falls Limestone Plain Regions as shown on Figure 5.

2.0 SCOPE OF WORK

The scope of work outlined below is based on the guidance of the MECP D-5-3 Servicing Options Statement, MECP D-5-4 Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment, MECP D-5-5, Private Wells: Water Supply Assessment, discussions with the Client's planner, and information supplied to Pinchin by the Client. The scope of work was also informed by the guidance document "Scoped Hydrogeological Report Requirements for Development by Consent in Lanark County" authored by Mississippi Valley Conservation Authority and Rideau Valley Conservation Authority, and dated July 2, 2015. Additional guidance regarding septic design expectations for the Site was provided by Mississippi Rideau Septic System Office (MRSSO).

The scope of work consisted of the following activities.

2.1 The Servicing Options Statement Scope of Work

The Servicing Options Statement scope of work followed MECP Guideline D-5-3 including:

- Evaluation of proximity of existing or committed full municipal services or communal services and the ultimate potential for future connection to full municipal services or communal services for the whole area proposed for development;



- Review of the proposed development as being part of, or anticipated as being one of a number of proposals for the same development area, in which case the evaluation of servicing options will not be isolated to the site-specific proposal, but will be completed within the context of the development potential; and,
- Review of the environmental suitability of the Site for the proposed services based on information accessible at a municipal scale that can be applied to the proposed Site proposal including:
 - environmental constraints;
 - suitability of the terrain of the Site; and
 - performance of services in similar developments in the surrounding area; and the scale (total areal extent), density, and type of use proposed for the development.

2.2 The Terrain Assessment Scope of Work

The Terrain Assessment scope of work followed MECP Guideline D-5-3 including:

- Discussion and input of proposed locations for groundwater supply wells and septic bed locations with the Client and/or their representative;
- Excavation of up to fifteen (15) test pits across the area of the proposed development. Locations were selected to provide adequate coverage of any anticipated changes in soil type or depth to bedrock or saturated conditions. Where possible the test pits were excavated in the area identified as the preferred location for inground disposal of septic effluent on the lots;
- Test pits were excavated to a maximum depth of approximately 1.5 m below ground surface, or until bedrock or the water table was intersected;
- For each test pit, the soil type, texture, and other characteristics were logged and documented with photographs; and
- Up to 4 samples selected based on representation of the Site areas were collected and submitted to a materials testing laboratory for grain size analysis and estimate of percolation rates.

Every proposed development involving individual on-site sewage systems requires an assessment of the potential impact to groundwater resources. The purpose of the assessment is to ensure that the combined effluent discharges from all the individual on-site sewage systems in a development will have a



minimal effect on the groundwater and the present or potential use of the adjacent property. The assessment involves a three-step process with Step 1 being review of lot sizes. Developments consisting of lots which average 1 hectare (with no lot being smaller than 0.8 ha) may not require additional evaluation for areas that are not hydrogeologically sensitive. However, it is noted that the proposed development includes many lots which are less than 0.8 hectare, and as such additional assessment steps as per D-5-4 are required. This requirement will be met through evaluating the isolation of the aquifer and assessing the risk that the development's individual on-site systems will cause concentrations of nitrate-nitrogen in groundwater to exceed 10 mg/L at the downgradient property boundary.

2.3 Hydrogeology Study Scope of Work

Based on the Site size, Guideline D-5-5 prescribes a minimum of four (4) test wells as required for completion of the Hydrogeology Study. Guideline D-5-5 notes that the aerial distribution of test wells must be such that hydrogeological conditions across the Site are adequately represented. It is Pinchin's opinion that pumping tests on a minimum of four (4) test wells were required for appropriate evaluation of the Site. Further, it is noted that previously completed hydrogeologic investigations in support of the residential development to the east of the Site provides additional information that was incorporated into the study.

The Hydrogeology Study followed MECP Guideline D-5-5 and included:

- Selection of areas where wells will be installed to provide adequate coverage of the proposed development. The locations of the wells were coordinated with the Client and used the proposed lot fabric for positioning such that the test wells are in suitable locations to become long-term supply wells for the lots;
- After the wells had been drilled, a qualified well contractor licensed with the MECP temporarily installed a pump in each well and disinfected each well in accordance with procedures outlined in the MECP Water Supply Wells: Requirements and Best Practices Manual;
- Constant discharge pumping tests at each of the four wells were completed sequentially. Each pumping test was for a minimum of six hours and at a flow rate required to demonstrate adequate water quantity for the proposed use;
- During the pumping tests the water levels in the pumping well and the adjacent wells on the Site were monitored and recorded. The water levels in select existing private wells close to the Site were monitored where permission from the owner was received;



- One water quality sample was collected from each of the pumping wells during the pumping phase of the constant discharge pumping test. The Sample was collected just prior to cessation of pumping at six (6) hours;
- The water quality samples were submitted to an independent, accredited laboratory for analysis of bacteriological, general inorganic and metal parameters. Results were compared to the Ontario Drinking Water Quality Standards (ODWQS) to assess the quality of the water supply; and
- After the pumping phase of the test is completed the recovery of the water level in each well was monitored.

3.0 METHODOLOGY

3.1 Constant Discharge Pumping Tests

The Client retained Air Rock Drilling Co. Ltd. (Air Rock), to install four test wells on the Site and to complete the well disinfection, pump installation, and operation for the pumping test work. Dedicated is a licenced well contractor and Site work was completed by licenced well technicians. Water samples were collected by a Pinchin staff member who works under supervision of a registered and practicing professional geoscientist (P.Geo.) in Ontario.

Prior to the pumping test on each well, the well contractor disinfected the well by chlorination as per shock chlorination procedure *Well Regulations – Well Disinfection (Technical Bulletin 1 of 11)*. After approximately 14 to 20 hours of contact time (i.e., the next day) the pumping test was conducted. The pumping test and groundwater sampling event were completed by placing a $\frac{3}{4}$ hp pump to approximately 5 to 10 m above the bottom of the well. The pump was powered by a portable generator. The pumping rate was controlled by a dedicated flow restrictor that maintained the discharge rate for the duration of the pumping test and the pumped water was discharged to the ground approximately 15 m from the well, in a direction that was observed to slope away from the well head. The pumping rate was selected based on well yield as determined during the 1-hr pumping test completed by the Well Contractor at the time of the well installation and the D-5-5 minimum requirement of 13.75 Lpm and to ensure that the well could sustain the pumping rate for the duration of the pumping test. The duration of the pumping test was 360 mins (6 hrs).

After pumping duration of the test was met, the free chlorine in the groundwater discharge was measured in the field using a Hach DR900 multiparameter portable colorimeter, and if below (0.0 mg/L), Pinchin staff collected a groundwater sample from the well for water quality analysis. If there was still free chlorine in the well, pumping continued until the free chlorine in the groundwater discharge was measured in the



field, and if below (0.0 mg/L), then a sample was collected. Samples were collected in laboratory supplied, single-use bottles and were stored on ice and delivery to the laboratory for analysis.

To assess the potential for interference from the pumping activities at the wells located at the Site, pumping tests were completed sequentially on the four Site wells. When one of the Site wells was being pumped the water levels in the other three wells on the Site were monitored. Efforts were made to gain permission to monitor water levels using data loggers in private wells near the Site; namely from nearby residents located along Ridgmont Drive, to the east of the Site. Three residents granted permission for their wells to be included in the monitoring program. The locations of the three domestic supply wells included in the monitoring program are shown on Figure 2 and are summarized below:

- 244 Ridgmont Dr. Approximately 130 m northeast of the Site. The well is a drilled well with well tag A309683. Based on well record in the MECP Water Well database this well was installed on March 31, 2021. The well is 43.7 m deep in completed in limestone with layers of shale and sandstone. The estimated well production at the time of well installation was 40.9 Litres per minute (Lpm) and the static water level was 8.95 metres below top of casing (mbtoc).
- 270 Ridgmont Dr. Approximately 95 m east of the Site. The well is a drilled well with well tag A309684. Based on well record in the MECP Water Well database this well was installed on March 31, 2021. The well is 53.6 meters deep and completed in limestone with layers of sandstone. The estimated well production at the time of well installation was 36.4 Lpm and the static water level was 9.2 mbtoc.
- 322 Ridgmont Dr. Approximately 65 m east of the Site. The well is a drilled well with well tag A296823. A review of the MECP Water Well Database did not locate a well record for this well. At the time of the installation of the data logger for the investigation the static water level was 10.79 mbtoc.

Groundwater samples were submitted to Caduceon Environmental Laboratories (Caduceon) for the 'D-5-5 Subdivision Suite' including bacterial parameters. Caduceon is an independent laboratory accredited by the Standards Council of Canada and the Canadian Association for Laboratory Accreditation. Formal chain of custody records of the sample submissions were maintained between Pinchin and the staff at Caduceon.

3.2 Test Pitting

The Client retained Dedicated Environmental Services Inc. (Dedicated) to complete test pitting as part of the Terrain Assessment portion of this project. Using a mini-excavator, nine (9) test pits were excavated



to assess depth to bedrock, soil character and saturation conditions. Additionally, ten (10) boreholes were advanced as part of a separate geotechnical investigation which was completed by Pinchin for the Client and dated January 21, 2025, and some of the data gathered in that assessment were considered in this study. The locations of the test pits and boreholes are shown on Figure 2. The test pits were examined by Pinchin staff who logged the soil stratigraphy, recorded depth to bedrock, and collected representative samples. A selection of samples that characterized the soils encountered across the Site were submitted to Malroz Engineering Inc. Laboratory (Malroz Laboratory) for grain size analysis and percolation (T-time) estimate. Malroz Laboratory is a certified laboratory with the Canadian Council of Independent

3.3 QA/QC Protocols

Various quality assurance/quality control (QA/QC) protocols were followed to ensure that representative groundwater samples were obtained, and that representative analytical data were reported by the laboratory.

Field QA/QC protocols that were employed by Pinchin included the following:

- The groundwater samples were placed in laboratory-supplied sample containers;
- Groundwater samples were collected within the last 10 minutes of the pumping test and after ensuring that free chlorine in the groundwater discharge at the well was below field detection (0.0 mg/L). If the free chlorine level was not yet below detection at the end of the scheduled pumping duration, then the pumping continued until the free chlorine in the discharge water was below detection, at which time the sample was collected;
- The groundwater samples were placed in a cooler on ice immediately upon collection, with appropriate sample temperatures maintained prior to submission to the laboratory;
- The soil samples were placed in single use, sealable sampling bags which were placed in a cooler;
- Dedicated and disposable nitrile gloves were used for sample collection; and
- Sample collection and handling procedures were performed in general accordance with the *MECP Sampling Guideline*, the *APGO Guideline* and Pinchin's SOPs for groundwater sampling.

4.0 GROUNDWATER SUPPLY - REGULATORY CRITERIA

The wells are for a domestic water supply, as such the analytical results were compared to the Ontario Drinking Water Standards (ODWQS) health related criteria (MAC) and to the ODWQS aesthetic and



operational criteria (AO and OG) as outlined in MECP Guideline *D-5-5 Private Wells: Water Supply Assessment* (D-5-5).

5.0 RESULTS

The following subsections present the results of the Remedial Excavation. Photographs depicting various aspects of the Remedial Excavation work are included in Appendix III.

5.1 Review of Servicing in the Area

No municipal services abut the Site. The closest municipal servicing is located approximately 5 km to the west in Carleton Place. There are no plans to extend this servicing at this time.

There are approximately 40 residential properties present along Ridgemont Dr. which runs northwest - southeast of the site, approximately 7 residential lots along Douglas Side Road, and another approximately 7 residential lots along McArton Road to the north of the Site. These areas, and other individual residences along County Road #26, are serviced by individual water and wastewater systems.

Based on review of servicing in the area it is determined that the most appropriate servicing for the proposed development is individual well and septic.

5.2 Review of Potable Water Supply in the Area

The suitability of individual drilled wells for water supply for the proposed development was assessed by reviewing the available water well records within approximately 500 m of the proposed development boundary. The MECP Well Record Database was reviewed, and a total of 40 well records were identified. The well record numbers and locations are shown on Figure 6, and a summary of well characteristics is included as Table 1 in Appendix II along with the individual well records.

The well records indicated that all the wells were drilled wells. Of the 40 well records where lithology was present, all wells terminated within limestone. It is noted that the well records for many of the wells indicated layers of shale or sandstone within the limestone unit. This may represent just shale layers which are not atypical for the limestone in the area or in some cases be indicative of transition to the sandstone unit that underlays the limestone in the area.

The depth of completion for the drilled wells ranged from 15.8 m to 136.4 m, with the average well depth being 43.0 m. The majority (78%) of the wells were completed between 30 m and 60 m below ground surface (mbgs).



Overburden thickness is generally shallow ranging from 0.0 m to 2.9 m. The average thickness for the overburden was 1.1 m and approximately 88% of the well records indicating overburden thickness less than 2.0 m.

Water was first found at depths ranging from 15.8 m to 71.0 m. Approximately 85% of the well records listed the depth of water first found to be in the range of 15 m to 40 m.

Pumping rates recommended by the drillers at the time of well installation were listed on all of the well records. The recommended pumping rates ranged from 22.7 liters per minute (Lpm) to 136.4 Lpm, with an average recommended pumping rate of 54.4 Lpm. These rates are based on short-term testing but demonstrate the variability and typically high yield in the potable water supply in the vicinity of the Site.

5.3 Review of Water Well Records for Site

The well records for the four wells installed on the Site are included in Appendix II. The locations of the wells are shown on Figure 2. The wells were completed by Air Rock Drilling Co. Ltd. (Air Rock), a registered well contractor in Ontario.

For all four of the Site wells the casing was installed to a depth of 12.2 mbgs. This exceeds the minimum depth of casing below ground of 6 m as specified in Regulation 903 (Wells) Section (11.2). The longer casing was chosen based on discussions with Air Rock prior to well construction, Air Rock indicated that, in their experience in the area, longer casings were often used, and in some cases specified. The longer casings do not contravene any aspect of Regulation 903 Wells.

5.3.1 Well #1 (A360958)

The well is a drilled well. Steel casing (15.9 cm dia.) was installed to a depth of 12.2 m with a stickup of approximately 0.61 m above ground surface. The annular space was sealed by pressure grouting from ground surface to 12.2 m. The stratigraphy at the well location was described as 0.91 m of sandy clay with stones overlaying limestone bedrock. The well was advanced 29.6 m into the limestone to completion depth of 30.5 m.

Water was found at 20.4 mbgs and 28 mbgs in the limestone unit. The static water level at the time of well completion was 7.74 meters below top of casing (mbtoc).

At the time of well installation the well driller completed a one-hour pumping test at 90.9 Lpm. This rate and duration of testing corresponds to a water taking of approximately 5,454 litres. The recommended pumping rate noted on the well record was 90.9 Lpm. During this pumping test the water level in the well decreased 0.20 m and recovered to the original static level within 3 minutes after pumping was stopped.



This well meets O. Reg. 903 requirements with respect to construction based on Site observations and review of the well record.

5.3.2 Well #2 (A360957)

The well is a drilled well. Steel casing (15.9 cm dia.) was installed to a depth of 12.2 m with a stickup of approximately 0.61 m above ground surface. The annular space was sealed by pressure grouting from ground surface to 12.2 m.

The stratigraphy at the well location was described as 0.91 m of sand and stones overlaying limestone bedrock. The well was advanced 41.8 into the limestone to a completion depth of 42.8 m.

Water was found at 40.5 mbgs in the limestone. The static water level at the time of well completion was 7.13 mbtoc.

At the time of well installation the well driller completed a one-hour pumping test at 54.6 Lpm. This rate and duration of testing corresponds to a water taking of approximately 3,276 litres. The recommended pumping rate on the well record is 54.6 Lpm. During this pumping test the water level in the well decreased 0.67 m and recovered to the original static level within 5 minutes after pumping was stopped.

This well meets O. Reg. 903 requirements with respect to construction based on Site observations and review of the well record.

5.3.3 Well #3 (A360960)

The well is a drilled well. Steel casing (15.9 cm dia.) was installed to a depth of 12.2 m with a stickup of approximately 0.61 m above ground surface. The annular space was sealed by pressure grouting from ground surface to 12.2 m.

The stratigraphy at the well location was described as 0.61 m of sand overlaying limestone bedrock. The well was advanced 51.8 m into the limestone to a completion depth of 51.2 m.

Water was found at a depth of 48.8 m and 50.3 m in the limestone unit. The static water level at the time of well completion was 7.13 mbtoc.

At the time of well installation the well driller completed a one-hour pumping test at 90.9 Lpm. This rate and duration of testing corresponds to a water taking of approximately 5,454 litres. The recommended pumping rate noted on the well record was 90.9 Lpm. During this pumping test the water level in the well decreased 0.15 m and recovered to the original static level within 2 minutes after pumping was stopped.

This well meets O. Reg. 903 requirements with respect to construction based on Site observations and review of the well record.



5.3.4 Well #4 (A360959)

The well is a drilled well. Steel casing (15.9 cm dia.) was installed to a depth of 12.2 m with a stickup of approximately 0.61 m above ground surface. The annular space was sealed by pressure grouting from ground surface to 12.2 m.

The stratigraphy at the well location was described as 0.61 m of sand overlaying limestone bedrock. The well was advanced 54.3 m into the limestone to a completion depth of 54.9 m.

Water was found at 23.5 mbgs and 52.7 mbgs in the limestone unit. The static water level at the time of well completion was 5.64 mbtoc.

At the time of well installation the well driller completed a one-hour pumping test at 45.7 Lpm. This rate and duration of testing corresponds to a water taking of approximately 2,742 litres. The recommended pumping rate noted on the well record was 45.7 Lpm. During this pumping test the water level in the well decreased 1.77 m and recovered to the original static level within 20 minutes after pumping was stopped.

This well meets O. Reg. 903 requirements with respect to construction based on Site observations and review of the well record.

Based on review of MECP well records in the area and the four wells installed on the Site as part of this investigation a well depth target of 20 m to 50 m below ground surface in the limestone unit is recommended. Further, the well should only be advanced until adequate yield for the proposed development on the lot is encountered.

5.4 Constant Discharge Pumping Tests

The calculation of an appropriate pumping rate for the pumping tests is outlined in Section 4.3.2 of D-5-5, which indicates that the per-person requirement shall be 450 litres per day (Lpd). Peak demand occurs for a period of 120 minutes each day. This is equivalent to a peak demand rate of 3.75 litres per minute for each person. The basic minimum pumping test rate is this rate multiplied by the "likely number of persons per well" which, for a single-family residence, shall be the number of bedrooms plus one. Unless it is otherwise established to MECPs satisfaction, a minimum of four bedrooms shall be used in the calculation. However, regardless of the results of this calculation, this rate shall not be less than 13.7 litres per minute (Lpm). Assuming the dwellings will consist of 4-bedrooms, the calculated equivalent peak demand would be 5 (persons) multiplied by 3.75 Lpm which equals 18.75 litres per minute for 120 minutes. Similarly, the total daily water demand would be 5 (persons) multiplied by 450 Lpd which equals 2,250 L.

Based on short duration pumping tests completed by the well contractor at the time of well constructions



the wells were noted as very good producers. To impart a perturbation into the aquifer system that would allow for determination of aquifer characteristics and potentially emulate the effect of more than one well in normal use the pumping rate for the constant discharge pumping tests was set at 90.9 Lpm for Wells #1, #2, and #3, and 68.2 Lpm for well 4. The test rates used were 6.6 times the minimum testing rate requirement of 13.7 Lpm (Wells #1, #2, and #3) and 5.0 times the minimum for Well #4. These rates, and the duration of 6 hours of pumping, results in a water taking of 32,724 L at Wells #1, #2, and #3 and 24,552 L at Well #4. These volumes are comparable to the total daily water requirements of approximately 10 to 14 four-bedroom homes. Variation in well response and recovery time is typical of fractured rock aquifers. Review of the well records in the area also show variable well yield. The wells on the Site are considered representative and excellent producers.

The methodology for the pumping tests is described in a previous section. Information specific to schedule and setup of the individual pumping tests are summarized in Table 2 summarized below.

Table 2: Summary Pumping Test Setup for Each Test Well.

Pumping Well ID	Pumping Test Date & Start Time	Pumping Rate (Lpm)	Pumping Duration (minutes)	Monitoring Network: Well ID, Distance, and Direction from Pumping Well
Well #1 (A360958)	25-Oct-2024 4:00 AM	90.9 Lpm	360 min	Well #2 A360957, 184 m, N. Well #3 A360959, 351 m, W. Well #4 A360960, 473 m, W. 322 Ridgemont Dr., 185 m, NE. 270 Ridgemont Dr., 244 m, NE. 244 Ridgemont Dr., 346 m, SE.
Well #2 (A360957)	24-Oct-2024 5:15 AM	90.9 Lpm	360 min	Well #1 (A360958), 184 m, S. Well #3 A360959, 374 m, SW. Well #4 A360960, 541 m, SW. 322 Ridgemont Dr., 318 m, SE. 270 Ridgemont Dr., 175 m, E. 244 Ridgemont Dr., 200 m, NE.
Well #3 (A360960)	23-Oct-2024 5:45 AM	90.9 Lpm	360 min	Well #1 (A360958), 351 m, E. Well #2 A360957, 374 m, NE. Well #4 A360960, 189 m, SW. 322 Ridgemont Dr., 560 m, SE. 270 Ridgemont Dr., 535 m, E. 244 Ridgemont Dr., 569 m, NE.



Pumping Well ID	Pumping Test Date & Start Time	Pumping Rate (Lpm)	Pumping Duration (minutes)	Monitoring Network: Well ID, Distance, and Direction from Pumping Well
Well #4 (A360959)	21-Oct-2024 (6:30 AM)	68.2 Lpm	360 min	Well #1 (A360958), 473 m, E. Well #2 A360957, 541 m, NE. Well #3 A360959, 189 m, NE. 322 Ridgemont Dr., 632 m, E. 270 Ridgemont Dr., 688 m, NE. 244 Ridgemont Dr., 742 m, NE.

5.4.1 Well #1 (A360958)

A plot of water drawdown during the Well #1 pumping test is included as Figure 7. During the 6 hours of pumping at 90.9 Lpm, a total of approximately 32,724 L of water were pumped from the well. The maximum drawdown observed in the pumping well was to 9.37 mbtoc (a drawdown of 0.16 m from static water level). When pumping stopped, the water level in the well recovered to greater than 95% within 240 minutes. A summary of the pumping test results is included as Table 3 below.

Table 3: Summary of Pumping Test for Well #1 (A360958).

Duration of Pumping Test (min)	Pumping Rate (Lpm)	Static Water Level (mbtoc)	Maximum Drawdown (mbtoc)	Maximum Drawdown (m)	Total volume of water pumped (L)	Recovery in 10 min (%)	Time to 95+% Recovery (min)
360	90.9	9.22	9.38	0.16	32,724	50 %	240 min

5.4.2 Well #2 (A360957)

A plot of water drawdown during the Well #2 pumping test is included as Figure 8. During the 6 hours of pumping a total of approximately 32,724 L of water were pumped from the well. The maximum drawdown observed in the pumping well was to 9.10 mbtoc (a drawdown of 0.48 m from the static water level). When pumping stopped, the water level in the well recovered to 93% of static within 60 minutes. A summary of the pumping test is included as Table 4 below.



Table 4: Summary of Pumping Test for Well #2 (A360957).

Duration of Pumping Test (min)	Pumping Rate (Lpm)	Static Water Level (mbtoc)	Maximum Drawdown (mbtoc)	Maximum Drawdown (m)	Total volume of water pumped (L)	Recovery in 4 min (%)	Time to 93% Recovery (min)
360	90.9	8.63	9.10	0.48	32,724	80%	60 min

5.4.3 Well #3 (A360960)

A plot of water drawdown during the Well #3 (A360960) pumping test is included as Figure 9. During the 6 hours of pumping a total of approximately 32,724 L of water were pumped from the well. The maximum drawdown observed in the pumping well was to 8.78 mbtoc (a drawdown of 0.07 m from the static water level). When pumping stopped, the water level in the well fully recovered to the original static level 50 minutes. A summary of the pumping test is included as Table 5 below.

Table 5: Summary of Pumping Test for Well #3 (A360960).

Duration of Pumping Test (min)	Pumping Rate (Lpm)	Static Water Level (mbtoc)	Maximum Drawdown (mbtoc)	Maximum Drawdown (m)	Total volume of water pumped (L)	Recovery in 10 min (%)	Time to 100% Recovery (min)
360	90.9	8.71	8.78	0.07	32,724	67%	50 min

5.4.4 Well #4 (A360959)

A plot of water drawdown during the Well #4 pumping test is included as Figure 10. During the 6 hours of pumping at 68.2 Lpm a total of approximately 24,552 L of water were pumped from the well. The maximum drawdown observed in the pumping well was to 9.03 mbtoc (a drawdown of 2.21 m from the static water level). When pumping stopped, the water level in the well fully recovered to the original static level 240 minutes (4 hours). A summary of the pumping test is included as Table 6 below.



Table 6: Summary of Pumping Test for Well #4 (A360959).

Duration of Pumping Test (min)	Pumping Rate (Lpm)	Static Water Level (mbtoc)	Maximum Drawdown (mbtoc)	Maximum Drawdown (m)	Total volume of water pumped (L)	Recovery in 15 min (%)	Time to 95+% Recovery (min)
360	68.2	6.83	9.03	2.21	24,552	70%	240 min

5.5 Aquifer Characteristics.

In addition to the field pumping test data, analytical interpretation was completed using Aqtesolv software to evaluate aquifer hydraulic parameters. The analysis yielded values of Transmissivity (T) and Storativity (S), and from these results the Hydraulic Conductivity (K) was also calculated.

- Transmissivity (T) represents the ability of the aquifer to transmit water through its entire saturated thickness. Higher transmissivity indicates that the aquifer can sustain higher pumping rates with less drawdown, which is desirable for water supply wells.
- Storativity (S) is a dimensionless parameter that indicates the volume of water an aquifer releases from or takes into storage per unit surface area of aquifer per unit change in head.
- Hydraulic Conductivity (K) describes how easily water can move through the aquifer material. It is calculated as:

$$K = \frac{T}{b}$$

where b is the aquifer thickness (approximated here by the open-hole interval of each well within the limestone). Hydraulic conductivity is a fundamental aquifer property for comparing different locations and assessing long-term water supply sustainability. The calculated values are summarized in Table 7 and Aqtesolv output sheets are included in Appendix III.

Table 7: Summary of Aqtesolv Analysis Results

Well ID	Analytical Solution Applied	Completion Depth (m)	Open Bedrock Interval (m)*	Transmissivity, T (m ² /s)	Storativity, S (-)	Hydraulic Conductivity, K (m/s)
Well #1 A360958	Semi-Confined Hantush (Leaky)	30.5	18.3	0.0060	0.041	3.3×10^{-4}
Well #2 A360957	Confined Cooper-Jacob	42.8	30.6	0.0035	0.0007	1.2×10^{-4}
Well #3 A360960	Unconfined Cooper-Jacob	51.2	39.0	0.0016	0.697	4.1×10^{-5}
Well #4 A360959	Confined Cooper-Jacob	54.9	42.7	0.0005	0.330	1.2×10^{-5}

* Open bedrock interval calculated as total depth minus casing depth (12.2 m).

5.5.1 Discussion of Results

- Well A360960 (Unconfined Cooper-Jacob):
The unconfined Cooper-Jacob solution provided the best fit, yielding a transmissivity of 0.0016 m²/s (~139 m²/day). The calculated hydraulic conductivity of 4.1E-5 m/s (~3.5 m/day) is moderate for fractured limestone. The storativity value (0.6973) is high, reflecting the release of water from both elastic storage and drainage of pore spaces and fractures typical of unconfined aquifers.
- Well A360958 (Semi-Confined Hantush Solution):
A leaky aquifer model (Hantush) provided the best fit. The transmissivity of 0.0060 m²/s (~517 m²/day) and a K = 3.3E-4 m/s (~28.7 m/day) indicate a relatively productive interval. The storativity (0.04113) is somewhat higher than would be expected for a fully confined aquifer, consistent with partial confinement.
- Well A360957 (Confined Cooper-Jacob):
The confined solution Cooper-Jacob solution provided the best fit. The transmissivity of 0.0045 m²/s (~306 m²/day) and a K = 1.2E-4 m/s (~10.0 m/day), with a storativity of 0.0007. These values are typical for a confined fractured limestone aquifer.



- Well A360959 (Confined Cooper-Jacob):
A confined solution Cooper-Jacob solution provided the best fit. This well displayed relatively low transmissivity ($0.0005 \text{ m}^2/\text{s}$ ($\sim 43.6 \text{ m}^2/\text{day}$) and $K = 1.2\text{E-}5 \text{ m/s}$ ($\sim 1.0 \text{ m/day}$), suggesting the intersected fractures are less transmissive compared to the other wells. The storativity of 0.34 is high for a confined aquifer, which may be due to local partial leakage or imperfect curve-fitting.

The combined results confirm that the aquifer is heterogeneous, with transmissivity values spanning nearly an order of magnitude (0.0005 to $0.006 \text{ m}^2/\text{s}$) and hydraulic conductivities ranging from approximately 1 m/d to 29 m/day . The variable storativity values are interpreted to further illustrate the degrees of confinement conditions across the site.

From a water supply perspective, these results demonstrate the fractured limestone aquifer is capable of sustaining residential-scale withdrawals. This is further reflective of the high flow rates sustained during the 6-hour pumping test investigations and rapid recovery of the water level in the pumping well.

5.6 Potential for Well Interference

In preparation for the constant head pumping tests letters were distributed to nine homes along the west side of Ridgmont Drive closest to the Site seeking permission to monitor the water level in the residence well using a data logger for the duration of the pumping test portion of the investigation. The addresses where letters were delivered by hand were: 322, 310, 296, 288, 278, 270, 260, 254, and 244 Ridgmont. At five of the addresses a person was present, and the letter was given to them and a brief overview of the testing discussed. Letters were left in the front door for the other addresses. Permission to monitor the water level in the residence well was granted for 322, 270, and 244 Ridgmont Drive. An example of the letter distributed is included in Appendix IV.

During each pumping test the other three wells on the Site were instrumented with data loggers to record the water levels in the wells. Additionally, three nearby domestic supply wells along Ridgmont Dr. were included in the monitoring program. The street address of the domestic supply wells monitored and their distance from the pumping wells are included in Table 2.

The private domestic wells monitored during the test remained in service and short duration drawdown and recovery events can be seen in the data. These events reflect the pumps in the domestic wells coming on to repressurize the water supply system at the residences and are not drawdown resulting from the pumping well activities.



Overall, the amount of drawdown in the monitoring network wells that is attributable to pumping activities was small and ranged from zero (no interaction at all) to a maximum of 0.12 m. Approximately 75% of all the interactions across the four pumping tests were less than 0.05 m of attributable drawdown from pumping activities. Observations regarding potential well interference are summarized below in Table 8.

Table 8: Summary of Findings for Potential Well Interference.

Pumping Well ID	Pumping Rate (Lpm)	Pumping Duration (min)	Monitoring Network: Well ID, Distance and Direction from Pumping Well	Drawdown Attributable to Pumping Activities (m)
Well #1 (A360958)	90.9 Lpm	360 min	Well #2 A360957, 184 m, N.	0.11
			Well #3 A360959, 351 m, W.	0.03
			Well #4 A360960, 473 m, W.	None
			322 Ridgemont Dr., 185 m, NE.	0.11
			270 Ridgemont Dr., 244 m, NE.	0.04
			244 Ridgemont Dr., 346 m, SE.	0.10
Well #2 (A360957)	90.9 Lpm	360 min	Well #1 (A360958), 184 m, S.	0.12
			Well #3 A360959, 374 m, SW.	0.04
			Well #4 A360960, 541 m, SW.	0.02
			322 Ridgemont Dr., 318 m, SE.	0.12
			270 Ridgemont Dr., 175 m, E.	0.04
			244 Ridgemont Dr., 200 m, NE.	0.12
Well #3 (A360960)	90.9 Lpm	360 min	Well #1 (A360958), 351 m, E.	None
			Well #2 A360957, 374 m, NE.	0.02
			Well #4 A360960, 189 m, SW.	None
			322 Ridgemont Dr., 560 m, SE.	0.02
			270 Ridgemont Dr., 535 m, E.	0.04
			244 Ridgemont Dr., 569 m, NE.	0.02
Well #4 (A360959)	68.2 Lpm	360 min	Well #1 (A360958), 473 m, E.	0.02
			Well #2 A360957, 541 m, NE.	0.02
			Well #3 A360959, 189 m, NE.	None
			322 Ridgemont Dr., 632 m, E.	0.02
			270 Ridgemont Dr., 688 m, NE.	None
			244 Ridgemont Dr., 742 m, NE.	0.02

Plots of drawdown versus time for the monitoring wells are provided as follows:

- Well #1 (A360958), Figure 11a and Figure 11b;
- Well #2 (A360957), Figure 12a and Figure 12b (reduced y-axis);
- Well #3 (A360960), Figure 13a and Figure 13b (reduced y-axis); and
- Well #4 (A360959), Figure 14a and Figure 14b (reduced y-axis).



Additional insight into the response of the aquifer to pumping is present in the plots when it is remembered that the residential well, and wells on neighbouring properties in the vicinity, all remained in service for the duration of the pumping tests. There is very little evidence of pumps coming on for short periods to repressurize water systems. This suggests that normal well use by neighbouring homes is not discernible in the monitoring well. A high-rate pumping test for 6-hrs where the total daily water requirements for on the order of 10 to 14 homes was withdrawn only had a discernible drawdown in the off site well of a few centimeters.

Based on these data no adverse interference between wells on the proposed development and existing domestic supply wells is to be anticipated.

5.7 Groundwater Flow Direction

Water levels in the four Site wells were measured prior to the additional sampling event in September 2025. Figure 15 shows the water levels (masl) and interpreted groundwater contours. Groundwater flow is interpreted to be to the north in the southern portion of the Site. The hydraulic gradient in this area is approximately 0.009 m/m. The groundwater table is relatively flat across the centre of portion of the site with a slight low in the centre-west area. There is a slight increase in the groundwater elevation in the north of the Site at Well #2 with a southward gradient of approximately 0.001 m/m.

5.8 Water Supply – Quality

Review of the initial hydrogeological report by the municipality and their peer reviewer commented that an off-Ste private well survey should be conducted in which any issues with the private wells (quantity/quality) in the area be discussed and a raw water sample be collected for analysis. To address this comment, letters seeking permission to sample the private wells and a brief questionnaire was distributed to all homes within 200 m of the Site boundary. An example of the letter is included in Appendix III. The canvassing reached out to a total of 21 homes with 20 of the homes located along the west and east side of Ridgemont Drive and one home located on Douglas Side Road, near the intersection of Douglas Side Road and Ridgemont Drive. Only one resident (235 Ridgemont Drive) granted permission for testing and completed the questionnaire. The resident indicated that they had not had any water quality or quantity issues in the years that they had lived there and that the only water treatment in use was a water softener. Sampling was completed during the week of September 19th. Once the water quality results are received from the laboratory and the water quality results reviewed, the information will be relayed to the municipality.



The summary of the groundwater analytical results along with the ODWQS Health Related Maximum Allowable Concentration (MAC) and Aesthetic Objective (AO) as well as the Aesthetic Limits as listed in the MECP D-5-5 Guideline are presented in Table 9 in Appendix IV. The laboratory Certificate of Analysis for the groundwater samples is provided in Appendix V. Residual chlorine was measured in the field and confirmed to be below detection prior to collection of the raw groundwater samples prior to cessation of pumping.

5.8.1 Well #1 (A360958)

Water quality results for the raw groundwater sample collected from Well #1 (A360958) prior to cessation of the pumping test met the applicable criteria:

- Health Related Parameters (MAC)
 - The analytical result for sodium was 39.8 mg/L compared to the Warning Level MAC of 20 mg/L. This health-related limit is a "warning level" only. Exceedance calls for a recommendation that the local Medical Officer of Health be notified in order to alert persons with medical conditions or dietary restrictions.
- Aesthetic Objective (AO) & Operational Guideline (OG) Related Parameters
 - The analytical result for manganese was 0.144 mg/L compared to the AO criteria of 0.05 mg/L; and
 - The analytical result for hardness exceeded was 343 mg/L compared to the OG of 80-100 mg/L. Hardness did not exceed the AO criteria of 500 mg/L.

The raw water quality is considered good and suitable as a potable water source. If the user finds the elevated hardness to be unpalatable or causes objectional staining, treatment systems such as a water softener could be incorporated into the water treatment system. Treating hardness usually results in a decrease in manganese as well. If sodium levels pose a dietary or medical concern an undercounter reverse osmosis system connected to a dedicated drinking water spigot could be part of the water treatment system.

5.8.2 Well #2 (A360957)

Water quality results for the raw groundwater sample collected from Well #2 (A360957) prior to cessation of the pumping test met the applicable criteria, with the following exceptions:

- Health Related Parameters (MAC)
 - All analyzed parameters complied with MACs.



- Aesthetic Objective (AO) & Operational Guideline (OG) Related Parameters
 - The analytical result for hardness was 311 mg/L compared to the OG of 80-100 mg/L. Hardness did not exceed the AO criteria of 500 mg/L.

The raw water quality is considered good and suitable as a potable water source. If the user finds the elevated hardness to be unpalatable or cause objectional staining, treatment systems such as a water softener could be incorporated into the water treatment system.

5.8.3 Well #3 (A360960)

Water quality results for the raw groundwater sample collected from Well #3 (A360960) prior to cessation of the pumping test met the applicable criteria:

- Health Related Parameters (MAC)
 - All analyzed parameters complied with MACs.
- Aesthetic Objective (AO) & Operational Guideline (OG) Related Parameters
 - The analytical result for hardness was 357 mg/L compared to the OG of 80-100 mg/L. Hardness did not exceed the AO criteria of 500 mg/L.

The raw water quality is considered good and suitable as a potable water source. If the user finds the elevated hardness to be unpalatable or cause objectional staining, treatment systems such as a water softener could be incorporated into the water treatment system.

5.8.4 Well #4 (A360959)

Water quality results for the raw groundwater sample collected from Well #4 (A360959) prior to cessation of the pumping test met the applicable criteria, with the following exceptions:

- Health Related Parameters (MAC)
 - All analyzed parameters complied with MACs.
- Aesthetic Objective (AO) & Operational Guideline (OG) Related Parameters
 - The analytical result for hardness was 385 mg/L compared to the OG of 80-100 mg/L. Hardness did not exceed the AO criteria of 500 mg/L.

The raw water quality is considered good and suitable as a potable water source. If the user finds the elevated hardness to be unpalatable or cause objectional staining, treatment systems such as a water softener could be incorporated into the water treatment system.



The Municipality's peer reviewer commented that additional water quality analysis was required. The reviewer identified two specific concerns. The first concern was that trace metals including barium and strontium should be assessed, and the second concern, that the presence of Cavanagh Construction located to the south of the Site raised concern for potential impacts that had not been assessed. To address both concerns the four test wells on Site were re-sampled. Resampling was completed by pumping each at 90.1 Lpm for 30 minutes to flush out any stagnant water and ensure that fresh water was collected as the sample. Samples were collected using dedicated bottle supplied by the laboratory. Samples were submitted for analysis of trace metal list, petroleum hydrocarbons fractions F1 through F4 (PHC F1-F4), Benzene, Ethylene, Toluene and Xylenes (collectively referred to as BTEX), and Polycyclic Aromatic Hydrocarbons (PAHs). When the results have been received and interpreted, an updated water quality assessment will be forwarded to the Municipality.

5.9 Water Treatment Options

- **Preventative Disinfection** - As a preventative and best management practice it is recommended that any water supply system utilizing an individual well as the supply source include water disinfection. The most common treatment to meet this recommendation is disinfection by UV with appropriate particulate pre-filtration. Such systems are readily available.
- **Hardness** - Hardness has an Operational Guideline of 80 to 100 mg/L, a range considered to provide an acceptable balance between corrosion and incrustation and to aid in source selection when applicable. Water supplies with a hardness greater than 200 mg/L are considered poor but tolerable. Hardness in excess of 500 mg/L in drinking water is unacceptable for most domestic purposes however, neither the MECP D-5-5 nor the ODWQS guidance provide an upper limit for treatability. The analytical result for hardness for samples collected from wells ranged from 272 mg/L to 332 mg/L. If the user finds the water unpalatable or wishes to reduce any scaling that may occur, an off-the-shelf water softener solution would readily provide treatment. Such systems are readily available.
- **Manganese** - The Aesthetic Objective (AO) for manganese is 0.05 mg/L. manganese is objectionable in water supplies because it can stain laundry and fixtures black, and at excessive concentrations causes undesirable tastes in beverages. Manganese is present in some groundwaters because of chemically reducing underground conditions coupled with presence of manganese mineral deposits. A water softener is often the best tool for removing manganese. The water softener can handle significant quantities of



manganese, but it only works well if all the manganese is un-precipitated. Alternatively, there are a variety of filter systems available that may be more effective depending on the overall water chemistry.

A water treatment professional should be consulted for appropriate equipment sizing and treatment options.

Additionally, a letter to the Medical Officer of Health for Leeds, Grenville and Lanark District Health Unit has been issued to notify that sodium concentrations may exceed the ODWQS warning level for persons on sodium restricted diets. A copy of the letter is included in Appendix V.

5.10 Site Suitability for In-Ground Wastewater Disposal

Nine test pits were excavated across the Site to investigate the suitability of the Site for in-ground wastewater disposal. On Dec 2, 2024, the test pits excavated by a contractor retained by the Client using a Kubota min-excavator. The test pits were examined by Pinchin staff who logged the soil stratigraphy, recorded depth to bedrock, and collected representative samples. The stratigraphy of the test pits is summarized in Table 10.

Based on the observations made on the 9 test pits, the overburden can be described as shallow with the overburden thickness ranging from 0.15 m to 0.30 m, with the exception of test pit TP-4 which was advanced to 1.98 mbgs and did not encounter bedrock. The limestone bedrock surface has some degree of surficial weathering. The average overburden thickness was approximately 0.44 m. The overburden is a brown silty sand with some gravel. The overburden was loose and damp. Groundwater was not encountered in any of the test pits.

Samples from TP-1, TP-5, TP-7, and TP-8 were submitted to Malroz Engineering Inc. Laboratory (Malroz Laboratory) for grain size analysis and percolation (T-time) estimate. Results of the grain size analysis are included as in Appendix V.

The sample collected from test pit TP-1 (0.05 m to 0.15 m) was comprised of approximately 4% gravel, 64% sand, and 32% silt and clay. The material was categorized as silty sand with trace gravel. The estimated T-time from the sample was 8 to 20 min/cm.

The sample collected from TP-5 (0.05 m to 0.30 m) was comprised of approximately 14% gravel, 63% sand, 24% silt and clay. The material was categorized as silty Clayey sand with some gravel. The estimated T-time from the sample was 8 to 20 min/cm.



The sample collected from TP-7 (0.05 m to 0.15 m) was comprised of approximately 15% gravel, 66% sand, and 18% silt and clay. The material was categorized as sand, some gravel, some silt and clay. The estimated T-time from the sample was 8 to 20 min/cm.

The sample collected from TP-8 (0.05 m to 0.30 m) was comprised of approximately 10% gravel, 62% sand, and 28% silt and clay. The material was categorized as silty, clayey sand with some gravel. The estimated T-time from the sample was 8 to 20 min/cm.

For Class IV systems, the Ontario Building Code (OBC) requires a minimum of 900 mm (0.900 m) separation from the base of the gravel layer of the bed to the bedrock (or saturated overburden conditions). This thickness requirement of overburden was only observed in one test pit; TP-4 where bedrock was not encountered above 1.98 m, where excavation stopped.

Table 10: Test Pit Stratigraphy and Observations.

Test Pit ID	Easting	Northing	Interval (mbgs)	Description
TP-1	415179	5003150	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.15	Brown Silty Sand with small roots. Loose. Dry.
			0.15	Limestone Bedrock. Dry.
TP-2	415201	5003246	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.20	Brown Silty Sand. Loose. Dry.
			0.20	Limestone Bedrock. Dry.
TP-3	415065	5003195	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.30	Brown Silty Sand. Loose. Dry.
			0.30	Limestone Bedrock. Dry.
TP-4	414986	5003218	0 - 0.15	Topsoil with corn stalk. Loose. Dry.
			0.15 - 0.30	Brown Silty Sand. Loose. Dry.
			0.30 - 1.98	Brown Silty Sand. Loose with Gravel. Dry.
			1.98	Bedrock not encountered.
TP-5	414997	5003117	0 - 0.05	Topsoil with small roots. Loose. Damp.
			0.05 - 0.30	Brown Silty Sand. Loose. Dry.



Test Pit ID	Easting	Northing	Interval (mbgs)	Description
			0.30	Limestone Bedrock. Dry.
TP-6	415365	5003468	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.30	Brown Silty Sand. Loose. Dry.
			0.30	Limestone Bedrock. Dry.
TP-7	415398	5003369	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.15	Brown Silty Sand with small roots. Loose. Dry.
			0.15	Limestone Bedrock. Dry.
TP-8	415440	5003281	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.30	Brown Silty Sand with small roots. Loose. Dry.
			0.30	Limestone Bedrock. Dry.
TP-9	415496	5003297	0 - 0.05	Topsoil with grass roots. Dry.
			0.05 - 0.30	Brown Silty Sand with small roots. Loose. Dry.
			0.30	Limestone Bedrock. Dry.

Notes: Coordinates are in Zone T18. The bold and shaded description indicates the sample was submitted for analysis.

As a component of a geotechnical investigation completed on the Site by Pinchin, ten boreholes were advanced to bedrock across the Site. The locations of the boreholes are shown on Figure 2, and the borehole logs are included in Appendix VII. Based on the borehole logs the depth to bedrock ranged from 0.15 m to 0.61 m, with an average overburden thickness of 0.44 m. Based on the overburden thickness the Site is classified as Hydrogeologically Sensitive.

Guidance from Mississippi Rideau Septic System Office (MRSSO) indicates that the use of a “clay seal” (0.10 m of imported clay material placed over the loading area) and imported sand fill for a “mantle” will be required for sites with less than 0.25 m of unsaturated soil (as defined in 8.1.1.2., Ontario Building Code Compendium, O.Reg. 203/24. Based on these requirements additional material would be needed at some of the lots for Class IV systems. Sizing for lot specific septic systems is not within the scope of this investigation as the system size will be determined by the dwelling size / number of fixtures and location specific percolation testing completed by the septic designer. However, for purposes of demonstrating



that there is sufficient space on the lots for a Class IV system (and there by sufficient space for a tertiary system which occupies a smaller footprint) a generic leaching bed size of 680 m² has been used on the conceptual lot plan.

A tertiary system has system specific design criteria to allow for less imported material, and in some cases a less elevated mound. This may make a tertiary system a preferred cost or space saving approach. A variety of tertiary systems are approved with some specifically designed to be employed in shallow soil conditions. Additional costs associated with tertiary systems may be at least partially offset by the requirement for additional imported material that would be required for a Class IV system to address the shallow overburden conditions. The reduced footprint associated with a tertiary system can also provide more flexibility in location on the lot. A tertiary system also provides a greater overall degree of wastewater treatment and thereby increased protection for the environment.

In general, if sufficient thickness of natural material is present, and OBC and municipal design requirements are incorporated into the system design, then Class IV systems may be adequate for wastewater treatment servicing at the Site. Placement of systems must meet all OBC setbacks. Based on the percolation rates obtained during this investigation, Class IV system beds would require on the order of 680 m² of area for a 4-bedroom single family dwelling. More refined sizing would be calculated by the septic designer based on daily flow calculations made from actual building design plans, but for the purpose of assessing if there is adequate space on the proposed lots for the systems, these estimated areas are sufficient to assess whether sufficient space on the lots is present.

Each proposed lot has sufficient area for a primary septic infiltration bed location. System selection and design are specific to the dwelling design and size which are beyond the scope of this study.

5.11 Assessment of Potential for Groundwater Impact by on-Site Sewage System

As noted in previous sections, the Site does not meet the criteria of being classified as not hydrogeologically sensitive based on relatively thin overburden cover. The average overburden thickness at the Site as determined from well drilling and test pitting investigations was 0.44 m. Generally, a minimum of 2.0 m of low permeability overburden is required for a site to be not hydrogeologically sensitive.

The three-step procedure outlined in the MECP guideline: *D-5-4 Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment* was used to assess groundwater impact potential from on-site sewage systems for the proposed development.

The purpose of the assessment is to ensure that the effluent discharges from the individual on-site sewage systems will have a minimal effect on the groundwater and the present or potential use of the



adjacent property. For the purposes of the D-5-4 Guideline, the Ontario Drinking Water Quality Standards (ODWQS) of 10 mg/L of nitrate-nitrogen is used as an indicator of groundwater impact potential.

The assessment involves a three-step process. The need to advance to the next step depends on not meeting conditions defined in the previous step.

For developments where the lot size for each private residence within the development is one hectare or larger, the risk that the boundary limits imposed by these guidelines may be exceeded by individual systems is considered acceptable in most cases. Developments consisting of lots which average 1 hectare (with no lot being smaller than 0.8 ha), may not require a detailed hydrogeological assessment, provided that it can be demonstrated that the area is not hydrogeologically sensitive. In such circumstances, it is the responsibility of the proponent to obtain a professional analysis from a qualified consultant that the area is not hydrogeologically sensitive. However, the Site is hydraulically sensitive based on overburden thickness that is less than 2.0 m.

It is assumed that attenuative processes within a one-hectare lot will be sufficient to reduce the nitrate-nitrogen to an acceptable concentration in groundwater below adjacent properties. It should be noted that sufficient attenuative processes may not be present in hydrogeologically sensitive environments, or where there is little water surplus available.

5.11.1 Step 1 – Lot Size Considerations

For developments where the lot size for each private residence within the development is one hectare (ha) or larger, the risk that the boundary limits imposed by these guidelines may be exceeded by individual systems is considered acceptable in most cases.

Based on the conceptual Site design provided by the client, the proposed lot sizes range from approximately 0.40 ha to 1.9 ha. The average lot size is approximately 0.60 ha.

The average lot size is less than 1 ha, and the smallest lot is less than 0.8 ha. The proposed development does not satisfy Step 1, and the assessment must proceed to Step 2.

5.11.2 Step 2 - System Isolation Considerations

Where proposed lot sizes are less than one hectare, the proponent and/or the consultant is/are responsible for assessing the potential risk to groundwater. Developments will normally be considered as low risk where it can be demonstrated that sewage effluent is hydrogeologically isolated from existing or potential supply aquifer(s).

Based on the observations made on the 9 test pits, the overburden can be described as shallow with the overburden thickness ranging from 0.15 m to greater than 1.98 m overlaying limestone bedrock. At most



of the test pit locations the overburden thickness was 0.30 m or less. The overburden does not provide sufficient isolation.

The depth to first water found as reported in the well records for the four Site wells ranged from 15.8 mbgs to 71.0 mbgs. It is noted that the surface of the limestone bedrock may exhibit weathering, but such weathering is thin (on the order of 0.2 m or less) with generally competent rock below. Based on the above observed conditions and the review of the MECP Well Record database it is concluded that, in general, the water-bearing features in aquifers targeted has on the order of greater than 15 m of bedrock isolating it from the surface. While this provides a degree of isolation, it is challenging to defend this alone as sufficient isolation with respect to MECP D-5-4 without site specific intrusive investigations to prove absence of fracture networks that may act as potential contaminant pathways. Therefore, as a conservative approach it is assumed that the thickness of bedrock can not be relied upon as providing adequate isolation.

Step 2 of the assessment of potential for groundwater impact by on-Site sewage system does not meet and the assessment does not need to advance to Step 3.

5.11.3 Step 3 – Attenuation Calculations

Where it cannot be demonstrated that the sewage effluent is hydrogeologically isolated from all existing or potential supply aquifers, a hydrogeologic study is required to assess the risk that the development's individual on-site systems will cause concentrations of nitrate-nitrogen in groundwater to exceed 10 mg/L at the downgradient property boundary. Dilution is considered the only acceptable mechanism for attenuation of nitrate for the purposes of the D-5-4 assessment.

The predictive assessment for the Sites was carried out following the D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Risk Assessment (Ministry of the Environment, 1996). Water available for dilution consists of infiltrated precipitation and does not generally include groundwater flow through a site. For use throughout the assessment the Guidelines specify a minimum value of 40 mg/L nitrate in the effluent per household. Additionally, a maximum of 1,000 Liters per day of sewage effluent may be used for dilution. A mass balance calculation, presented below, is used to estimate nitrate concentrations at the property boundary.

$$Q_t C_t = Q_e C_e + Q_i C_i$$

Rearranged as:

$$C_t = \frac{Q_e C_e + Q_i C_i}{Q_t}$$



Where:

- Q_t = Total Volume ($Q_e + Q_i$)
- C_t = Total concentration of nitrate at the property boundary
- Q_i = Volume of septic effluent
- C_e = Concentration of nitrate in effluent (40 mg/L)
- Q_i = Volume of available dilution water
- C_i = Concentration of nitrate dilution water (0.1 mg/L)

The volume of available dilution water (Q_i) is calculated by the following equation:

$$Q_i = A \times S \times I$$

Where:

- A = Area of the Site
- S = Water surplus
- I = Infiltration factor

The water surplus was calculated using the 1991 to 2020 Canadian Climate Normals Data for the Ottawa Airport which is located approximately 35 km northeast of the Site and is the closest location with available data. The average yearly precipitation for this time period was 929.80 millimeters per year (mm/yr). Potential evapotranspiration (PET) was calculated using the Thornthwaite-Mather method. Average PET for the time period was determined to be approximately 603.03 mm/yr. The infiltration factor was based on site specific information and corresponding values obtained from the Ontario Stormwater Management Planning and Design Manual. The infiltration factor and calculated water surplus for the Sites were calculated to be 0.7 considering topography, cover, and soil type. This results in an infiltration value of 282.30 mm/yr at the Site. The lot areas were provided from the conceptual lot plan developed using survey data by the Client's planner. The area of the lots, from which the available dilution (Q_i) was calculated, did not include impervious surfaces such as the house, and driveways. The nitrate concentration in one of the Site wells was 1.08 mg/L and that value was used as a conservative background concentration for the calculations.

Based on the above calculations, lot/Site specific information and values obtained from the Guideline D-5-4 there are several lots where the attenuation by dilution is not sufficient to reduce nitrate concentrations of 40 mg/L in the septic effluent to below 10 mg/L at the property boundary. Table 11 summarizes lot number, area, and calculated nitrate concentration at the property boundary. Values that exceed the 10 mg/L ODWQS limit are shown as bold text with shaded background. Detailed calculations for nitrate attenuation by dilution on a lot-by-lot basis are included in Appendix VIII.



Several wastewater treatment options are available for residential applications. These systems allow for smaller leaching bed footprints and increased density of wastewater treatment systems through either passive or active treatment methods.

The OBC describes three levels of treatment units for Class IV treatment systems which correspond to the levels of treatment described in CAN/BNQ 3680-600 standard (the Standard) for Onsite Residential Wastewater Treatment Technologies. In addition to levels of treatment for suspended solids and carbonaceous biochemical oxygen demand, the Standards outline separate classes for treatment thresholds for fecal coliforms and E.Coli., total phosphorus and nitrogen which are excluded from the OBC. Of these classes, two reflect the filtration ability of nitrogen as follows:

- A Class “N-1” system is one for which total nitrogen is reduced by 50%; and
- A Class “N-II” system is one for which total nitrogen is reduced by 75%.

The nitrate attenuation by dilution calculations were completed for both Class N-I and Class N-II reduced nitrate concentrations. These results are included in Table 11 and detailed calculations for nitrate attenuation by dilution on a lot-by-lot basis are included in Appendix VIII.

Table 11: Summary of Nitrate Attenuation by Dilution Calculations

LOT	Area (m ²)	<i>Nitrate Concentration in Sewage (mg/L)</i>		
		40	20	10
		Nitrate Concentration at lot Boundary (mg/L)		
1	5,590	9.06	5.11	3.13
2	5,662	8.97	5.07	3.11
3	5,344	9.36	5.26	3.21
4	19,233	3.73	2.45	1.81
5	6,927	7.72	4.44	2.80
6	4,343	10.91	6.03	3.59
7	7,108	7.57	4.37	2.77
8	5,418	9.27	5.21	3.19
9	6,391	8.20	4.68	2.92
10	5,195	9.56	5.36	3.26
11	5,008	9.82	5.49	3.32
12	5,917	8.68	4.92	3.04
13	5,899	8.70	4.93	3.05
14	6,347	8.24	4.70	2.93
15	4,781	10.16	5.66	3.41
16	5,205	9.55	5.35	3.26



LOT	Area (m ²)	<i>Nitrate Concentration in Sewage (mg/L)</i>		
		<i>40</i>	<i>20</i>	<i>10</i>
		<i>Nitrate Concentration at lot Boundary (mg/L)</i>		
17	4,094	11.39	6.27	3.71
18	4,156	11.26	6.21	3.68
19	4,670	10.34	5.75	3.45
20	5,320	9.39	5.28	3.22
21	4,538	10.56	5.86	3.51
22	4,049	11.48	6.32	3.74
23	4,104	11.37	6.26	3.71

From Table 11 it can be seen that 8 of the proposed lots (lots 6, 15, 17, 18, 19, 21, 22, and 23) will require enhanced treatment to the level of at least a Class “N-1” system (for which total nitrogen is reduced by 50%) to meet ODWQS for nitrate concentration at the property boundary.

With the above considerations for enhanced treatment for the listed lots, the Site is suitable for in-ground wastewater disposal based on overburden character and Water Quality Impact Risk Assessment as per D-5-4.

5.12 Considerations Regarding Secondary Units

In recent years secondary units, sometimes referred to as Additional Residential Units (ARUs) or coach houses, have become a relatively common approach to provide greater use of development area. For sites on individual servicing (well and septic) this can require consideration in lot design or servicing either at the early stages of development planning or potentially additional studies at a later time (or both). For the proposed Douglas Landing development there are both general Site characteristics and individual lot characteristics that can inform the appropriateness of secondary units and the needs for additional efforts.

5.12.1 Water Supply

Based on the testing of the four wells on the Site it is concluded that there is abundant groundwater to supply secondary units. Some variation in yield is noted but that is to be expected in a fractured bedrock system. As noted in earlier sections of this report, the flow rate and test duration used in the pumping tests results in water takings that were on the order of the daily flow requirements for 10 to 14 4-bedroom homes. The wells recovered quickly when pumping ceased. It is concluded that there is abundant water available and that a single well on a lot can be expected to supply sufficient flow to meet both peak demands and daily water requirements for both a primary and secondary unit. However, the well on each lot should be tested to ensure that the well can meet the needs of the specific primary and secondary unit



flow. The testing should conform to the MECP D-5-5 testing procedures with the minimum 6-hour duration and a flow rate calculated to the flow requirements of that specific lot.

5.12.2 In-ground Wastewater Disposal

The site is hydrogeologically sensitive, primarily due to the thin overburden. While the separation from the water bearing units at depth in the bedrock does provide a degree of aquifer isolation it is not quantified. Nitrate attenuation by dilution was evaluated to assess the potential for groundwater impact. It was determined that several of the smaller lots (lots 6, 15, 17, 18, 19, 21, 22, and 23) did not meet the requirements of nitrate attenuation by dilution with septic effluent strength of 40 mg/L and that enhanced treatment to a minimum of at least a Class "N-1" system would be required.

Lot capacity for in-ground wastewater disposal for a secondary unit should be evaluated on a lot-by-lot basis where the required septic sizing is determined from the combined daily flow values for the primary and secondary dwelling units. A separate infiltration area for the secondary unit may be an appropriate approach if lot layout and total infiltration area geometry are problematic. As a conservatism, enhanced treatment to a minimum of at least a Class "N-1" system should be required for any lot where a secondary unit it to be included.

5.13 Secondary Unit Sizing

Secondary units should conform with sizing criteria of the municipality. With respect to potable water demand and in-ground wastewater disposal a good guideline is that the secondary unit should be limited to lesser of 60% of the square footage of the primary unit or to a maximum of the equivalent flow requirements of a 2-bedroom dwelling.

6.1 Conclusions and Recommendations

Municipal or communal servicing options are not available to the location of the proposed development. Residential dwellings in the area are serviced by individual wells and in-ground wastewater treatment systems. Individual wells and in-ground wastewater treatment systems are a suitable servicing approach for the proposed development.

The test wells Disinfection of the raw water supply from each well is recommended and is most commonly addressed by a UV-system or chlorination with appropriate pre-filtration. Such systems are readily available. Hardness in the raw water can be expected to exceed the ODWQS operational guideline of 100-150 mg/L but be considerably below 500 mg/L and within a range that is easily treatable with a water softener. If the user finds the hard water unpalatable or has concerns on scale buildup, hardness can be easily treated with a water softener.



With respect to in-ground wastewater disposal, the proposed lot sizes are suitable for the proposed development and provide sufficient space for septic bed location for Class IV type systems. The areas required if tertiary wastewater treatment systems are used would be notably reduced.

The Site is hydrogeologically sensitive. Based on lot size and adequate aquifer isolation not being present the potential for septic impacts was assessed through Step 3 of the MECP D-5-4 Guideline. In general, Class IV systems are suitable for the for the in-ground wastewater disposal at the Site. However, lots 6, 15, 17, 18, 19, 21, 22, and 23 did not meet the requirements of nitrate attenuation by dilution with septic effluent strength of 40 mg/L and that enhanced treatment to a minimum of at least a Class "N-1" system would be required.

It is Pinchin's professional opinion that:

1. Potable water and wastewater servicing is the most appropriate approach for servicing the proposed development;
2. The Site is considered hydrogeologically sensitive due to thin soil cover;
3. The water supply wells installed on the Site demonstrate that the aquifer is capable of providing sufficient quantity of water for the proposed residential development. A well target depth 20 to 50 meters is recommended and that the well be terminated once sufficient yield is encountered;
4. Water quality is good, but if the user finds the hardness or manganese to be unpalatable or problematic, then treatment by way of a simple water softener or filter systems may effectively address this condition. Sodium exceeded the 20 mg/L warning level at one of the four Site wells. If sodium levels pose a dietary or medical concern, an undercounter reverse osmosis system connected to a dedicate drinking water spigot could be part of the water treatment system;
5. A letter to Dr. Piotr Oglaza, Medical Officer of Health and CEO for the South East Health Unit has been issued to notify that sodium concentrations may exceed the ODWQS warning level for persons on sodium restricted diets. It is further recommended that the Township include the sodium notification on the Notice of Title;
6. No unacceptable adverse interference is expected to surrounding groundwater users from the proposed development;
7. There is adequate space for Class IV in-ground wastewater disposal beds for all proposed lots. However, because of the thin soil cover guidance from Mississippi Rideau



Septic System Office (MRSSO) indicates that The use of a “clay seal” (0.10 m of imported clay material placed over the loading area) and imported sand fill for a “mantle” will be required for sites with less than 0.25 m of unsaturated soil (as defined in 8.1.1.2., Ontario Building Code Compendium, O.Reg. 203/24);

8. MECP D-5-4 Step Three assessment of potential aquifer impacts was assessed by natural attenuation calculations which indicated that lots 6, 15, 17, 18, 19, 21, 22, and 23 did not meet the requirements of nitrate attenuation by dilution with septic effluent strength of 40 mg/L and that enhanced treatment to a minimum of at least a Class “N-1” system would be required.
9. The Site is, in general, suitable for secondary units but assessment of well capacity and space for in-ground wastewater disposal must be assessed on a lot-by-lot basis by confirming the well on the lot can supply the combined flow for both the primary and secondary units and that there is sufficient space on the lot for the total required septic field area. Well testing is required to confirm to the D-5-5 pumping test protocol, using a pumping rate at least equal to the total peak flow and daily water servicing requirements for both the primary and secondary units. At minimum a Class “N-1” wastewater treatment system is required for any lot where a secondary unit it to be included.
10. Secondary units should be limited to lesser of 60% of the square footage of the primary unit on the lot or to a maximum of the equivalent flow requirements of a 2-bedroom dwelling.

6.0 TERMS AND LIMITATIONS

This Servicing Options Statement, Terrain Assessment and Hydrogeological Study in Support of Development – Revised Report was performed for Douglas Landing Developments (Client) in order to fulfill the hydrogeological-related requirements as identified by the municipality.

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from a sample location. Samples have been analyzed for a set of parameters as specified in the MECP Guideline D-5.

No environmental assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this Servicing Options Statement, Terrain Assessment and Hydrogeological Study in Support of Development – Revised Report is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions on the Site.



This this Servicing Options Statement, Terrain Assessment and Hydrogeological Study in Support of Development – Revised Report was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site.

This report was prepared for the exclusive use of the Client, subject to the terms, conditions and limitations contained within the duly authorized proposal for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

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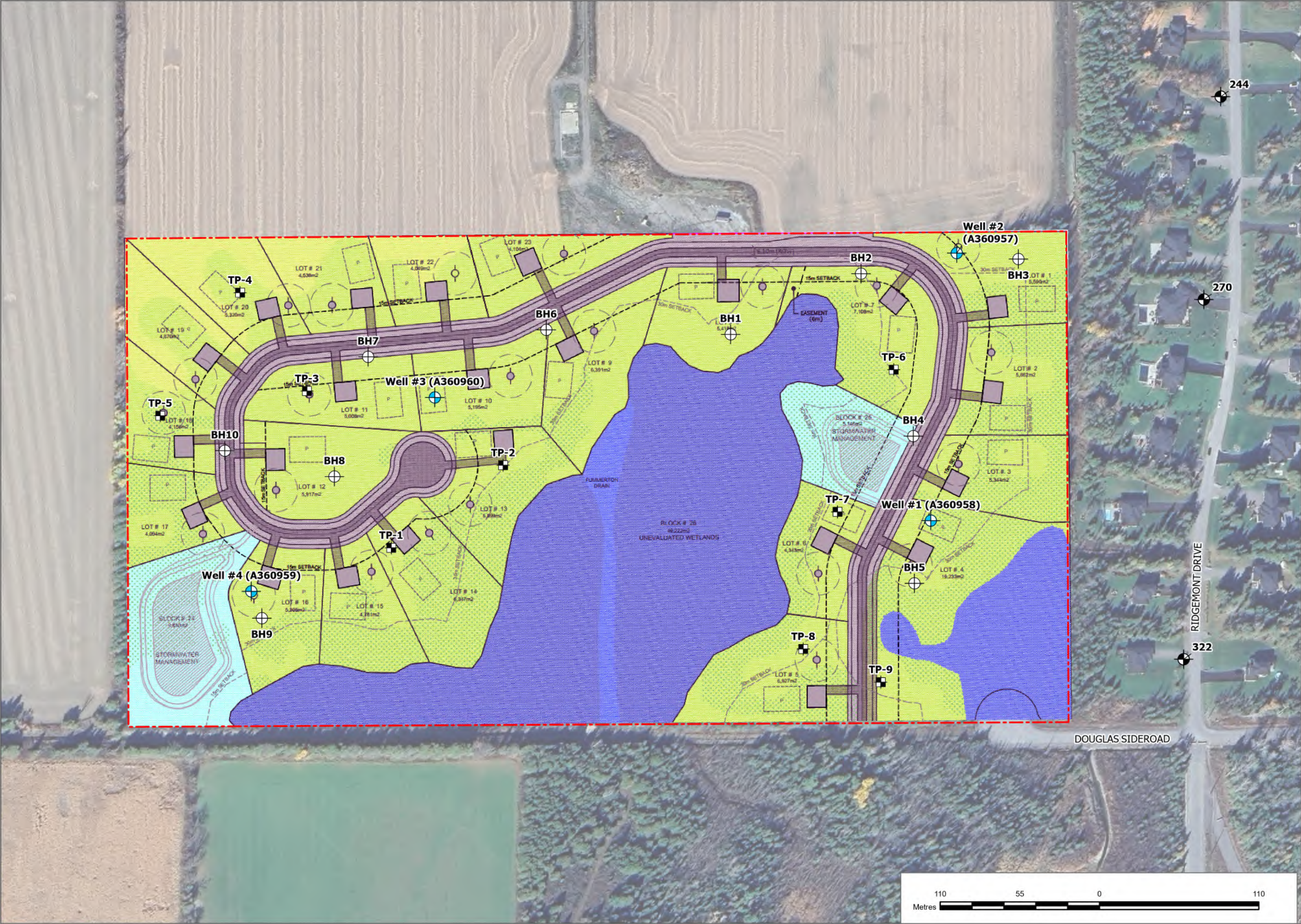
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GillianEspie,9243McArtonRd,Ott,EDR,Hydro\Deliverables\283258.005 Servicing, Terrain and Hydrogeo Study Lot25Con12 BeckwithTwp DOUGLAS LANDING.docx

Template: Master Report for Remedial Excavation, EDR, July 22, 2024

APPENDIX I
Figures



PROJECT NAME:		HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT			
CLIENT NAME:		DOUGLAS LANDING DEVELOPMENTS			
PROJECT LOCATION:		PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO			
FIGURE NAME:		KEY MAP			FIGURE NUMBER
PROJECT NUMBER:	SCALE:	DRAWN BY:	REVIEWED BY:	DATE:	1
283258.005	AS SHOWN	CF	PT	SEPT 2025	



LEGEND

- BOREHOLE
- DOMESTIC MONITORING WELL
- TEST PIT
- GROUNDWATER MONITORING WELL
- SITE BOUNDARY

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PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

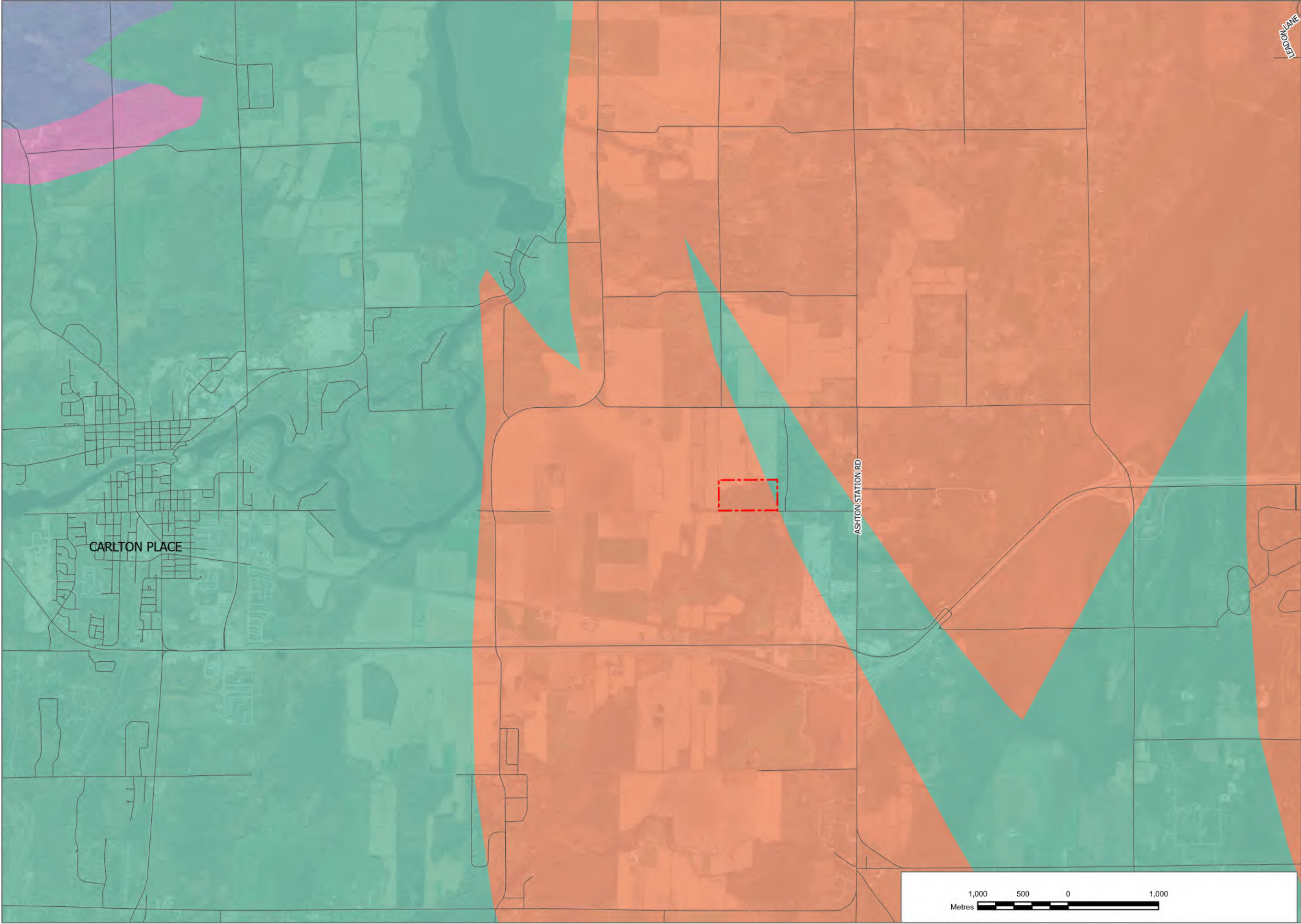
PROJECT LOCATION

PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

SITE PLAN WITH LOT LAYOUT AND TESTING LOCATIONS

PROJECT NUMBER:	SCALE
283358.005	AS SHOWN
DRAWN BY	REVIEWED BY
CF	PT
DATE	FIGURE NUMBER
SEPT 2025	2





LEGEND

ROAD

SITE BOUNDARY

DOLOSTONE, SANDSTONE

LIMESTONE, DOLOSTONE, SHALE, ARKOSE, SANDSTONE

FLows, TUFFS, BRECCIAs, MINOR IRON FORMATION, MINOR METASEDIMENTARY ROCKS; INCLUDES REWORKED PYROCLASTIC UNITS, AMPHIBOLITE

MARBLE, CALC-SILICATE ROCKS, SKARN, TECTONIC BRECCIAs

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PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

PROJECT LOCATION

PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

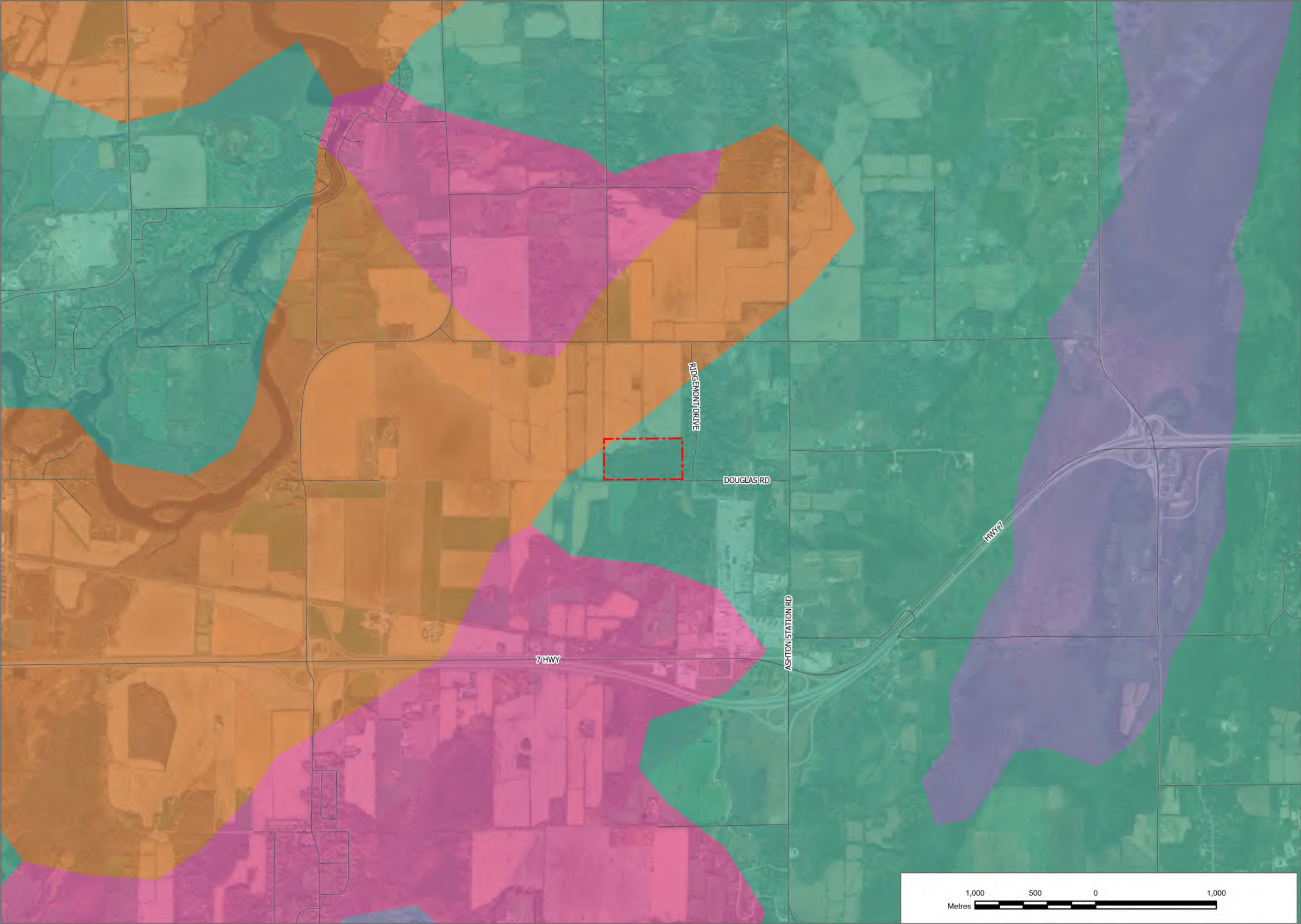
BEDROCK GEOLOGY OF SITE AND AREA

PROJECT NUMBER: 283358.005	SCALE AS SHOWN
DRAWN BY CF	REVIEWED BY PT
DATE SEPT 2025	FIGURE NUMBER 3

1,000 500 0 1,000

Metres







LEGEND

ROAD

SITE BOUNDARY

BEDROCK: UNDIFFERENTIATED CARBONATE AND CLASTIC SEDIMENTARY ROCK, EXPOSED AT SURFACE OR COVERED BY A DISCONTINUOUS, THIN LAYER OF DRIFT

GLACIOMARINE AND MARINE DEPOSITS: SILT AND CLAY, BASIN AND QUIET WATER DEPOSITS

ORGANIC DEPOSITS: PEAT, MUCK AND MARL

TILL: UNDIFFERENTIATED, PREDOMINANTLY SANDY SILT TO SILT MATRIX, COMMONLY RICH IN CLASTS, OFTEN HIGH IN TOTAL MATRIX CARBONATE CONTENT

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PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

PROJECT LOCATION

PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

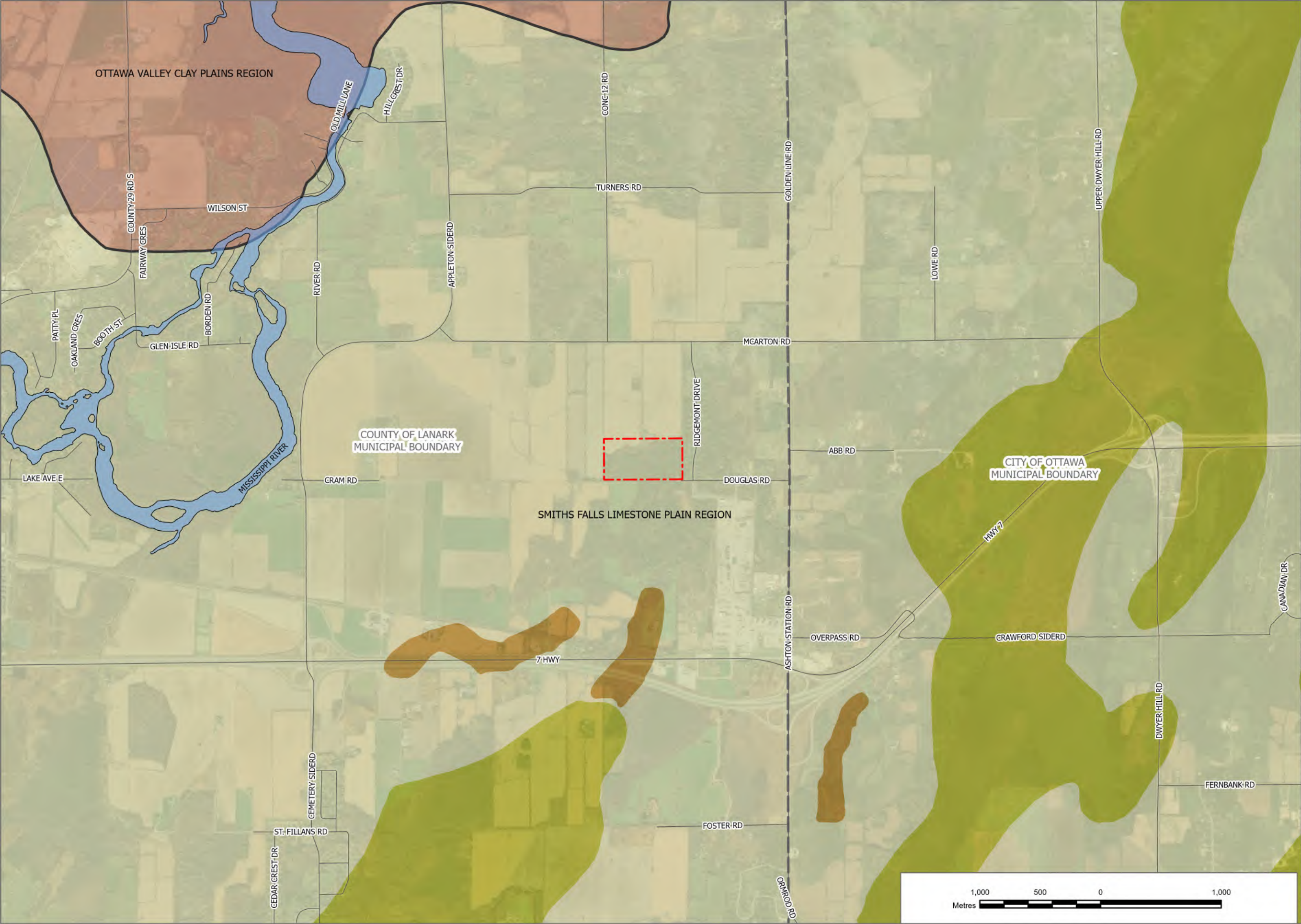
QUATERNARY GEOLOGY OF SITE AND AREA

PROJECT NUMBER: 283358.005	SCALE AS SHOWN
DRAWN BY CF	REVIEWED BY PT
DATE SEPT 2025	FIGURE NUMBER 4

1,000 500 0 1,000

Metres





LEGEND

- ROAD
- SITE BOUNDARY
- MUNICIPAL BOUNDARY
- WATERBODY
- REGION
- PHYSIOGRAPHY
 - BEACHES
 - CLAY PLAINS
 - LIMESTONE PLAINS
 - PEAT AND MUCK

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PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

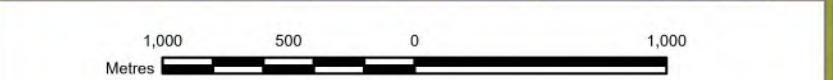
PROJECT LOCATION

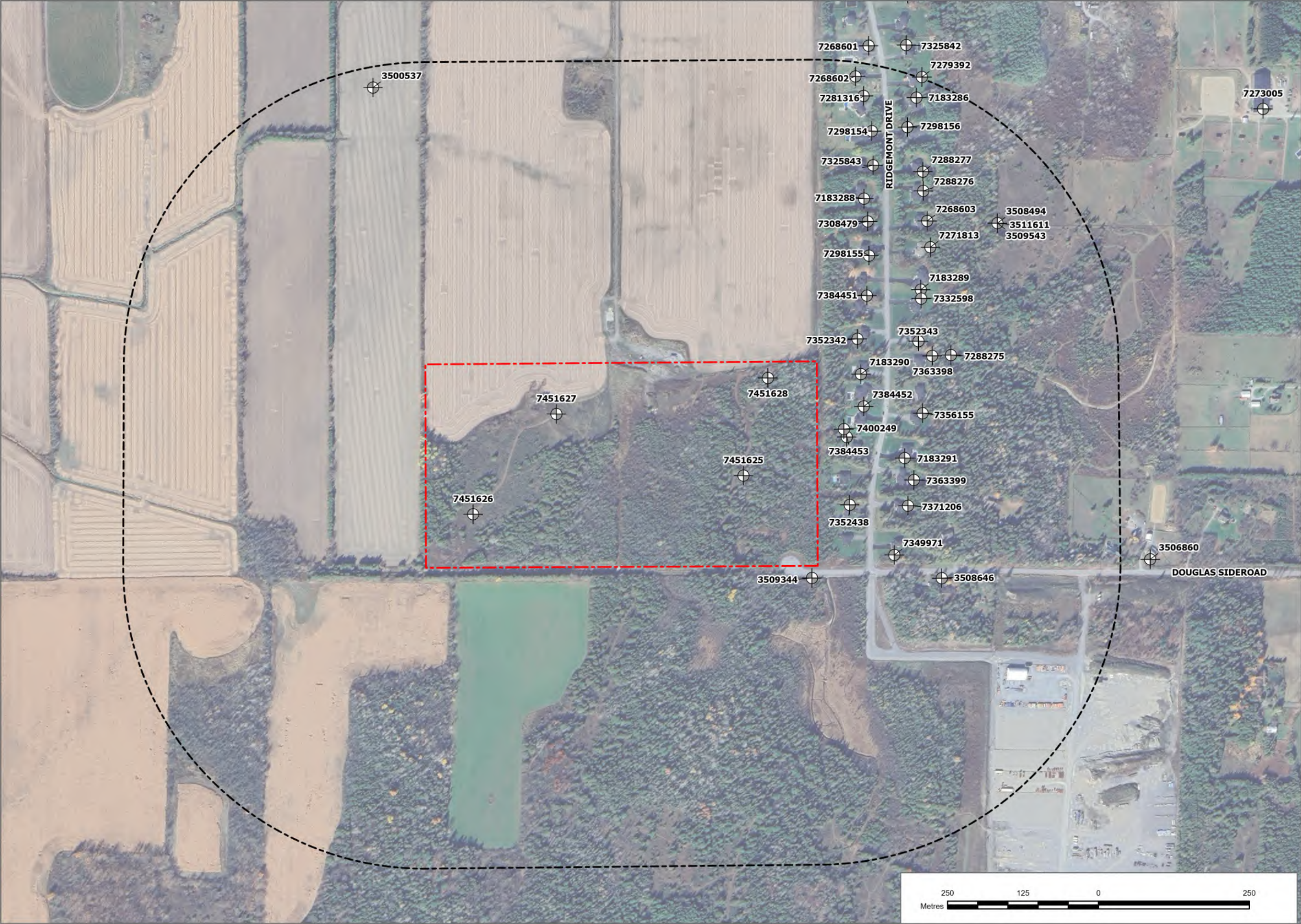
PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

PHYSIOGRAPHY OF SITE AND AREA

PROJECT NUMBER: 283358.005	SCALE AS SHOWN
DRAWN BY CF	REVIEWED BY PT
DATE SEPT 2025	FIGURE NUMBER 5





LEGEND

MECP WELL

SITE BOUNDARY

500M BUFFER

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PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

PROJECT LOCATION

PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

MECP WELL RECORDS WITHIN 500M OF SITE

PROJECT NUMBER:	SCALE
283358.005	AS SHOWN
DRAWN BY	REVIEWED BY
CF	PT
DATE	FIGURE NUMBER
SEPT 2025	6

Figure 7: Well #1 A360958
Pumping Well Drawdown and Recovery

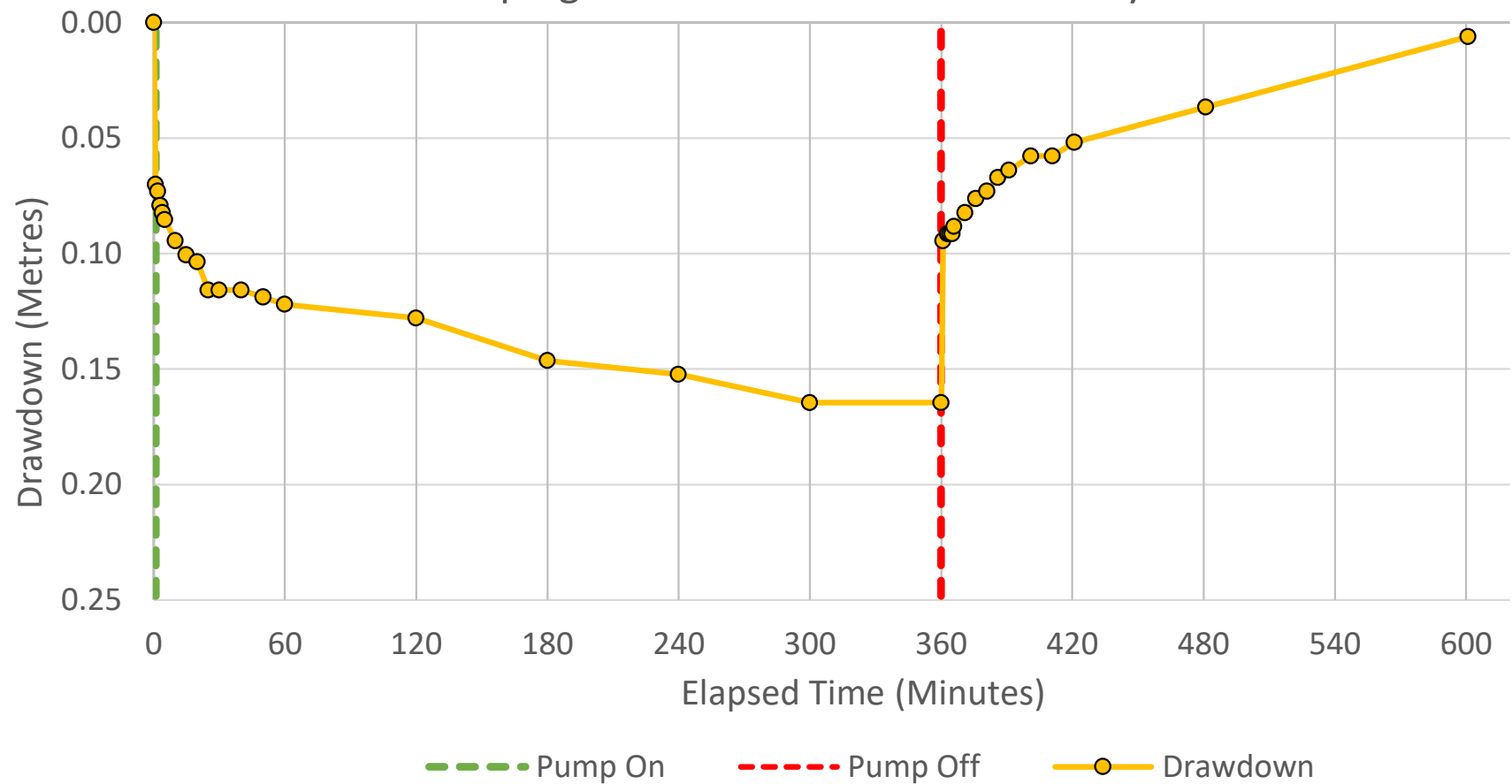
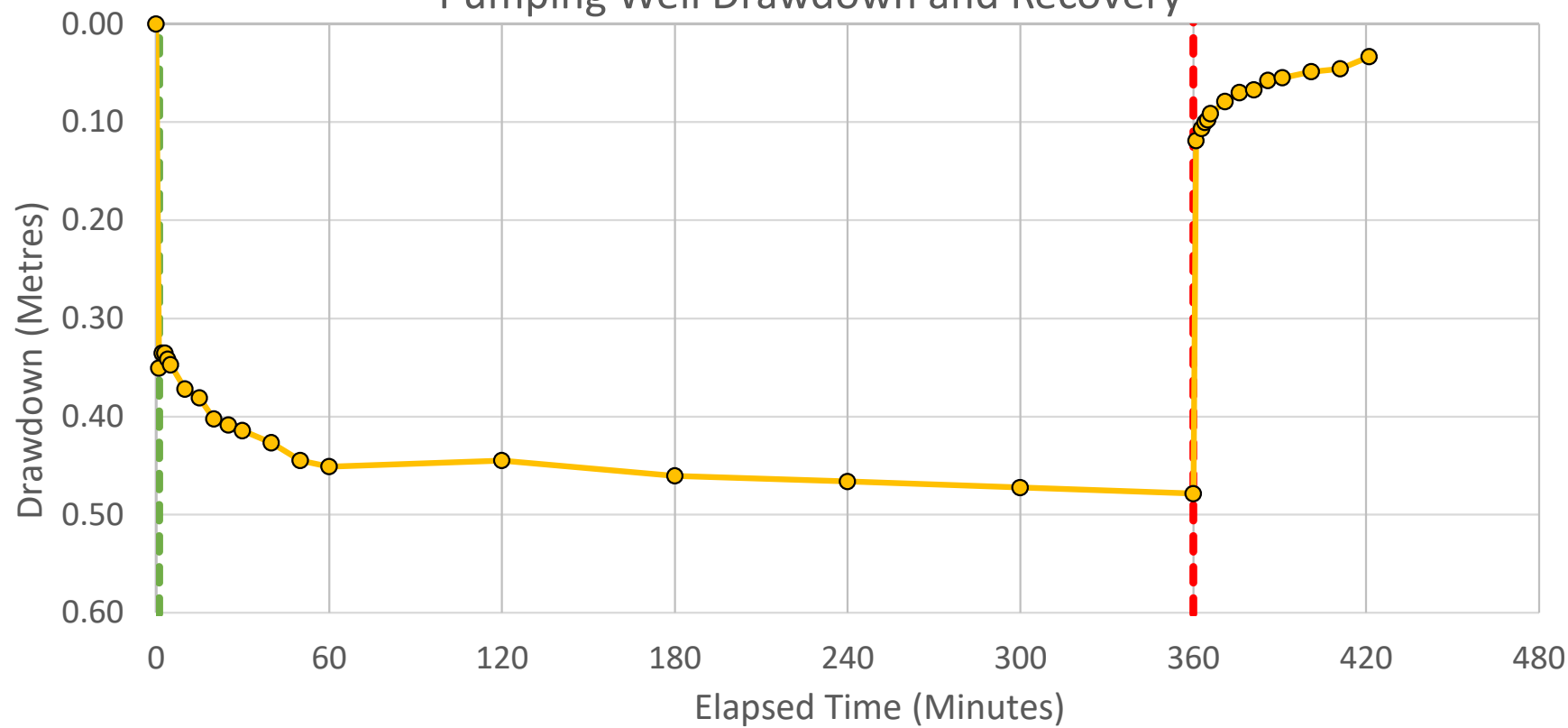


Figure 8: Well #2 A360957
Pumping Well Drawdown and Recovery



--- Pump On

--- Pump Off

--- Drawdown

Figure 9: Well #3 A360960
Pumping Well Drawdown and Recovery

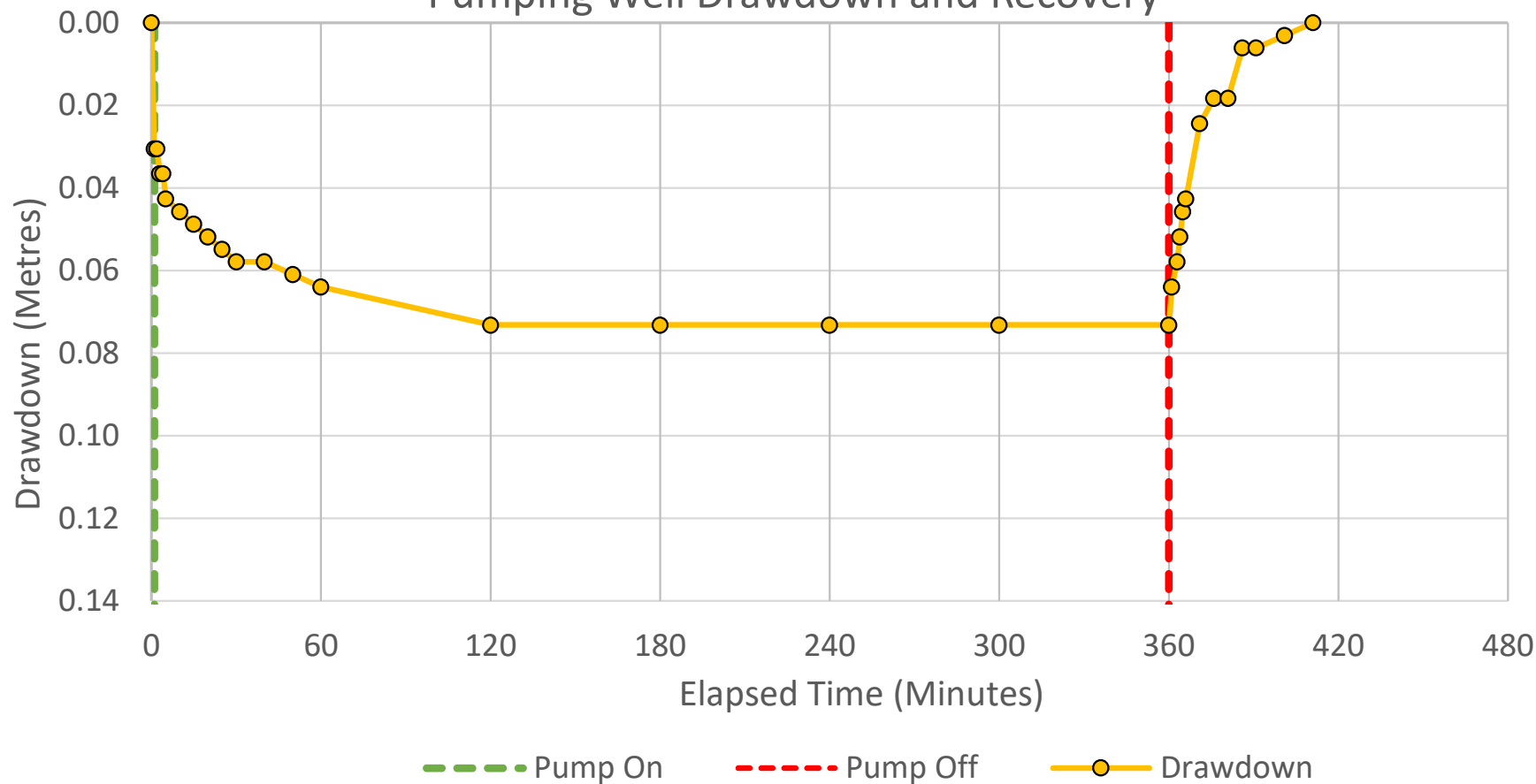


Figure 10: Well #4 A360959
Pumping Well Drawdown and Recovery

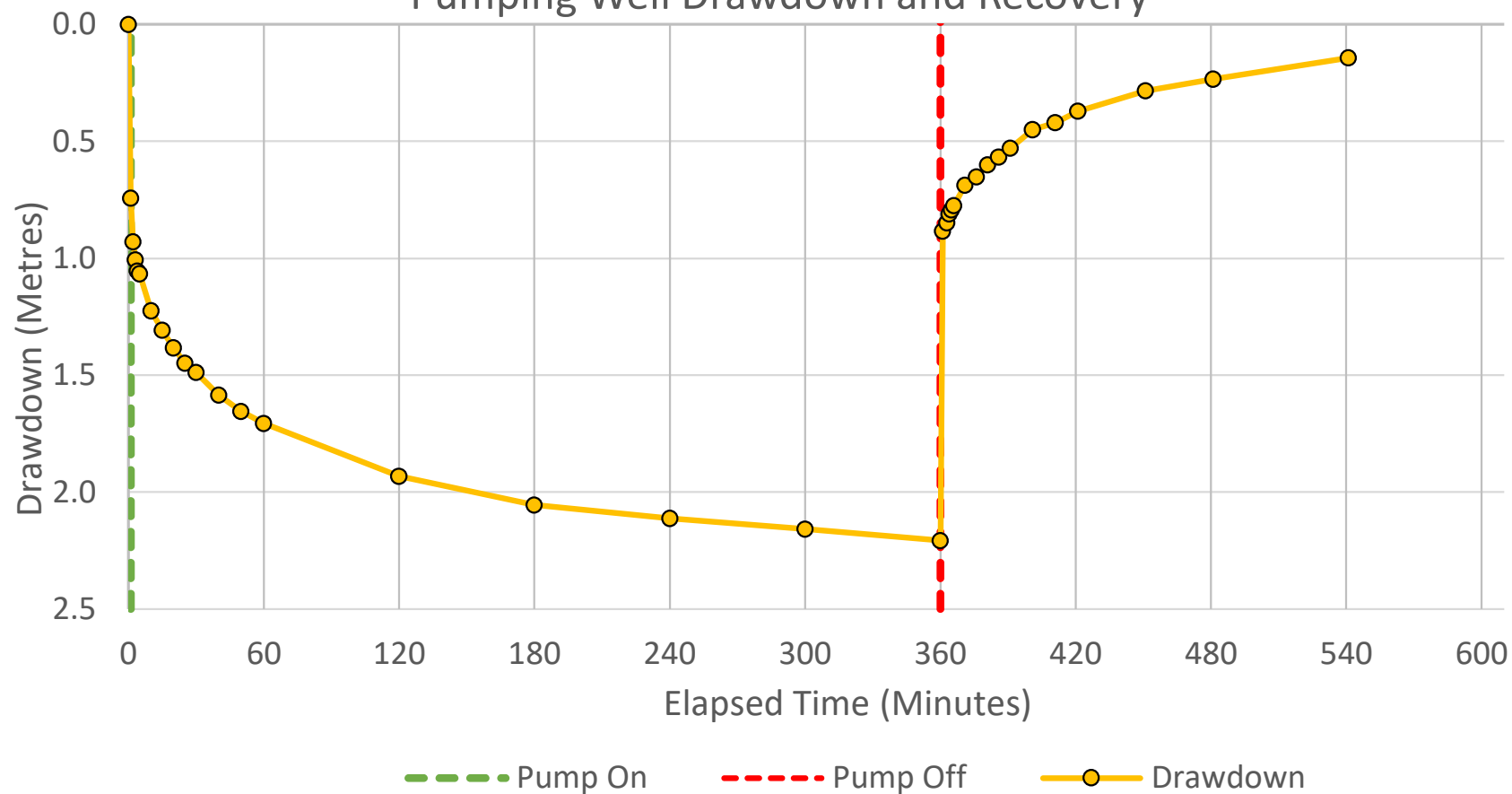


Figure 11a: Monitoring Network Water Level Response
During Pumping Test Well #1 A360958

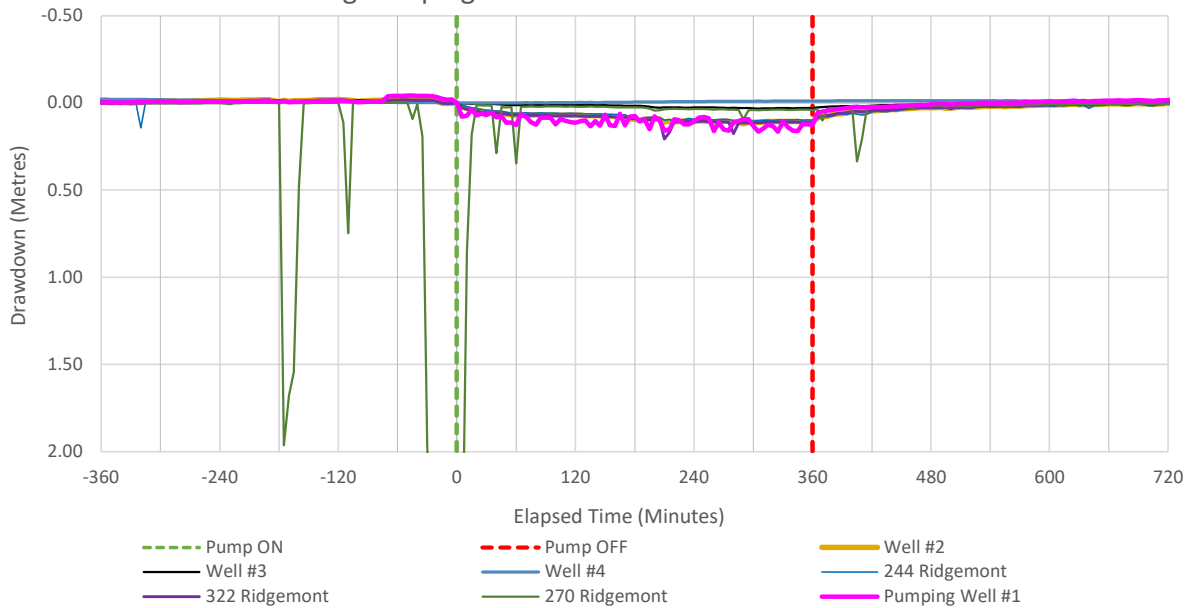


Figure 11b: Monitoring Network Water Level Response
During Pumping Test Well #1 A360958 Reduced Y-axis

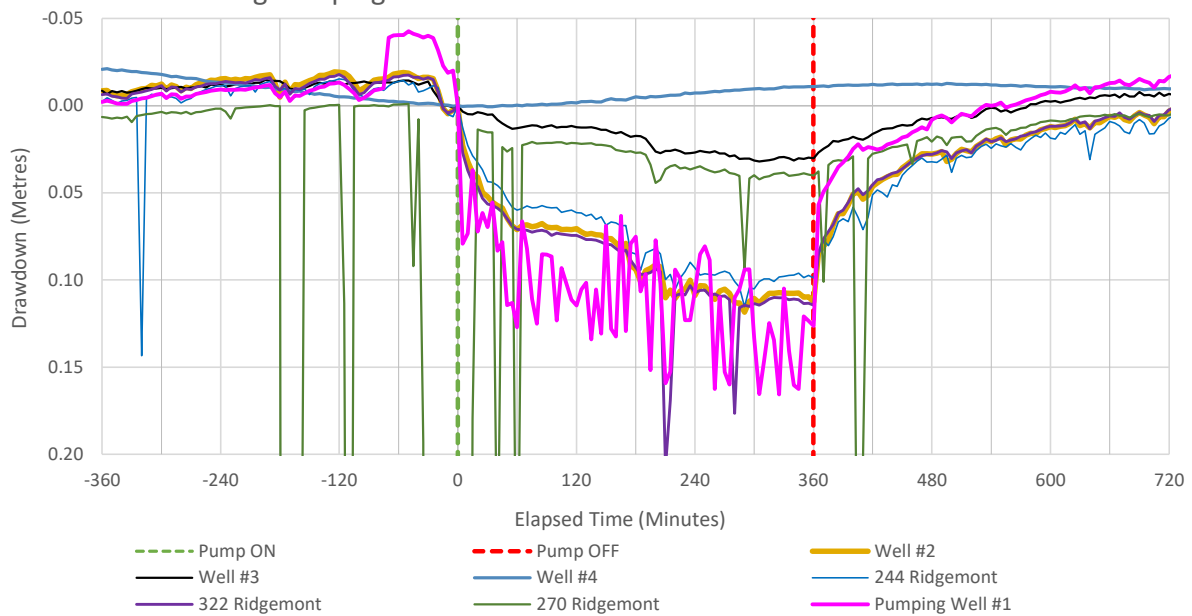


Figure 12a: Monitoring Network Water Level Response
During Pumping Test Well #2 A360957

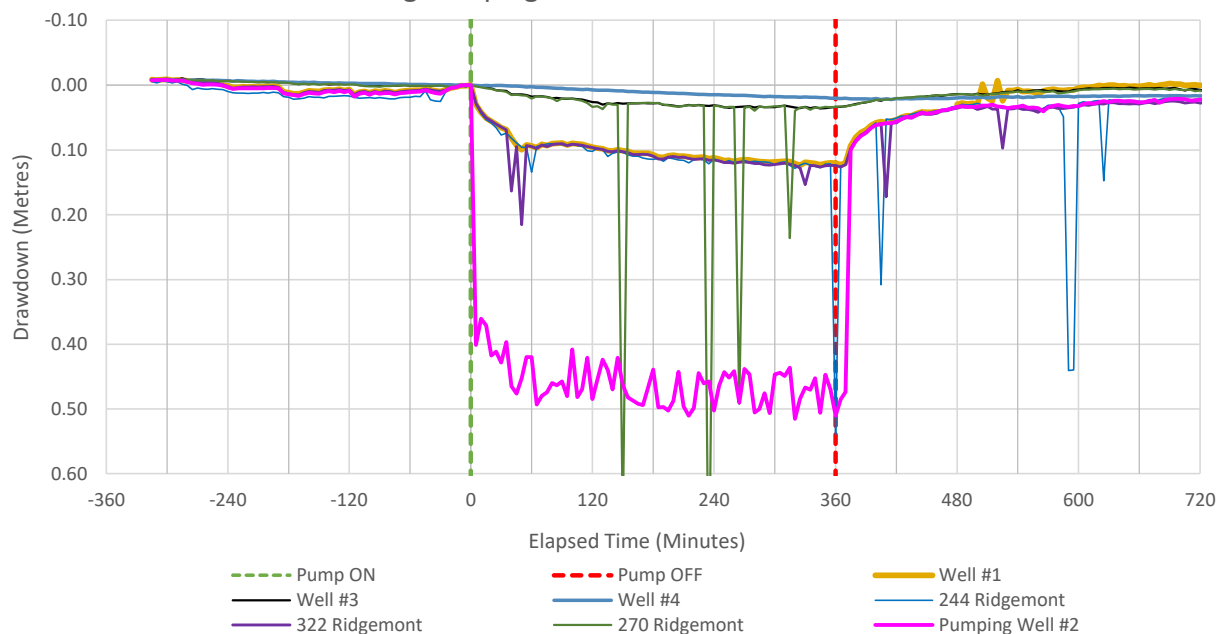


Figure 12b: Monitoring Network Water Level Response
During Pumping Test Well #2 A360957 Reduced Y-axis

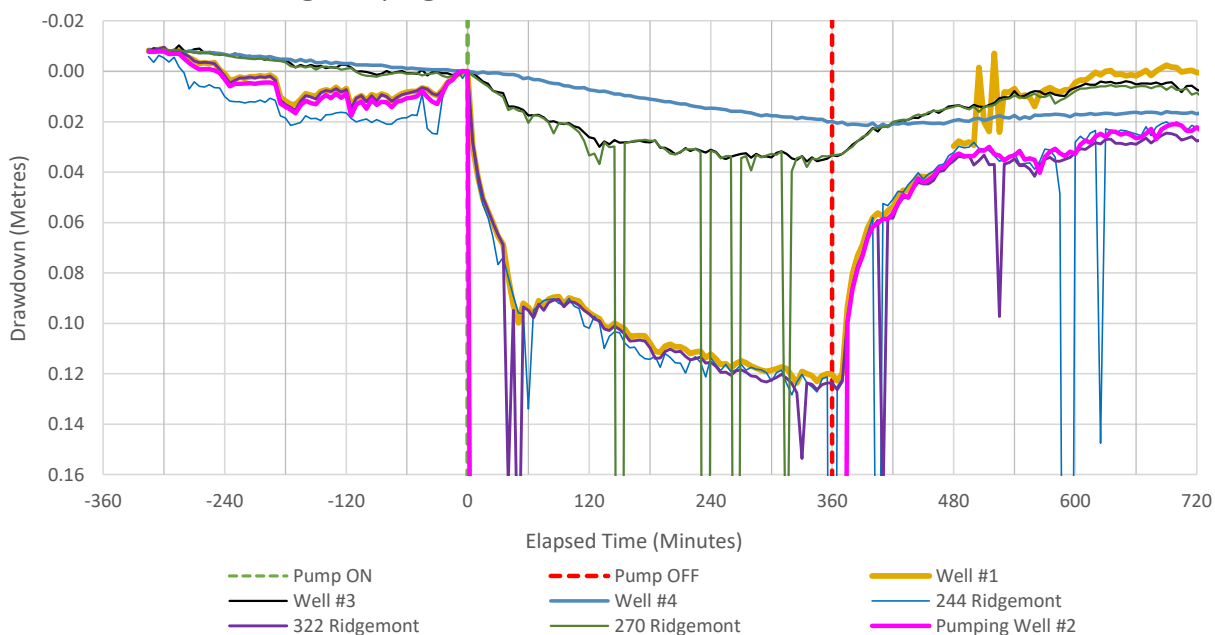


Figure 13a: Monitoring Network Water Level Response
During Pumping Test Well #3 A360960

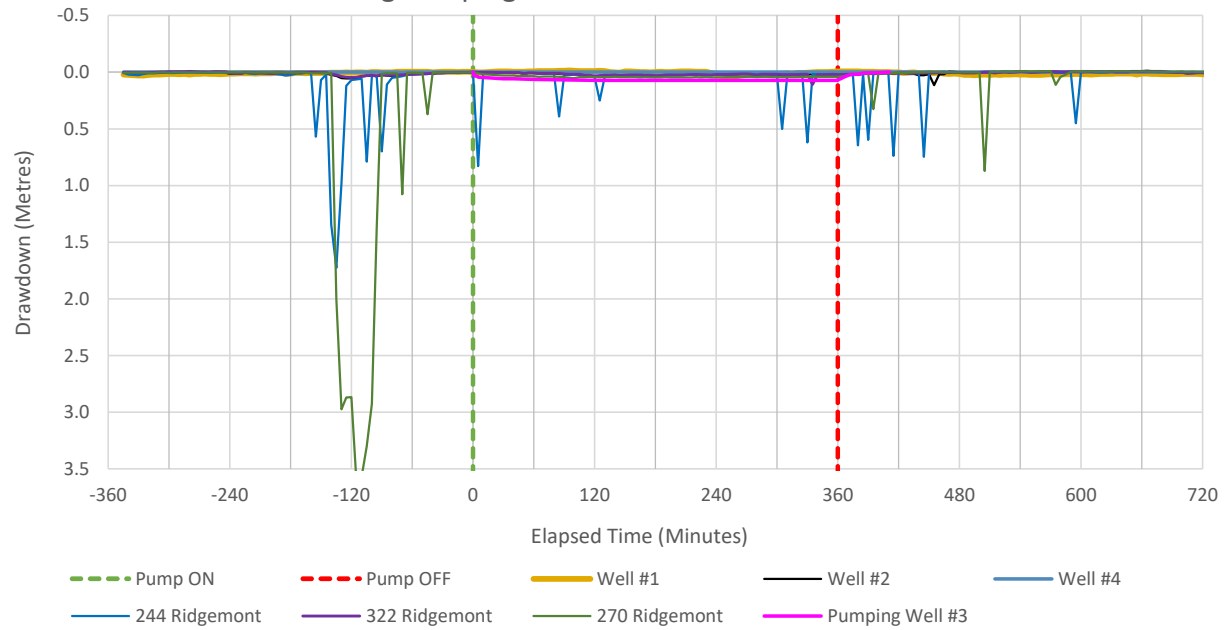


Figure 13b: Monitoring Network Water Level Response
During Pumping Test Well #3 A360960 Reduced Y-axis

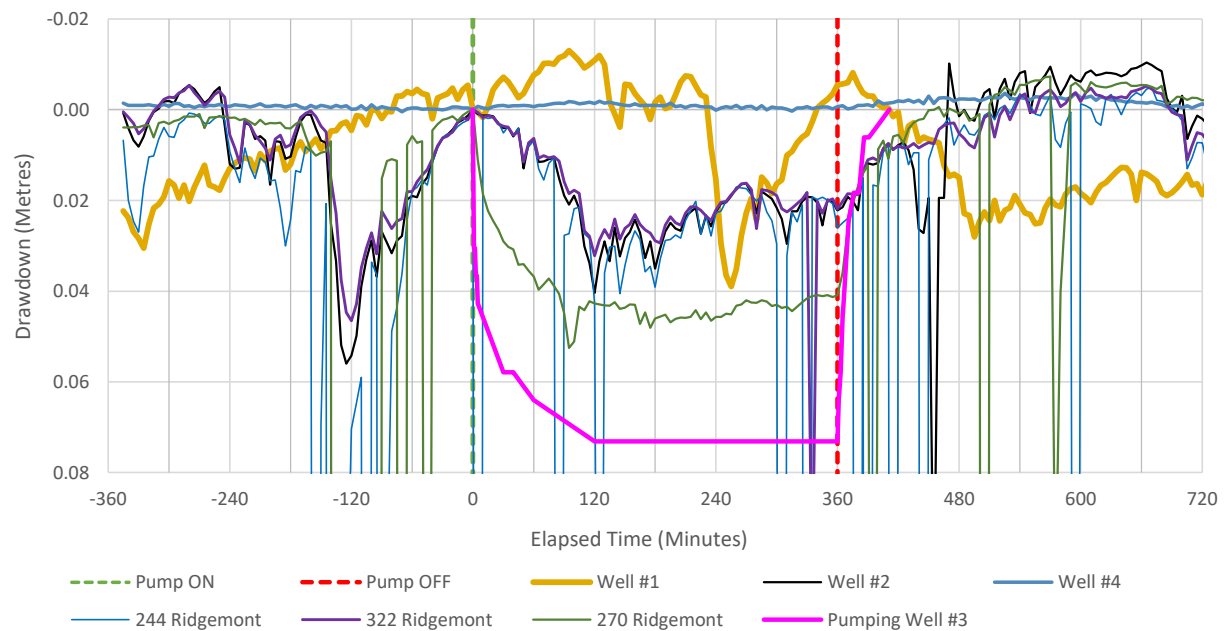


Figure 14a: Monitoring Network Water Level Response
During Pumping Test A360959 (Well #4)

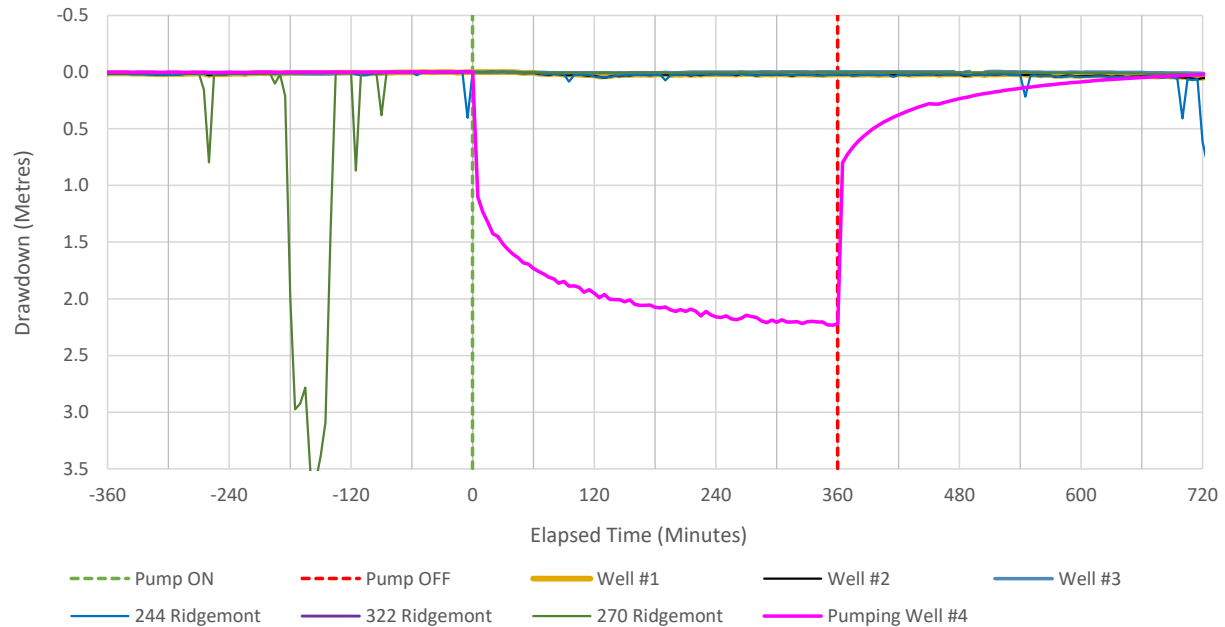
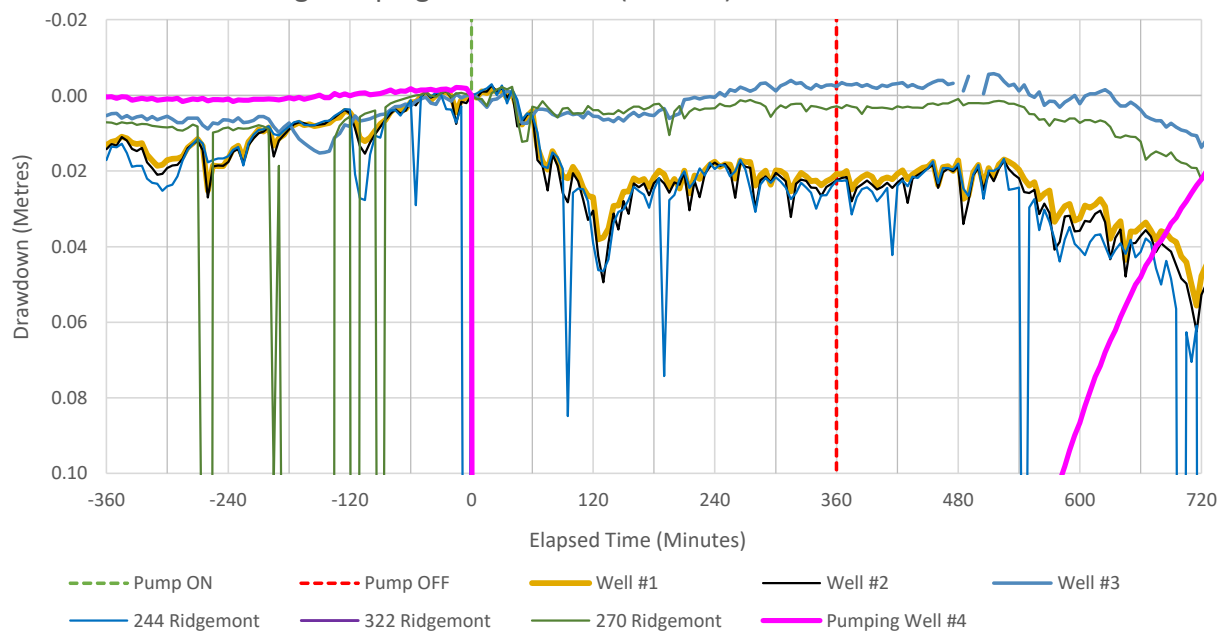
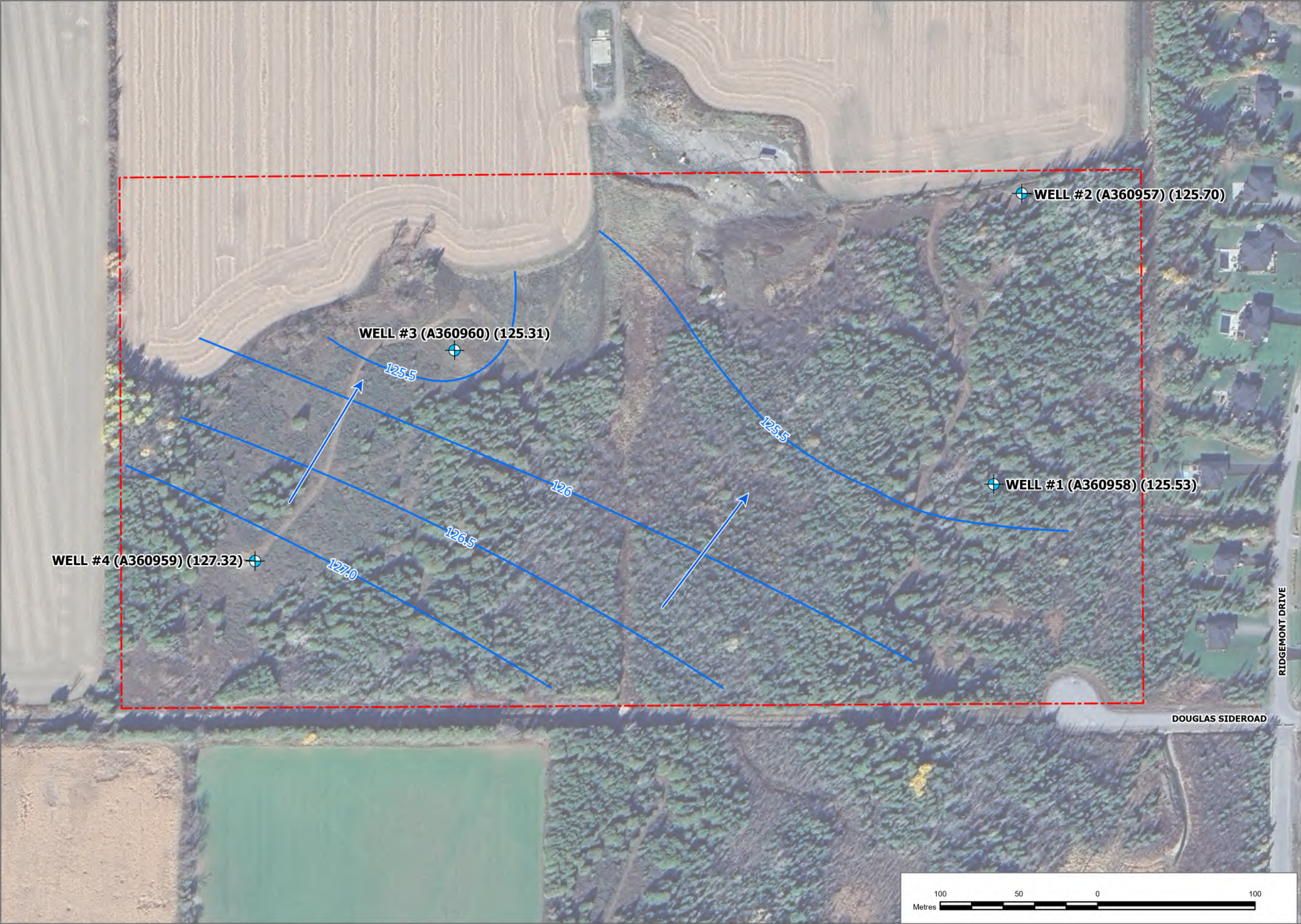


Figure 14b: Monitoring Network Water Level Response
During Pumping Test A360959 (Well #4) Reduced Y-axis







LEGEND

-  GROUNDWATER MONITORING WELL
-  CONTOUR LINE
-  SITE BOUNDARY
-  GROUNDWATER FLOW DIRECTION

(#) GROUNDWATER ELEVATION IN METERS ABOVE SEA LEVEL (MASL)

NOTES:

- 1) Proprietary information may not be reproduced or divulged without prior written consent of Pinchin Ltd.
- 2) This drawing may have been reduced. All scale notations indicated are based on a 11"x17" format drawings.
- 3) Legend is color dependent. Non-colour copies may alter interpretation.
- 4) Coordinate system: NAD 1983 CSRS UTM Zone 18N.
- 5) Source: Pinchin Ltd., © OpenStreetMap (and) contributors, CC-BY-SA.



PINCHIN

PROJECT NAME

HYDROGEOLOGICAL STUDY AND TERRAIN ASSESSMENT

CLIENT NAME

DOUGLAS LANDING DEVELOPMENTS

PROJECT LOCATION

PART LOT 25, CONCESSION 12, BECKWITH TOWNSHIP, ONTARIO

FIGURE NAME

WATER LEVEL ELEVATIONS AND CONTOURS (SEPTEMBER 16, 2025)

PROJECT NUMBER: 283358.005	SCALE AS SHOWN
DRAWN BY CF	REVIEWED BY PT
DATE SEPT 2025	FIGURE NUMBER 15

APPENDIX II
Well Records

TABLE 1
Summary of Supply Well Characteristics for Wells within ~500 m of the Site
Douglas Landing Developments
Part Lot 25, Concession 12, Beckwith Township, Ontario

Well Record I.D.	Well Tag Number	Audit Number	Well Type	Well Depth (m)	Overburden Thickness (m)	Unit(s) Well Completed In	Recommended Pumping rate (LPM)	Date of Completion (yyyy-mm-dd)	Water Found at (m)		
3500537	N/A	N/A	Drilled	18.0	0.91	Limestone	45.5	1958-10-09	16.8		
3506860	N/A	N/A	Drilled	18.6	0.61	Shale	81.8	1984-06-14	16.5		
3508494	N/A	41124	Drilled	38.1	0.91	Sandstone	22.7	1988-09-02	36.6		
3508646	N/A	44884	Drilled	16.8	2.10	Limestone	36.4	1988-12-12	16.2		
3509344	N/A	73407	Drilled	15.8	2.40	Limestone	36.4	1990-05-30	15.8		
3509543	N/A	73442	Drilled	28.00	0.61	Limestone	136.4	1990-10-13	25.0	28.3	
3511611	N/A	153198	Drilled	37.5	0.61	Limestone	22.7	1995-10-30	34.1		
7183286	A127986	Z128553	Drilled	73.2	1.83	Limestone / Sandstone	90.9	2012-05-31	71.0		
7183288	A128058	Z128554	Drilled	55.2	0.91	Limestone / Sandstone	90.9	2012-05-08	52.1		
7183289	A128068	Z128555	Drilled	75.3	0.91	Limestone / Sandstone	90.9	2012-05-09	51.8	73.2	
7183290	A128066	Z128556	Drilled	55.2	1.22	Limestone / Sandstone	90.9	2012-05-09	50.3	52.4	
7183291	A128062	Z128557	Drilled	43.3	1.22	Limestone / Sandstone	90.9	2012-05-09	23.5	36.9	40.2
7268601	A195938	Z223093	Drilled	42.4	1.07	Limestone / Sandstone	45.5	2016-06-20	27.7	38.1	
7268602	A195941	Z223094	Drilled	30.5	0.91	Limestone / Sandstone	54.6	2016-06-21	27.1	30.2	
7268603	A195942	Z223095	Drilled	42.4	0.00	Limestone / Sandstone	27.8	2016-06-23	25.3	42.4	
7271813	A195956	Z223096	Drilled	42.4	0.00	Limestone / Sandstone	36.4	2016-09-06	42.4		
7279392	A195975	Z243269	Drilled	73.2	0.00	Limestone / Sandstone	68.2	2017-01-05	38.7	71.6	
7281316	A213224	Z243284	Drilled	39.6	2.10	Limestone	22.7	2017-01-31	35.8		
7288275	A213226	Z260669	Drilled	42.7	1.72	Limestone / Shale layers	40.9	2017-05-11	21.3	39.6	
7288276	A213245	Z260668	Drilled	42.7	1.22	Limestone	36.4	2017-05-12	39.3		
7288277	A213227	Z260670	Drilled	42.7	1.68	Limestone / Shale layers	54.6	2017-05-13	25.1	40.4	
7298154	A227986	Z260689	Drilled	42.7	1.37	Limestone / Shale layers	31.8	2017-10-10	24.4	42.7	
7298155	A227987	Z260700	Drilled	36.6	0.91	Limestone / Shale layers	45.5	2017-10-10	25.3	32.9	
7298156	A213255	Z260690	Drilled	36.6	1.98	Limestone / Shale layers	68.3	2017-09-29	19.2	28.0	
7308479	A228006	Z260717	Drilled	54.9	0.61	Limestone / Shale layers	68.3	2018-03-07	39.0	52.3	
7325842	A252424	Z292769	Drilled	54.9	0.61	Limestone / Shale layers	45.5	2018-12-10	25.3	36.6	
7325843	A252425	Z292768	Drilled	36.6	0.46	Limestone / Shale layers	54.6	2018-12-09	25.6	32.0	
7332598	A252405	Z292766	Drilled	61.0	0.00	Limestone	36.4	2019-04-15	23.8	56.1	
7349971	A276761	Z318977	Drilled	37.8	2.44	Limestone / Sandstone layers	45.5	2019-12-04	26.5	34.7	
7352342	A276752	Z318991	Drilled	30.2	1.37	Limestone / Shale layers	54.6	2019-12-19	25.8		
7352343	A276739	Z318976	Drilled	54.9	0.91	Limestone / Sandstone layers	36.4	2019-11-11	24.4	30.5	
7352438	A276753	Z318978	Drilled	48.8	1.22	Limestone	31.8	2019-12-10	20.7	33.2	45.1
7356155	A276774	Z334321	Drilled	36.6	0.00	Limestone / Sandstone layers	63.6	2020-03-12	25.3	32.9	
7363398	A296816	Z334345	Drilled	48.8	0.91	Limestone / Sandstone	68.2	2020-07-01	32.8	46.6	
7363399	A296814	Z334339	Drilled	48.8	1.22	Limestone / Sandstone layers	36.4	2020-07-02	23.5	29.9	42.1
7371206	A296837	Z349864	Drilled	54.9	1.83	Limestone	40.9	2020-09-30	27.1	48.8	
7384451	A309683	Z349898	Drilled	42.7	1.22	Limestone / Sandstone layers	40.9	2021-03-31	23.5	25.6	36.6
7384452	A309684	Z349906	Drilled	53.6	2.90	Limestone / Sandstone layers	36.4	2021-03-31	50.6		
7384453	A309682	Z349899	Drilled	30.5	1.52	Limestone / Sandstone layers	90.9	2021-03-31	20.4	28.0	
7390397	A309702	Z361794	Drilled	36.6	0.15	Limestone / Shale layers	54.6	2021-06-05	18.6	29.9	
Site Wells											
7451625	A360958	Z394524	Drilled	30.5	0.91	Limestone	90.9	2023-03-02	20.4	28.0	
7451628	A360957	Z394525	Drilled	42.7	0.91	Limestone	54.6	2023-03-02	40.5		
7451627	A360960	Z394526	Drilled	51.8	0.61	Limestone	90.9	2023-03-01	48.8	50.3	
7451626	A360959	Z394527	Drilled	54.9	0.61	Limestone	45.7	2023-02-28	23.5	52.7	

Measurements recorded in: ☐ Metric ☒ Imperial

Page ____ of ____

Well Owner's Information

First Name	Last Name/Organization Dr. Gillian Espie	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 1 Forillion Crescent		Municipality Kanata	Province ON
		Postal Code K2M 2W5	Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name) (NO Civic) Ramsay Concession 12		Township Beckwith	Lot P/L 25	Concession 12
County/District/Municipality Lanark		City/Town/Village Ashton	Province Ontario	Postal Code
UTM Coordinates Zone	Easting 18 415424	Northing 5003394	Municipal Plan and Sublot Number Test well # 1 of 4	
NAD 83		Other		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)
	Sandy Clay		+ Stones	0' to 3'
Grey + Green	Limestone			3' to 67'
Grey + Green	Limestone			67' to 92'
Grey + Green	Limestone			92' to 100'

TEST WELL # 1 OF 4

Annular Space			
Depth Set at (m)	Type of Sealant Used (Material and Type)	Volume Placed (m³)	Depth (m)
40' to 30'	Neat cement	10.92	
30' to 0'	Bentonite slurry	4.2	

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm)	Depth (m)	From	To
6 1/4"	Steel	.188"	+2'	40'	
6"	Open Hole			40'	100'

☐ Water Supply	☐ Replacement Well	☐ Test Hole	☐ Recharge Well	☐ Dewatering Well	☐ Observation and/or Monitoring Hole	☐ Alteration (Construction)	☐ Abandoned, Insufficient Supply	☐ Abandoned, Poor Water Quality	☐ Abandoned, other, specify	☐ Other, specify
---------------------------------------	---	------------------------------------	--	--	---	--	---	--	--	---

Construction Record - Screen			
Outside Diameter (cm)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m)
			From
			To

Water Details		Hole Diameter	
Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested	Depth (m)	Diameter (cm)
67' (m)	☐ Gas ☐ Other, specify	From	To
Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested	0' to 40'	93/4"
82' (m)	☐ Gas ☐ Other, specify	40' to 100'	6"
Water found at Depth	Kind of Water: ☐ Fresh ☐ Untested		
(m)	☐ Gas ☐ Other, specify		

Business Name of Well Contractor Air Rock Drilling Co. Ltd.		Well Contractor's Licence No. C7681
Business Address (Street Number/Name) 6669 Franktown Road		Municipality Richmond
Province ON	Postal Code K0A 2Z0	Business E-mail Address air-rock@sympatico.ca
Bus. Telephone No. (inc. area code) 6133382170	Name of Well Technician (Last Name, First Name) Hanna, Jeremy	
Well Technician's Licence No. T3632	Signature of Technician and/or Contractor <i>[Signature]</i>	
Date 2023 03 31		

Results of Well Yield Testing				
After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify Not tested	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason: X	Static Level	25'4"		26'
	1	25.6	1	25.6
Pump intake set at (m/ft) 90	2	25.6	2	25.5
Pumping rate (l/min / GPM) 20	3	25.6	3	25.4
Duration of pumping 1 hrs + 0 min	4	25.7	4	25.4
Final water level end of pumping (m/ft) 26'	5	25.7	5	25.4
If flowing give rate (l/min/GPM) X	10	25.8	10	25.4
	15	25.8	15	25.4
Recommended pump depth (m/ft) 90'	20	25.9	20	25.4
	25	25.9	25	25.4
Recommended pump rate (l/min/GPM) 20	30	25.9	30	25.4
Well production (l/min/GPM) 20	40	26	40	25.4
Is infected? X Yes ☐ No	50	26	50	25.4
	60	26'	60	25.4

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments: 1 HP 20 GPM @ 100 ft	
Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2023 03 02
Ministry Use Only	
Audit No.	2394524
Received	

Measurements recorded in: ☐ Metric ☒ Imperial

A360957

Page ____ of ____

Well Owner's Information

First Name _____ Last Name/Organization **Dr. Gillian Espie** E-mail Address _____ ☐ Well Constructed by Well OwnerMailing Address (Street Number/Name) **1 Forillon Crescent** Municipality **Kanata** Province **ON** Postal Code **K2M 2W5** Telephone No. (inc. area code) _____

Well Location

Address of Well Location (Street Number/Name) **(NO CIVIC) Ramsay Concession 12** Township **Beckwith** Lot **P/L 25** Concession **12**County/District/Municipality **Lanark** City/Town/Village **Ashton** Province **Ontario** Postal Code _____UTM Coordinates Zone **18** Easting **415351** Northing **5003544** Municipal Plan and Sublot Number _____ Other **TW# 274**

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)
	Sand	Stones		0' 3'
Grey & Green	Limestone			3' 133'
Grey & Green	Limestone			133' 140'

TEST WELL # 2 OF 4

Annular Space		
Depth Set at (m)	Type of Sealant Used (Material and Type)	Volume Placed (m ³)
40' 30'	Neat cement	10.92
30' 0'	Bentonite slurry	8.4

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Piling	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air Percussion		☐ Industrial	
☐ Other, specify _____		☐ Other, specify _____	

Construction Record - Casing			Status of Well	
Inside Diameter (cm)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm)	Depth (m)	
6 1/4"	Steel	.188	+2' 40'	☒ Water Supply
6"	Open Hole		40' 140'	☐ Replacement Well

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m)	
				☐ Test Hole
				☐ Recharge Well
				☐ Dewatering Well
				☐ Observation and/or Monitoring Hole
				☐ Alteration (Construction)
				☐ Abandoned, Insufficient Supply
				☐ Abandoned, Poor Water Quality
				☐ Abandoned, other, specify _____
				☐ Other, specify _____

Water Details		Hole Diameter	
Water found at Depth 133'	Kind of Water: ☐ Fresh ☒ Untested	Depth (m)	Diameter (cm)
	☐ Gas ☐ Other, specify _____	0' 40'	9 3/4"
Water found at Depth _____	Kind of Water: ☐ Fresh ☐ Untested	40' 140'	6"
	☐ Gas ☐ Other, specify _____		

Well Contractor and Well Technician Information

Business Name of Well Contractor **Air Rock Drilling Co. Ltd.** Well Contractor's Licence No. **7681**Business Address (Street Number/Name) **6659 Franktown Road** Municipality **Richmond**Province **ON** Postal Code **K0A 2Z0** Business E-mail Address **air-rock@sympatico.ca**Bus. Telephone No. (inc. area code) **6138392170** Name of Well Technician (Last Name, First Name) **Hanna, Jeremy**Well Technician's Licence No. **13632** Signature of Technician and/or Contractor _____ Date Submitted **2023 03 31**

Y Y Y Y M M D D

Results of Well Yield Testing			
After test of well yield, water was:	Draw Down	Recovery	
☐ Clear and sand free	Time (min)	Water Level (m/t)	Time (min)
☐ Other, specify Not tested			
If pumping discontinued, give reason:	Static Level		
☒ Pump intake set at (m)	23.4'		
130			
Pumping rate (l/min/GPM)			
18			
Duration of pumping			
1 hrs + 0 min			
Final water level end of pumping (m/t)			
25.6'			
If flowing give rate (l/min/GPM)			
15			
Recommended pump depth (m)			
160'			
Recommended pump rate (l/min/GPM)			
15			
Well production (l/min/GPM)			
15			
Disinfect?			
☒ Yes ☐ No			

Map of Well Location

Please provide a map below following instructions on the back.

MCARTON ROAD

0.7km

1.5km

(NO CIVIC) RAMSAY CONCESSION 12

TW# 2

Ridgemont Drive

Comments: **3/4" - 15 GPM @ 100'**Well owner's information package delivered ☒ Yes ☐ NoDate Package Delivered **2023 03 02**

Ministry Use Only

Audit No. **2394525**

Received

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

Well Owner's Information

First Name _____ Last Name/Organization **Dr. Gillian Espie** E-mail Address _____ ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name) **1 Forillon Crescent** Municipality **Kanata** Province **ON** Postal Code **K2M 2W5** Telephone No. (inc. area code) _____

Well Location

Address of Well Location (Street Number/Name) **(NO CIVIC) Ramsay Concession 12** Township **Beckwith** Lot **P/L 25** Concession **12**

County/District/Municipality **Lanark** City/Town/Village **Ashton** Province **Ontario** Postal Code _____

UTM Coordinates Zone _____ Easting **18 415121** Northing **5003273** Municipal Plan and Sublot Number _____ Other **TW # 3 of 4**

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m) From	Depth (m) To
	Sand			0	2
Grey	Limestone			2	160
Grey	Limestone			160	170
TEST WELL # 3 of 4					

Annular Space			
Depth Set at (m)	Type of Sealant Used (Material and Type)	Volume Placed (m³)	
40	Neat cement	10.92	
30	Bentonite slurry	4.2	

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify _____		☐ Other, specify _____	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m) From	Depth (m) To	
6 1/4"	Steel	.188"	+2'	40'	☒ Water Supply
6"	Open Hole		40'	170'	☐ Replacement Well
					☐ Test Hole
					☐ Recharge Well
					☐ Dewatering Well
					☐ Observation and/or Monitoring Hole
					☐ Alteration (Construction)
					☐ Abandoned, Insufficient Supply
					☐ Abandoned, Poor Water Quality
					☐ Abandoned, other, specify _____
					☐ Other, specify _____

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m) From

Water Details		Hole Diameter	
Water found at Depth (m)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m) From	Diameter (cm)
160	☐ Gas ☒ Other, specify _____	0	9 3/4"
165	☐ Gas ☒ Other, specify _____	40	6"
	☐ Gas ☐ Other, specify _____		

Well Contractor and Well Technician Information

Business Name of Well Contractor **Air Rock Drilling Co. Ltd.** Well Contractor's Licence No. **C7681**

Business Address (Street Number/Name) **6859 Franktown Road** Municipality **Richmond**

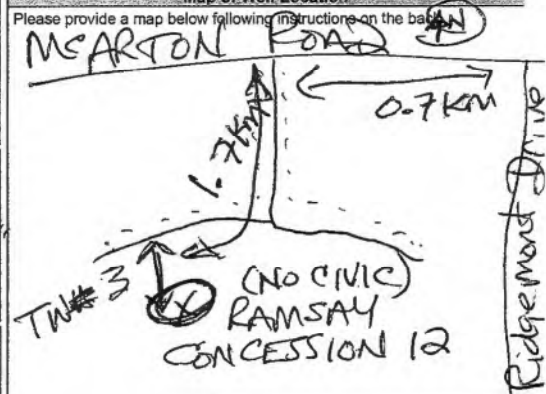
Province **ON** Postal Code **K0A 2Z0** Business E-mail Address **air-rock@sympatico.ca**

Bus. Telephone No. (inc. area code) **6138382170** Name of Well Technician (Last Name, First Name) **Hanna, Jeremy**

Well Technician's Licence No. **13632** Signature of Technician and/or Contractor **[Signature]** Date **2023 03 31**

Results of Well Yield Testing				
nd, water was: d free	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
Not tested	Static Level	23.4'		23.9'
ued, give reason:	1	23.6	1	23.5
(m/ft)	2	23.6	2	23.4
(GPM)	3	23.6	3	23.4
	4	23.6	4	23.4
g min	5	23.7	5	23.4
d of pumping (m/ft)	10	23.8	10	23.4
/min/GPM)	15	23.8	15	23.4
	20	23.8	20	23.4
mp depth (m/ft)	25	23.9	25	23.4
mp rate	30	23.9	30	23.4
	40	23.9	40	23.4
(GPM)	50	23.9	50	23.4
	60	23.9	60	23.4

Map of Well Location



Comments: **144-2 GPM @ 100 ft**

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☒ Yes ☐ No	2023 03 31	Audit No. Z394526
		Received _____

Measurements recorded in: ☐ Metric ☒ Imperial

Page of

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner	
	Dr. Gillian Espie			
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
1 Forillon Crescent	Kanata	ON	K2M 2W5	

Well Location

Address of Well Location (Street Number/Name)				Township		Lot		Concession	
(NO Civic) Ramsay Concession 12				Bedford		P/L 25		12	
County/Township/Municipality				City/Town/Village		Province		Postal Code	
Lanark				Ashton		Ontario			
UTM Coordinates		Zone	Easting	Northing		Municipal Plan and Sublot Number			
NAD 83		18	415122	5003057		Other			
						T/A # 484			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)	
				From	To
	Sand			0	2
Grey	Limestone			2	77
Grey	Limestone			77	173
Grey	Limestone			173	180

TEST WELL # 4 OF 4

Annular Space			
Depth Set at (mm)		Type of Sealant Used (Material and Type)	Volume Placed (mm ³)
From	To		
40'	30'	Neat cement	10.92
30'	0'	Bentonite slurry	4.2

Method of Construction		Well Use		
☐ Cable Tool	☐ Diamond	☒ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, specify _____		☐ Other, specify _____		

Construction Record - Casing				Status of Well	
Inside Diameter (mm)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm)	Depth (m)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
6 1/4"	Steel	.188"	+2'	40'	
6"	Open Hole		40'	180'	

Construction Record - Screen					
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To		

☐ Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details		Hole Diameter	
Water found at Depth 77' (mft) ☒ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	Depth (mft) From To	Diameter (cm) ☒ 4" ☐ 6"
Water found at Depth 173' (mft) ☒ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	0' 40'	0.31" 1.4"
Water found at Depth (mft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested	40' 180'	6"

Well Contractor and Well Technician Information	
Business Name of Well Contractor Air Rock Drilling Co. Ltd.	Well Contractor's Licence No. C7681
Business Address (Street Number/Name) 8859 Franktown Road	Municipality Richmond

Province ON	Postal Code K0A 2Z0	Business E-mail Address air-rock@sympatico.ca
Bus. Telephone No. (inc. area code) 6138382170	Name of Well Technician (Last Name, First Name) Hanna, Jeremy	
Well Technician's Licence No. 13632	Signature of Technician and/or Contractor 	Date Signed 03 31

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free	Not tested	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
☐ Other, specify _____		Static Level			
If pumping discontinued, give reason: X		1	18' 5"		24.3
Pump intake set at (m/ft) 170'		1	21.5	1	20.1
Pumping rate (l/min) (GPM) 10		2	21.9	2	19.6
Duration of pumping 1 hrs + 0 min		3	22.1	3	19.3
Final water level end of pumping (m/ft) 24' 3"		4	22.3	4	19.1
If flowing give rate (l/min/GPM) X		5	22.4	5	19
Recommended pump depth (m/ft) 140'		10	22.8	10	18.7
Recommended pump rate (l/min) (GPM) 10		15	23.1	15	18.6
Well production (l/min) (GPM) 10		20	23.4	20	18.5
Disinfected? ☒ Yes ☐ No		25	23.6	25	18.5
		30	23.8	30	18.5
		40	24	40	18.5
		50	24.2	50	18.5
		60	24.3	60	18.5

Map of Well Location

Please provide a map below following instructions on the back

The map is a hand-drawn sketch on lined paper. At the top, it says 'Map of Area Located'. Below this, a horizontal line is labeled 'MCARTHUR ROAD'. To the right of the road, there is a circled 'N' with an arrow pointing right, indicating North. Below the road, a vertical dashed line runs down. To the left of this line, there is a curved dashed line. Below the curved line, the text '(NO CIVIC) RAMSAY CONCESSION 12' is written. To the left of the vertical dashed line, there is a small circle with a cross inside, and an arrow pointing left towards it. Above this circle, the text 'TW#4' is written. To the right of the vertical dashed line, there is a horizontal arrow pointing left, labeled '0.7 KM.'. On the far right, there is a vertical line with the text 'Ridgmont Drive' written vertically next to it.

Comments: 1/24P-10 AM Sat @ 140 FT

Well owner's information package delivered	Date Package Delivered Y 2023 M 03 D 02	Ministry Use Only Audit No. Z394527
☒ Yes ☐ No	Work Completed Y 2023 M 02 D 28	

CS5.58



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WATER WELL RECORD

3506860

MUNICIP

35002

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COUNTY OR DISTRICT 1	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Buck With	CON. BLOCK, TRACT, SURVEY, ETC. 12	DATE COMPLETED DAY 13 MO 05 YR 84
003499		0450	26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Sand		Fine	0	2
Brown	Shail		Soft	2	61

31	0002608	006161785
32		

41	WATER RECORD	51	CASING & OPEN HOLE RECORD	61	PLUGGING & SEALING RECORD
WATER FOUND AT - FEET	KIND OF WATER	INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-13	1 ☐ FRESH 3 ☒ SULPHUR 4 ☐ MINERAL	10-11	1 ☒ STEEL	12	FROM TO
15-18	1 ☐ FRESH 3 ☐ SULPHUR 4 ☐ MINERAL	11-12	2 ☐ GALVANIZED	13-16	
20-23	1 ☐ FRESH 3 ☐ SULPHUR 4 ☐ MINERAL	12-13	1 ☐ CONCRETE		
25-28	1 ☐ FRESH 3 ☐ SULPHUR 4 ☐ MINERAL	13-14	4 ☐ OPEN HOLE	188	0/0021
30-33	1 ☐ FRESH 3 ☐ SULPHUR 4 ☐ MINERAL	14-15	1 ☐ STEEL	19	
		15-16	2 ☐ GALVANIZED	20-23	
		16-17	1 ☐ CONCRETE		
		17-18	4 ☐ OPEN HOLE		
		18-19	1 ☐ STEEL	20-23	
		19-20	2 ☐ GALVANIZED		
		20-21	1 ☐ CONCRETE	24-25	
		21-22	4 ☐ OPEN HOLE		
		22-23	1 ☐ STEEL	26-29	
		23-24	2 ☐ GALVANIZED		
		24-25	1 ☐ CONCRETE		
		25-26	4 ☐ OPEN HOLE		

71	PUMPING TEST METHOD	10	PUMPING RATE	11-14	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILEY	0020	GPM	01	15-16	00
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	1 ☐ PUMPING 2 ☒ RECOVERY	17-18	
19-21	015	048	018	015	
IF FLOWING, GIVE RATE	38-41	PUMP INTAKE SET AT	WATER AT END OF TEST	42	
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMP RATE	43-45	46-49	
1 ☐ SHALLOW 2 ☒ DEEP	050	008			

FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE	1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ OTHER	6 ☐ COMMERCIAL 7 ☐ MUNICIPAL 8 ☐ PUBLIC SUPPLY 9 ☐ COOLING OR AIR CONDITIONING 10 ☐ NOT USED
METHOD OF DRILLING	1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION	6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

LOCATION OF WELL

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

DRILLER'S REMARKS

CONTRACTOR	NAME OF WELL CONTRACTOR BOYD CAMERON	LICENCE NUMBER 1567
	ADDRESS R.R. 2 CLAYTON ONT	
	NAME OF DRILLER OR BORER	LICENCE NUMBER
	SIGNATURE OF CONTRACTOR Boyd Cameron	SUBMISSION DATE 14 MO 6 YR 84

OFFICE USE ONLY	DATE SOURCE 1	CONTRACTOR 1567	DATE OF INSPECTION 020884	INSPECTOR
REMARKS				



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WATER WELL RECORD

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26

COUNTY OR DISTRICT Lanark	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Beckwith	CON. BLOCK, TRACT, SURVEY ETC. 12	LOT 26
OWNER (SURNAME FIRST) [REDACTED]	ADDRESS 1060 Apaludon Ave. Apt 2	DATE COMPLETED DAY 1 MO 9 YR 88	
21	ZONE U	EASTING 12	NORTHING 18
22	RC RC	ELEVATION 181.4	RC CODE 5A9

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
	clay			0'	3'
black & green	sandstone			3'	30'
gray	sandstone			30'	83'
gray	sandstone			83'	125'

31	32	33	34	35	36	37	38	39	40
----	----	----	----	----	----	----	----	----	----

41 WATER RECORD			
WATER FOUND AT - FEET	KIND OF WATER		
120	1 ☒ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS	14
15-18	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS	19
20-23	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS	24
25-28	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS	29
30-33	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 5 ☐ GAS	34

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
6	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	185	0' 22'
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		20-23
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		27-30

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

61 PLUGGING & SEALING RECORD			
DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)		
FROM	TO		
0	22	cement	
18-21	22-25		
26-29	30-33		

71 PUMPING TEST	PUMPING TEST METHOD 1 ☒ PUMP 2 ☐ BAILEY	PUMPING RATE 5 GPM	DURATION OF PUMPING 30 HOURS
	STATIC LEVEL 28 FEET	WATER LEVEL END OF PUMPING 22-24 FEET	WATER LEVELS DURING 15 MINUTES 26-28 FEET 30 MINUTES 29-31 FEET 45 MINUTES 32-34 FEET 60 MINUTES 35-37 FEET
	IF FLOWING GIVE RATE	PUMP INTAKE SET AT 125' FEET	WATER AT END OF TEST 32 FEET
	RECOMMENDED PUMP TYPE ☐ SHALLOW ☒ DEEP	RECOMMENDED PUMP SETTING 105' FEET	RECOMMENDED PUMPING RATE 5' GPM

84 FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 8 ☐ DEWATERING
	55-56 WATER USE 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ OTHER	
	57 METHOD OF CONSTRUCTION 1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION	

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

CONTRACTOR	NAME OF WELL CONTRACTOR Guy Hall Ltd	WELL CONTRACTOR'S LICENCE NUMBER 2558
	ADDRESS Mc Donalds Corners Ont.	
	NAME OF WELL TECHNICIAN Paul Hemmell	WELL TECHNICIAN'S LICENCE NUMBER 70050
	SIGNATURE OF TECHNICIAN/CONTRACTOR Guy Hall	SUBMISSION DATE DAY 2 MO 9 YR 88

OFFICE USE ONLY	DATA SOURCE 2558	CONTRACTOR 2558	DATE RECEIVED OCT 21 1988
	DATE OF INSPECTION	INSPECTOR	
	REMARKS		
	CSS.ES		

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WATER WELL RECORD

3508646 35002 CON 11
MUNICIP. COM.
PL 27A-3455 29 31 34

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COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE		CON. BLOCK, TRACT, SURVEY, ETC.		LOT	
1 Adirack		Beckwith		11		26	
						DATE COMPLETED	
						48-53	
RR 2 ASHTON						DAY 30 MO 11 YR 88	
NG		RC		ELEVATION		RC	
BASIN CODE		II		III		IV	
27		27		27		27	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31									
32									

WATER RECORD			
WATER FOUND AT - FEET	KIND OF WATER		
10-13 53	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS		
15-18	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS		
20-23	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS		
25-28	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS		
30-33	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS		

CASING & OPEN HOLE RECORD			
INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
			FROM TO
10-11 6 1/4"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	1.88	0' 21' 22' 55'
17-18 6"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		

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

PLUGGING & SEALING RECORD			
DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER ETC.	TYPE
FROM TO 4' 21'			TYPE 10 PORTLAND
26-29			

71	PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
	1 ☐ PUMP	2 ☒ BAILER		10		GPM	2	15-16 HOURS
	15-16 HOURS		17-18 MINS					
	STATIC LEVEL	WATER LEVEL END OF PUMPING	25	WATER LEVELS DURING		1 ☐ PUMPING	2 ☐ RECOVERY	
	19-21	22-24	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES		
10	25	25	25	25	25	25	25	25
IF FLOWING GIVE RATE		30-41	PUMP INTAKE SET AT		WATER AT END OF TEST		42	
		GPM	FEET		1 ☐ CLEAR		2 ☒ CLOUDY	
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING	43-45	RECOMMENDED PUMPING RATE		46-49		GPM
☐ SHALLOW ☒ DEEP		40	FEET		8			
90-93								

FINAL STATUS OF WELL	24 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED POOR QUALITY 7 ☐ UNFINISHED 8 ☐ DEWATERING
	55-56 WATER USE	
METHOD OF CONSTRUCTION	57 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER _____	5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ NOT USED
	1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION	
		6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

LOCATION OF WELL

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

COULBOURN

TOWN LINE ROAD

HWY #7

→ 0.7 KM

DEAD END

N

44884

DRILLERS REMARKS

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR'S LICENCE NUMBER
	M. KAVANAGH & SON WELL DRILLING		3142
	ADDRESS		
	RR 2 CARLETON PLACE		
	NAME OF WELL TECHNICIAN		WELL TECHNICIAN'S LICENCE NUMBER
	LONNY M'NEELY		88-194
	SIGNATURE OF TECHNICIAN/CONTRACTOR		SUBMISSION DATE
	<i>[Signature]</i>		DAY 12 MO 12 YR 88

OFFICE USE ONLY	DATA SOURCE	56	CONTRACTOR	55-62	DATE RECEIVED	63-68
	3142		JAN 12 1989			
	DATE OF INSPECTION		INSPECTOR			
	REMARKS					
	WDE		CSS.ES			



Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

Municipality 35002 Con. CON 12

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Lanark	Beckwith	12	26
Owner's surname	First name	Address	Date completed
Neilcorp General Contracting Ltd	R.R. #1, Ramsay Meadows	Carleton Place, Ontario	27 20 month 95

[illegible]

WATER RECORD			
Water found at - feet	Kind of water		
112	☐ Fresh	☐ Sulphur	
	☐ Salty	☐ Minerals	
		☐ Gas	
	☐ Fresh	☐ Sulphur	
	☐ Salty	☐ Minerals	
		☐ Gas	
	☐ Fresh	☐ Sulphur	
	☐ Salty	☐ Minerals	
		☐ Gas	
	☐ Fresh	☐ Sulphur	
	☐ Salty	☐ Minerals	
		☐ Gas	
	☐ Fresh	☐ Sulphur	
	☐ Salty	☐ Minerals	
		☐ Gas	

CASING & OPEN HOLE RECORD					
Inside diam inches	Material	Wall thickness inches	Depth - feet		
			From	To	
6 1/4	☒ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	.188	0	41	
6 1/8	☐ Steel ☐ Galvanized ☐ Concrete ☒ Open hole ☐ Plastic		41	123	
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic				

SCREEN	Sizes of opening (Slot No.)	Diameter	Length
		inches	feet
	Material and type	Depth at top of screen	
		feet	

PLUGGING & SEALING RECORD			
☐ Annular space		☐ Abandonment	
Depth set at – feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
39'6"	0	Grousef d Cement (5)	

PUMPING TEST	Pumping test method ☒ Pump ☐ Bailor		Pumping rate 12 GPM		Duration of pumping 1 Hours Mins	
	Static level	Water level end of pumping	Water levels during ☒ Pumping ☐ Recovery			
			15 minutes	30 minutes	45 minutes	60 minutes
	31 feet	60 feet	120 feet	100 feet	75 feet	60 feet
	If flowing give rate		Pump intake set at		Water at end of test	
GPM		feet		☐ Clear ☒ Cloudy		
Recommended pump type ☐ Shallow ☒ Deep		Recommended pump setting 75 feet		Recommended pump rate 5 GPM		

FINAL STATUS OF WELL		
☒ Water supply	☐ Abandoned, insufficient supply	☐ Unfinished
☐ Observation well	☐ Abandoned, poor quality	☐ Replacement well
☐ Test hole	☐ Abandoned (Other)	
☐ Recharge well	☐ Dewatering	

WATER USE		
☒ Domestic	☐ Commercial	☐ Not used
☐ Stock	☐ Municipal	☐ Other
☐ Irrigation	☐ Public supply	
☐ Industrial	☐ Cooling & air conditioning	

METHOD OF CONSTRUCTION		
☐ Cable tool	☒ Air percussion	☐ Driving
☐ Rotary (conventional)	☐ Boring	☐ Digging
☐ Rotary (reverse)	☐ Diamond	☐ Other
☐ Rotary (air)	☐ Jetting	

LOCATION OF WELL

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

Ashton Station Rd

1.5 km

Howite View Farms

15 km

Howite View Farms

3'6"

5'

x

Hwy #7

153198

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address	
P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097
Signature of Technician/Contractor	Submission date
<i>S. Miller</i>	day 30 mo 10 yr 95

MINISTRY USE ONLY	1558 NOV 07 1995
	CSS.ES

Measurements recorded in: ☐ Metric ☒ Imperial

A127986

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
McArton Road Co-Tenancy			
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
9094 Cavanagh Road	Ashton	ON	K0A 1B0

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
9153 McArton Road	Beckwith	P/L 6	12
County/District/Municipality	City/Town/Village	Province	Postal Code
Lanark	Ashton	Ontario	
UTM Coordinates Zone, Easting, Northing	Municipal Plan and Sublot Number	Other	
NAD 83 18 415241 5004058			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
	Sand	Boulders		0' 6'
Green & Grey	Limestone			6' 233'
Green & Grey	Limestone			233' 240'

Annular Space		
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
62' 0'	Neat cement	65.5

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Public ☒ Domestic ☐ Commercial ☐ Municipal ☐ Livestock ☐ Test Hole ☐ Irrigation ☐ Industrial ☐ Cooling & Air Conditioning ☐ Other, specify

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	From	To
6"	Steel	.188"	+2'	62'	62'
5 7/8"	Open Hole		62'	240'	240'

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
233' (m/ft)	☐ Gas ☐ Other, specify	0' 60' 6"	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested	62' 240' 5 7/8"	
(m/ft)	☐ Gas ☐ Other, specify		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
(m/ft)	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor		Well Contractor's Licence No.	
Air Rock Drilling Co. Ltd.		1119	
Business Address (Street Number/Name)		Municipality	
6659 Franktown Road, RR#1		Richmond	
Province	Postal Code	Business E-mail Address	
ON	K0A 2Z0	air-rock@sympatico.ca	
Bus. Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)	
6138882170		Purcell, Shannon	
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
T2122		2012 05 31	

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☐ Clear and sand free		Time (min)	Water Level (m/ft)
☐ Other, specify		Time (min)	Water Level (m/ft)
Not tested		Static Level	28.1' 28.6"
If pumping discontinued, give reason:		1	28.6' 28.1
X		2	28.6' 28.1
Pump intake set at (m/ft)		3	28.6' 28.1
200		4	28.6' 28.1
Pumping rate (l/min GPM)		5	28.6' 28.1
20		10	28.6' 28.1
Duration of pumping		15	28.6' 28.1
1 hrs + 0 min		20	28.6' 28.1
Final water level end of pumping (m/ft)		25	28.6' 28.1
28.6"		30	28.6' 28.1
If flowing give rate (l/min GPM)		40	28.6' 28.1
X		50	28.6' 28.1
Recommended pump depth (m/ft)		60	28.6' 28.1
100' (3/4HP 15gpm)			
Recommended pump rate (l/min GPM)			
20			
Well production (l/min GPM)			
20			
Disinfected?			
X Yes ☐ No			

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments:	
TEST WELL #2 (3/4HP 15gpm Set @ 100ft)	
Well owner's information package delivered	Ministry Use Only
Date Package Delivered	Audit No.
2012 05 14	z128553
Date Work Completed	Received
2012 05 08	JUN 2 2012

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner		
	McArton Road Co-Tenancy				
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)	
9094 Cavanagh Road	Ashton	ON	K0A 1B0		

Well Location

Address of Well Location (Street Number/Name)				Township		Lot		Concession	
9153 McArton Road				Beckwith		P/L 6		12	
County/District/Municipality				City/Town/Village				Province	
Lanark				Ashton				Ontario	
UTM Coordinates				Municipal Plan and Sublot Number				Postal Code	
Zone								Other	
Easting									
Northing									
NAD 83									
18									
415282									
5003874									

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m) From	To
	Sand			0'	3'
Grey	Limestone			3'	171'
Grey	Limestone			171'	181'

Annular Space

Depth Set at (mm)		Type of Sealant Used (Material and Type)	Volume Placed (mm ³)
From	To		
60	0	Neat cement	23.4

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (mm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm/in)	Depth (m/ft)		
			From	To	
6"	Steel	.188"	+2'	80'	☒ Water Supply ☒ Replacement Well ☒ Test Hole #3 ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
57 1/2"	Open Hole		80'	191'	

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (mm/in)	
			From	To

☐ Brand Name, Part No., Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth 171 (mft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (mft) From	To	Diameter (cm/in)
☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☐ Untested	0'	60'	6"
(mft) ☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☐ Untested	60'	181'	57"
Water found at Depth (mft) ☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☐ Untested			

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.	
Air Rock Drilling Co. Ltd.		1119	
Business Address (Street Number/Name)		Municipality	
6659 Franktown Road, RR#1		Richmond	
Province	Postal Code	Business E-mail Address	
ON	K0A 2Z0	air-rock@sympatico.ca	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
5138882170	Hanna, Jeremy		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
3633		2012 05 31	

Results of Well Yield Testing

After test of well yield, water was:	Draw Down		Recovery	
☐ Clear and sand free ☐ Other, <i>specify</i>	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
Not tested	Static Level	29.5'		29.7'
If pumping discontinued, give reason:	1	29.6	1	29.5
Pump intake set at (m/ft)	2	29.6	2	29.5
160	3	29.6	3	29.5
Pumping rate (l/min / GPM)	4	29.6	4	29.5
20	5	29.6	5	29.5
Duration of pumping	10	29.6	10	29.5
1 hrs + 0 min	15	29.7	15	29.5
Final water level end of pumping (m/ft)	20	29.7	20	29.5
29.7	25	29.7	25	29.5
If flowing give rate (l/min / GPM)	30	29.7	30	29.5
	40	29.7	40	29.5
Recommended pump depth (m/ft)	50	29.7	50	29.5
100' (3/4" Bp)	60	29.7	60	29.5
Recommended pump rate				
(l/min / GPM)				
20				
Well production (l/min / GPM)				
20				
Disinfected?				
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back.

Comments: TEST WELL #3 (3/4HP-159PM
Set @ 100 ft)

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2012 05 14	Ministry Use Only Audit No. Z 128554 JUN 29 2012 Received
	Date Work Completed 2012 05 09	



Ontario

Ministry of
the Environment

W

Tag#: A128068

(Print Below)

A128068

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization McArton Road Co-Tenancy	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 9094 Cavanagh Road	Municipality Ashton	Province ON	Postal Code K0A 1B0

Well Location

Address of Well Location (Street Number/Name) 9153 McArton Road	Township Beckwith	Lot P/L 6	Concession 12
County/District/Municipality Lanark	City/Town/Village Ashton	Province Ontario	Postal Code
UTM Coordinates Zone Easting Northing NAD 83 18 415451 5003819	Municipal Plan and Sublot Number	Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)
	Clay			0' 3'
Grey	Limestone			3' 170'
Grey	Limestone			170' 216'
Grey	Limestone	q Sand Stone		216' 240'
Grey	Limestone	q Sand Stone		240' 247'

Annular Space		
Depth Set at (m)	Type of Sealant Used (Material and Type)	Volume Placed (m³)
60' 0'	Neat cement	25

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Diamond ☐ Jetting ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify

Construction Record - Casing				Status of Well	
Inside Diameter (cm)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm)	Depth (m)	From	To
6"	Steel	.188"	+2'	60'	
6"	Open Hole		60'	247'	

Construction Record - Screen			
Outside Diameter (cm)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m)
			From To

Water Details		Hole Diameter	
Water found at Depth (m)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m)	Diameter (cm)
170 (m)	☐ Gas ☐ Other, specify	From To	
240 (m)	☐ Gas ☐ Other, specify	0' 247'	6"

Well Contractor and Well Technician Information			
Business Name of Well Contractor Air Rock Drilling Co. Ltd.		Well Contractor's Licence No. 1119	
Business Address (Street Number/Name) 6659 Franktown Road, RR#1		Municipality Richmond	
Province ON	Postal Code K0A 2Z0	Business E-mail Address air-rock@sympatico.ca	
Bus. Telephone No. (inc. area code) 6138882170		Name of Well Technician (Last Name, First Name) Purcell, Shannon	
Well Technician's Licence No. T2122		Signature of Technician and/or Contractor <i>[Signature]</i>	
		Date Submitted 2012 05 31	

Results of Well Yield Testing			
After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify Not tested	Draw Down		Recovery
	Time (min)	Water Level (m)	Time (min)
If pumping discontinued, give reason: ☒ Pump intake set at (m) 230 Pumping rate (l/min / GPM) 20 Duration of pumping 1 hrs + 0 min Final water level end of pumping (m) 35.1' If flowing give rate (l/min / GPM) 20 Recommended pump depth (m) 100' (3/4 HP 159pm) Recommended pump rate (l/min / GPM) 20 Well production (l/min / GPM) 20 Disinfected? ☒ Yes ☐ No	Static Level	34.6'	35.1'
	1	35	1
	2	35	2
	3	35	3
	4	35	4
	5	35	5
	10	35	10
	15	35	15
	20	35	20
	25	35.1	25
	30	35.1	30
40	35.1	40	
50	35.1	50	
60	35.1	60	

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments: TEST WELL #4 (3/4 HP 159pm) Set @ 100 ft	
Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2012 05 14 Date Work Completed 2012 05 09
Ministry Use Only Audit No. z128555 Received JUN 29 2012	

Measurements recorded in: ☐ Metric ☒ Imperial

A128066

Well Owner's Information

First Name	Last Name / Organization		E-mail Address		☐ Well Constructed by Well Owner
	McArton Road Co-Tenancy				
Mailing Address (Street Number/Name)		Municipality	Province	Postal Code	Telephone No. (inc. area code)
9094 Cavanagh Road		Ashton	ON	K0A 1B0	

Well Location

Address of Well Location (Street Number/Name) 9153 McArton Road				Township Beckwith		Lot P/L 6		Concession 12	
County/District/Municipality Lanark				City/Town/Village Ashton		Province Ontario		Postal Code 	
UTM Coordinates		Zone	Easting		Northing		Municipal Plan and Sublot Number		
NAD 83		18	8415465		5003648				
							Other		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Anchorage Spots		
Depth Set at (mm) From	To	Type of Sealant Used (Material and Type)
60'	0'	Neat cement

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		
			From	To	
6 "	Steel	188 "	+2 '	80 '	☒ Water Supply ☐ Replacement Well ☒ Test Hole - AS ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Off-sites Supply
57 3/4 "	Open Hole		80 '	181 '	

Construction Record - Screen

Outside Diameter (mm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Abandoned, "F" for Water Quality

☐ Abandoned, other, *specify*

☐ Other, *specify*

Water Details

Water found at Depth 165 (m/ft) Gas ☐ Other, specify _____ Kind of Water: ☐ Fresh ☒ Untested

Water found at Depth 172 (m/ft) Gas ☐ Other, specify _____ Kind of Water: ☐ Fresh ☒ Untested

Water found at Depth _____ (m/ft) Gas ☐ Other, specify _____ Kind of Water: ☐ Fresh ☐ Untested

Hole Diameter

Water found at Depth 165 (m/f)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/f) From To	Diameter (cm/in)
Water found at Depth 172 (m/f)	Kind of Water: ☐ Fresh ☒ Untested	0' 60'	6"
Water found at Depth (m/f)	Kind of Water: ☐ Fresh ☐ Untested	80' 181'	57 3/4"
(m/f)	Other: <i>specify</i>		

Well Contractor and Well Technician Information

Business Name of Well Contractor Air Rock Drilling Co. Ltd.		Well Contractor's Licence No. 1119	
Business Address (Street Number/Name) 6659 Franktown Road, RR#1		Municipality Richmond	
Province ON	Postal Code K0A 2Z0	Business E-mail Address air-rock@sympatico.ca	

Bus.Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)							
6138382170		Hanna, Jeremy							
Well Technician's Licence No.		Signature of Technician and/or Contractor							
T 3632									
		Date Submitted							
		2012 05 31							
		<table border="1"> <tr> <td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>M</td><td>D</td> </tr> </table>		Y	Y	Y	Y	M	D
Y	Y	Y	Y	M	D				

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☒ Other, <i>specify</i> Not tested		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason: X		Static Level	34.8 "		35.2 "
Pump intake set at (m/ft) 160		1	35.1	1	34.8
Pumping rate (l/min / GPM) 20		2	35.1	2	34.8
Duration of pumping 1 hrs + 0 min		3	35.1	3	34.8
Final water level end of pumping (m/ft) 35.2 "		4	35.1	4	34.8
If flowing give rate (l/min / GPM) X		5	35.1	5	34.8
Recommended pump depth (m/ft) 100' (314 ft) (13 gpm)		10	35.1	10	34.8
Recommended pump rate (l/min / GPM) 20		15	35.1	15	34.8
Well production (l/min / GPM) 20		20	35.1	20	34.8
Disinfected?		25	35.1	25	34.8
☒ Yes ☐ No		30	35.2	30	34.8
		40	35.2	40	34.8
		50	35.2	50	34.8
		60	35.2	60	34.8

Map of Well Location

Please provide a map below following instructions on the back.

Astor Station Road

7KM

8KM

150'

#9153

McARTHUR ROAD

Comments:

TEST WELL #5

(3/4 HP 157 ft)
(Set @ 100 ft)

Well owner's information package delivered ☐ Yes ☐ No	Date Package Delivered 2012 05 14	Ministry Use Only Audit No. Z 128556 JUN 29 2012 Received
	Date Work Completed 2012 05 09	

Ministry of
the Environment

Tag#: A128062

Print Below

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization McArton Road Co-Tenancy	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 9094 Cavanagh Road	Municipality Ashton	Province ON	Postal Code K0A 1B0

Well Location

Address of Well Location (Street Number/Name) 9153 McArton Road	Township Beckwith	Lot P/L 6	Concession 12
County/District/Municipality Lanark	City/Town/Village Ashton	Province Ontario	Postal Code
UTM Coordinates Zone 18 Easting 415610 Northing 5003588	Municipal Plan and Sublot Number	Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
	Clay			From To
				0' 4'
Grey + Green	Limestone			4' 77'
Grey + Green	Limestone			77' 121'
Grey + Green	Limestone			121' 132'
Grey + Green	Limestone			132' 142'

Annular Space			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)	
From To			
60 0	Neat cement	21.8	

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Diamond ☐ Jetting ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	
			From To	
6"	Steel	.188"	+2' 60'	☒ Water Supply ☐ Replacement Well ☒ Test Hole #6 ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify
6"	Open Hole		60' 142'	

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From To	

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify	Depth (m/ft)	Diameter (cm/in)
77 (m/ft)		From To	
		0' 142'	6"
121 (m/ft)			
132 (m/ft)			

Well Contractor and Well Technician Information			
Business Name of Well Contractor Air Rock Drilling Co. Ltd.		Well Contractor's Licence No. 1119	
Business Address (Street Number/Name) 6659 Franktown Road, RR#1		Municipality Richmond	
Province ON	Postal Code K0A 2Z0	Business E-mail Address air-rock@sympatico.ca	
Bus. Telephone No. (inc. area code) 8138382170		Name of Well Technician (Last Name, First Name) Purcell, Shannon	
Well Technician's Licence No. T2122		Signature of Technician and/or Contractor <i>[Signature]</i>	
		Date Submitted 2012 05 31	

Results of Well Yield Testing				
After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify Not tested	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason: ☒	Static Level	35'		36.2'
	1	36'	1	35'
Pump intake set at (m/ft) 120	2	36'	2	35'
	3	36.1'	3	35'
Pumping rate (l/min / GPM) 20	4	36.1'	4	35'
	5	36.1'	5	35'
Duration of pumping 1 hrs + 0 min	10	36.1'	10	35'
	15	36.1'	15	35'
Final water level end of pumping (m/ft) 36.2	20	36.1'	20	35'
	25	36.1'	25	35'
If flowing give rate (l/min / GPM) 20	30	36.2'	30	35'
	40	36.2'	40	35'
Recommended pump depth (m/ft) 100' (34ft)	50	36.2'	50	35'
	60	36.2'	60	35'
Recommended pump rate (l/min / GPM) 20				
Well production (l/min / GPM) 20				
Disinfected? ☒ Yes ☐ No				

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments: TEST WELL #6 (3/4 HP - 15 gpm) Set @ 100 ft	
Well owner's information package delivered ☒ Yes ☐ No	Ministry Use Only Audit No. 128557 JUN 29 2012 Received

A1 95938

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TOMAR CUSTOM NAMES		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT G ARGUE DR	STITTVILLE	ONT.	K7S2H2	613.223.5184

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
154 RIDGEMONT DR.	BECKWITH	4	

County/District/Municipality	City/Town/Village	Province	Postal Code
LANARK	ASHTON	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	415125	5004073		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft)		Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)
From	To		
0	50	BENTONITE GROUT	0.576
50	60	CEMENT GROUT	0.110

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Well Use

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

[illegible]

Status of Well

[illegible]

Construction Record - Screen

[illegible]

Water Details

Water found at Depth		Kind of Water:		Hole Diameter		
(m/ft)	Gas	Other, specify	Fresh	Untested	Depth (m/ft)	Diameter (cm/in)
91	☐	☐	☒	☒	From	To
Water found at Depth	☐	☐	☒	☒	60	139
125	☐	☐	☒	☒	6"	
Water found at Depth	☐	☐	☒	☒	HYDRO FRAC	
(m/ft)	☐	☐	☒	☒		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING		Well Contractor's Licence No. 4879	
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE	
Province ONT	Postal Code K0A1G0	Business E-mail Address	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6136235648	SAUNDERS TROY

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T.517	<i>[Signature]</i>	20/60720

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify CLEARING		Time (min)	Water Level (mR)	Time	Water Level (mR)
If pumping discontinued, give reason:		Static Level	16.42		
		1	19.80	1	19.85
Pump intake set at (mR) 129		2	19.83	2	16.42
Pumping rate (l/min / GPM) 8		3	19.85	3	
Duration of pumping 1 hrs + 0 min		4	20.0	4	
Final water level end of pumping (mR) 20.16		5	20.2	5	
If flowing give rate (l/min / GPM)		10	20.05	10	
Recommended pump depth (mR) 129		15	20.07	15	
Recommended pump rate (l/min / GPM) 10		20	20.13	20	
Well production (l/min / GPM) 10+		25	20.14	25	
Disinfected?		30	20.14	30	
☒ Yes ☐ No		40	20.15	40	
		50	20.16	50	
		60	20.16	60	

Map of Well Location

Please provide a map below following instructions on the back

A hand-drawn sketch of a rectangular area, possibly a lot or field. The top horizontal boundary is labeled "30'" with a double-headed arrow. The right vertical boundary is labeled "45'" with a double-headed arrow. To the right of the rectangle, the text "RIDGE MOUNT DR." is written vertically. The sketch is drawn with dashed lines for the boundaries and solid lines for the labels and road name.

Comments:

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
	Audit No	
☒ Yes	20160620	Z223093
☐ No	Date Work Completed	AUG 10 2016
	20160620	

Measurements recorded in: ☐ Metric ☒ Imperial

Page of

Well Tag No. (Place Sticker and/or Print Below)

A195941

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TIMAR CUSTOM HOMES		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT ARQUE DR.	STITTISVILLE	ONT.	K7S2H2	613-223-5184

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
162 RIDGEMONT DR.	BECKWITH	3 5	

County/District/Municipality LANARK	City/Town/Village ASHTON	Province Ontario	Postal Code
---	------------------------------------	----------------------------	-----------------

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD	83	18415141	5004020		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

[illegible]

Method of Construction

☐ Cable Tool	☐ Diamond	☒ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Well Use

☐ Cable Tool	☐ Diamond	☒ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
64	STEEL	0.188	0+2	63±	

Status of Well

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
64	STEEL	0.188	0+2	63 ±	

Construction Record - Screen

[illegible]

Water Details

Water found at Depth 89 (m/ft) ☐ Gas ☒ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From 632 To 100	Diameter (cm/in) 6"
Water found at Depth 99 (m/ft) ☐ Gas ☒ Other, specify	Kind of Water: ☐ Fresh ☒ Untested		
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested		

Hole Diameter

Water found at Depth 89 (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in) 6"
Water found at Depth 99 (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	652 100	
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4879
Business Address (Street Number/Name) 1080 SCHEEL DR		Municipality BRAESIDE
Province	Postal Code	Business E-mail Address

ONT		KOAIGO	
Bus. Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)	
6136235648		SAUNDERS TROY	
Well Technician's Licence No.		Signature of Technician and/or Contractor	
T517		J. Saunders	
		Date Submitted	
		20160721	

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☒ Other, specify CLEARING		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	22.31		
Pump intake set at (m/ft) 95		1	27.02	1	23.16
		2	27.23	2	22.35
Pumping rate (l/min / GPM) 10		3	28.04	3	22.31
		4	28.56	4	
Duration of pumping 1 hrs + 0 min		5	28.87	5	
		10	29.45	10	
Final water level end of pumping (m/ft) 30.05		15	29.60	15	
If flowing give rate (l/min / GPM)		20	29.60	20	
		25	29.76	25	
Recommended pump depth (m/ft) 90		30	29.80	30	
		40	29.95	40	
Recommended pump rate (l/min / GPM) 12		50	30.0	50	
		60	30.05	60	
Well production (l/min / GPM) 12					
Disinfected?					
☒ Yes ☐ No					

Map of Well Location

Please provide a map below following instructions on the back.

Oh $\nearrow$ $\nwarrow$ 96

RIDGEMONT DR.

Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2016 06 21	Ministry Use Only Audit No. Z223094
	Date Work Completed 2016 06 21	Rec'd AUG 1 2 2016

Tag#: A195956

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner		
	TOMAR CUSTOM HOMES				
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)	
54 BERT G. ARGUE DR.	STITTSVILLE	ONT	K7S2H2	613 223 5184	

Well Location

Address of Well Location (Street Number/Name) 219 RIDGEMOUNT DR.		Township BECKWITH	Lot 14	Concession	
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario		Postal Code
UTM Coordinates Zone Easting Northing NAD 8 3 18411541815003883		Municipal Plan and Sublot Number		Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft)		Type of Sealant Used (Material and Type)	Volume Placed (m³/yd³)
From	To		
0	50	BENTONITE GROUT.	0.576
50	60	CEMENT GROUT	0/30

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i>		☐ Other, <i>specify</i>		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	Uses of Well
6.7	STEEL	0.188	0.5	☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth 120 - 140	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify HYDRO FRAC	Depth (m/ft) From 60 To 139	Diameter (cm/in) 6"
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____		
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4879
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE
Province ONT	Postal Code K0A1G0	Business E-mail Address
Bus. Telephone No. (inc. area code) 6136235048		Name of Well Technician (Last Name, First Name) SAUNDERS TROY
Well Technician's Licence No. T5117	Signature of Technician and/or Contractor 	Date Submitted 2016/10/06

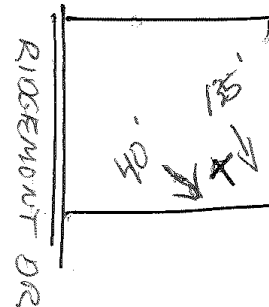
0506E (2014/11)

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>LEAK</u>		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	39.75		
Pump intake set at (m/ft)	129	1	39.67	1	38.40
Pumping rate (l/min / GPM)	6	2	39.95	2	37.85
Duration of pumping	1 hrs + 0 min	3	40.27	3	37.75
Final water level end of pumping (m/ft)	40.59	4	40.71	4	
If flowing give rate (l/min / GPM)		5	40.49	5	
Recommended pump depth (m/ft)	129	10	40.53	10	
Recommended pump rate (l/min / GPM)	6	15	40.59	15	
Well production (l/min / GPM)	8	20	40.59	20	
Disinfected?	☒ Yes ☐ No	25	40.61	25	
		30	40.61	30	
		40	40.58	40	
		50	40.59	50	
		60	40.59	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20160906	Ministry Use Only Audit No. Z223096 SEP 20 2016 Received
	Date Work Completed 20160906	

A195975

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name		Last Name / Organization		E-mail Address		☐ Well Constructed by Well Owner	
		TOMAR CUSTOM HOMES					
Mailing Address (Street Number/Name)			Municipality	Province	Postal Code	Telephone No. (inc. area code)	
54 BERT G ARGUE DR.			STITTSVILLE	ONT.	K7S2H2	613.223.5184	

Well Location

Address of Well Location (Street Number/Name) 163 RIDGEMONT DR		Township BECKWITH	Lot	Concession	
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario		Postal Code
UTM Coordinates NAD 83 18 415226 5004090		Zone 18		Easting 5004090	
		Municipal Plan and Sublot Number		Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m³) yd³
0 6/	BENTONITE GROUT	0.896

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
64	STEEL	0.188	0 + #2	61	

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth <u>127</u> (m/f)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/f)	Diameter (cm/in)
☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☒ Untested	From To	
Water found at Depth <u>235</u> (m/f)	☐ Gas ☐ Other, specify _____	<u>61</u> <u>240</u>	<u>6"</u>
Water found at Depth (m/f)	Kind of Water: ☐ Fresh ☐ Untested		
☐ Gas ☐ Other, specify _____			

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 418179
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE
Province ONT	Postal Code K1D1A6G0	Business E-mail Address
Bus. Telephone No. (inc. area code) 613 229 8716		Name of Well Technician (Last Name, First Name) SAUNDERS TROY
Well Technician's Licence No.	Signature of Technician and/or Contractor [Signature]	Date Submitted 20170905

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☒ Clear and sand free ☐ Other, specify _____		Time (min)	Water Level (mft)	Time (min)	Water Level (mft)
If pumping discontinued, give reason:		Static Level	28.78		28
Pump intake set at (mft)		1	29.96	1	28.90
Pumping rate (l/min / GPM)		2	29.97	2	28.90
Duration of pumping		3	29.95	3	28.89
L hrs + 0 min		4	29.91	4	28.89
Final water level end of pumping (mft)		5	29.90	5	28.89
If flowing give rate (l/min / GPM)		10	29.90	10	28.85
Recommended pump depth (mft)		15	29.90	15	28.82
Recommended pump rate		20	29.90	20	28.79
(l/min / GPM)		25	29.90	25	28.79
Well production (l/min / GPM)		30	29.90	30	28.78
Disinfected?		40	29.93	40	28.78
☒ Yes ☐ No		50	29.93	50	28.78
		60	29.93	60	28.78

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20170105	Ministry Use Only Audit No. 2243269
	Date Work Completed 20170105	JAN 20 2017 Received

Measurements recorded in: ☐ Metric ☒ Imperial

A213224

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Well Owner's Information

First Name	Last Name / Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
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Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT GARGUE DR.	STITTVILLE	ONT.	K7S2H2	613-223-5184

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
172 BUDGEMONT DR.	BECKWITH		

County/District/Municipality LANARK	City/Town/Village ASHTON	Province Ontario	Postal Code
---	------------------------------------	----------------------------	-----------------

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	415172	5904004		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft)		Type of Sealant Used (Material and Type)	Volume Placed (cu m/cu yd)
From	To		
0	60	BENTONITE GROUT	0.640

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Well Use

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
64	STEEL	0.188	0+2	60	

Status of Well

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
6 1/4	STEEL	0.188	0+2	60	

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Abandoned, other, specify _____
☐ Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth <u>117</u> (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From <u>60</u> To <u>140</u>	Diameter (cm/in) <u>6"</u>
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested		
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested		

Hole Diameter

Water found at Depth <u>117</u> (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From <u>60</u> To <u>140</u>	Diameter (cm/in) <u>6"</u>
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested		
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify _____	Kind of Water: ☐ Fresh ☐ Untested		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 48719
Business Address (Street Number/Name) 1680 SCHEELER		Municipality BRAESIDE
Province	Postal Code	Business E-mail Address

ONT KDA/160	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
61516235640	SAUNDERS TROY
Well Technician's Licence No.	Signature of Technician and/or Contractor
T5117	Troy Saund
	Date Submitted
	2011/7/02

Results of Well Yield Testing

After test of well yield, water was:	Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>CLEARING</u>	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:	Static Level	25.55		
Pump intake set at (m/ft)	1	29.30	1	66.63
130	2	32.87	2	63.22
Pumping rate (l/min / GPM)	3	35.69	3	59.98
6	4	38.25	4	56.58
Duration of pumping	5	40.20	5	53.38
1 hrs + 0 min	10	47.80	10	43.60
Final water level end of pumping (m/ft)	15	55.05	15	33.96
70.23	20	60.02	20	29.62
If flowing give rate (l/min / GPM)	25	63.05	25	27.17
Recommended pump depth (m/ft)	30	65.43	30	25.88
130	40	67.00	40	25.58
Recommended pump rate (l/min / GPM)	50	68.73	50	25.55
5	60	70.23	60	25.55
Well production (l/min / GPM)				
Disinfected?				
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back.

A hand-drawn sketch of a rectangular area. Inside the rectangle is a dashed box containing an 'X'. To the right of the rectangle is the text 'RIDGE MOUNT DR.' and above it is a north arrow pointing upwards with the letter 'N'.

Comments:

Well owner's information package delivered

☒ Yes

☐ No

Date Package Delivered	20170131
Date Work Completed	20170131

Ministry Use Only
Audit No. 2243284
FEB 17 2017
Received



A 213226

Measurements recorded in: ☐ Metric ☐ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TOMAR CUSTOM HOMES		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
54 BERT G. ARGUE DR	STITTVILLE	ONT	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
234 RIDGEMONT DR	BECKWITH	12	
County/District/Municipality	City/Town/Village	Province	Postal Code
LANARK	ASHTON	Ontario	
UTM Coordinates Zone	Easting	Northings	Municipal Plan and Sublot Number
NAD 83	18W	1555915003768	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BROWN	BROKEN ROCK		FILL	0 1
YELLOW	CLAY			1 5
BLACK	LIMESTONE			5 9 1/2
GREY	LIMESTONE	LAYERS OF BLACK LIMESTONE & GREEN SHALE		9 1/2 140

Annular Space		
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³)
0 60	BENTONITE GROUT	0.650

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	From	To
6 1/4	STEEL	0.188	0 x 5	60	

☒ Water Supply	☐ Replacement Well
☐ Test Hole	☐ Recharge Well
☐ Dewatering Well	☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)	☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality	☐ Abandoned, other, specify
☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

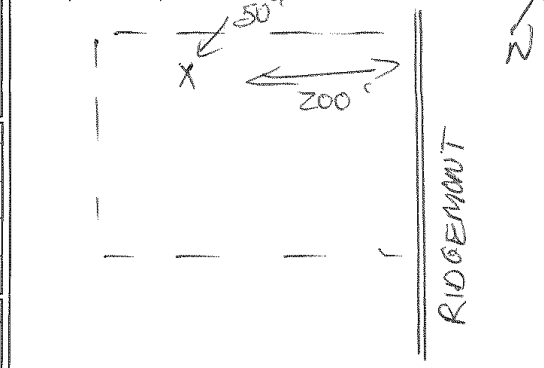
Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
70	☐ Gas ☐ Other, specify	From To	
		60 140	6
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested		
120-140	☐ Gas ☐ Other, specify HYDRO FILL		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor	Well Contractor's Licence No.		
SAUNDERS WELL DRILLING	418 719		
Business Address (Street Number/Name)	Municipality		
1680 SCHEEL DR	BRAESIDE		
Province	Postal Code	Business E-mail Address	
ONT	K0A1G0		
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
613 623 5048	SAUNDERS TROY		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
T5117	Troy Saunders	20170516	

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☐ Clear and sand free		Time (min)	Water Level (m/ft)
☐ Other, specify CLEARING			
If pumping discontinued, give reason:		Static Level	Recovery
		27.40	
Pump intake set at (m/ft)		1 53.30	1 38.12
130		2 35.04	2 32.92
Pumping rate (l/min / GPM)		3 36.50	3 29.51
8		4 38.03	4 28.32
Duration of pumping		5 38.91	5 28.13
1 hrs + 0 min		10 41.79	10 27.93
Final water level end of pumping (m/ft)		15 42.84	15 27.68
44.61		20 43.49	20 27.57
If flowing give rate (l/min / GPM)		25 43.88	25 27.57
		30 43.98	30 27.55
Recommended pump depth (m/ft)		40 44.21	40 27.54
130		50 44.35	50 27.54
Recommended pump rate (l/min / GPM)		60 44.61	60 27.53
8			
Well production (l/min / GPM)			
9			
Disinfected?			
☒ Yes ☐ No			

Map of Well Location

Please provide a map below following instructions on the back.



Comments:	
Well owner's information package delivered	Date Package Delivered
☒ Yes ☐ No	20170516
	Date Work Completed
	20170516
Ministry Use Only	
Audit No.	2260669
JUN 15 2017	
Received	



A213245

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner	
	TOMAR CUSTOM HOMES			
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT G. ARGUE DR.	STITTVILLE ONT.			

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession	
197 RIDGEMONT DR.	BECKWITH	16		
County/District/Municipality	City/Town/Village	Province	Postal Code	
LANARK	ASHTON	Ontario		
UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	181415349	5003947		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
GREY	BLASTED ROCK		FILL	0 2
BROWN + YELLOW	CLAY			2 4
GREY	LIMESTONE			4 140

Annular Space			Results of Well Yield Testing				
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³)	After test of well yield, water was:	Draw Down		Recovery	
0 60	BENTONITE GROUT	0.768	☐ Clear and sand free ☒ Other, specify CLEARING	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
			If pumping discontinued, give reason:	Static Level			
				1 26.40	1 56.35		
			Pump intake set at (m/ft)	2 29.69	2 51.20		
			135				
			Pumping rate (l/min / GPM)	3 31.62	3 46.70		
			10				
			Duration of pumping	4 33.36	4 42.50		
			1 hrs + 0 min	5 35.16	5 38.82		
			Final water level end of pumping (m/ft)	10 41.72	10 26.15		
			63.40				
			If flowing give rate (l/min / GPM)	15 46.28	15 21.35		
				20 49.83	20 20.70		
			Recommended pump depth (m/ft)	25 52.60	25 20.64		
			130				
			Recommended pump rate (l/min / GPM)	30 54.63	30 20.63		
			8				
			Well production (l/min / GPM)	40 58.12	40 20.63		
			8				
			Disinfected?	50 61.69	50 20.63		
			☒ Yes ☐ No	60 63.40	60 20.63		

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Not used
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Dewatering
☐ Boring	☐ Digging	☐ Test Hole	☐ Monitoring
☒ Air percussion		☐ Irrigation	☐ Cooling & Air Conditioning
☐ Other, specify		☐ Industrial	
		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Well Thickness (cm/in)	Depth (m/ft)	☒ Water Supply	
64	STEEL	0.188	0 60	☐ Replacement Well	
				☐ Test Hole	
				☐ Recharge Well	
				☐ Dewatering Well	
				☐ Observation and/or Monitoring Hole	
				☐ Alteration (Construction)	
				☐ Abandoned, Insufficient Supply	
				☐ Abandoned, Poor Water Quality	
				☐ Abandoned, other, specify	
				☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
129	☐ Gas ☐ Other, specify HYDRO FRX	From To	
		60 140	6"
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor	Well Contractor's Licence No.		
SAUNDERS WELL DRILLING	418179		
Business Address (Street Number/Name)	Municipality		
1680 SCHEEL OR	BRAESIDE		
Province	Postal Code	Business E-mail Address	
ONT	K0A1A0		
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
6136235648	SAUNDERS TROY		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
115117	Troy Saul	2017/06/12	

Map of Well Location			
Please provide a map below following instructions on the back.			
Comments:			

Well owner's information package delivered		Ministry Use Only	
☒ Yes	Date Package Delivered	Audit No.	
☐ No	2017/05/12	2260668	
	Date Work Completed	Received	
	2017/05/12	JUN 15 2017	

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name		Last Name / Organization		E-mail Address		☐ Well Constructed by Well Owner	
		TOMAR CUSTOM HOMES					
Mailing Address (Street Number/Name)		Municipality		Province		Postal Code	
54 BERT G. ARGUE DR.		STITTSVILLE		ONT.			
Well Location							
Address of Well Location (Street Number/Name)		Township		Lot		Concession	
191 RIDGEMONT DR.		BECKWITH		17			
County/District/Municipality		City/Town/Village		Province		Postal Code	
LANARK		ASHTON		Ontario			
UTM Coordinates Zone		Easting		Northing		Municipal Plan and Sublot Number	
NAD 83		18415328		5003971			
						Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)
0 60	BENTONITE GROUT	0.650

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Well Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
6 1/4	STEEL	e/188	0 + 2	60	

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify* _____
☐ Other, *specify* _____

Construction Record - Screen

Outside Diameter (<i>in/in</i>)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (<i>m/ft</i>)	
			From	To

☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth 8.25 (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify HYDRO FRAC	Depth (m/ft) From To	Diameter (cm/in)
Water found at Depth 132.5 (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify HYDRO FRAC	60 140	6"
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify		

Hole Diameter

Depth (m/ft)	To	Diameter (cm/in)
	140	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING		4 8 7 9	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL DR.		BRAESIDE	
Province	Postal Code	Business E-mail Address	
ONT.	K0A1G0		
Bus. Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)	
0136235648		SAUNDERS TROY	
Well Technician's Licence No.	Signature of Technician and/or Contractor		Date Submitted
T 5 1 7	Troy Saunders		20170613

Results of Well Yield Testing

After test of well yield, water was.		Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>CLEARING</u>		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	23.44		
Pump intake set at (m/ft)		1	26.85	1	23.55
<u>130</u>		2	27.10	2	23.44
Pumping rate (l/min / GPM)		3	27.28	3	23.44
<u>8</u>		4	27.36	4	23.44
Duration of pumping		5	27.47	5	23.44
<u>1</u> hrs + <u>0</u> min		10	27.55	10	23.44
Final water level end of pumping (m/ft)		15	27.62	15	23.44
<u>27.77</u>		20	27.66	20	23.44
If flowing give rate (l/min / GPM)		25	27.70	25	23.44
<u>130</u>		30	27.71	30	23.44
Recommended pump depth (m/ft)		40	27.73	40	23.44
<u>130</u>		50	27.75	50	23.44
Recommended pump rate (l/min / GPM)		60	27.77	60	23.44
<u>10</u>					
Well production (l/min / GPM)					
<u>12</u>					
Disinfected?					
☒ Yes ☐ No					

Map of Well Location

Please provide a map below following instructions on the back.

RUDEMENT DE

Comments: _____					
Well owner's information package delivered ☒ Yes ☐ No	<table border="1"> <tr> <td> Date Package Delivered 20170513 </td> <td> Ministry Use Only Audit No. Z260670 </td> </tr> <tr> <td> Date Work Completed 20170513 </td> <td> JUN 15 2017 Received </td> </tr> </table>	Date Package Delivered 20170513	Ministry Use Only Audit No. Z260670	Date Work Completed 20170513	JUN 15 2017 Received
Date Package Delivered 20170513	Ministry Use Only Audit No. Z260670				
Date Work Completed 20170513	JUN 15 2017 Received				

Measurements recorded in: ☐ Metric ☒ Imperial

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A 227986

Well Owner's Information

First Name	Last Name / Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 54 BERT G. ARGUE DR		Municipality STITTSVILLE	Province ONT
Address of Well Location (Street Number/Name) 182 RIDGEMONT DR		Township BECKWITH	Lot 7
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario

Well Location

Address of Well Location (Street Number/Name) 182 RIDGEMONT DR	Township BECKWITH	Lot 7	Concession
County/District/Municipality LANARK	City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates Zone Easting NAD 83 18 41 52 20 50 03 9 68	Northings	Municipal Plan and Sublot Number	Other

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BROWN GREY	CLAY LIMESTONE	SHALE GREEN SHALE	LAYERS	0 4 1/2	4 1/2 140

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)	After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify CLEARING	Draw Down	Recovery
0	60	BENTONITE GROUT	0.768	If pumping discontinued, give reason:	Time (min)	Water Level (m/ft)
					Static Level	
					1	31.43
					2	32.40
					3	32.95
					4	33.25
					5	33.50
					10	34.40
					15	34.83
					20	35.02
					25	35.20
					30	35.32
					40	35.85
					50	35.92
					60	36.0

Method of Construction		Well Use	
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Diamond ☐ Jetting ☐ Driving ☐ Digging	☐ Public ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify	☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To	
6 1/4	STEEL	0.188	0	2	60

Construction Record - Screen				Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To	

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify HYDRO FRACK	Depth (m/ft) From	To
80	140	60	140

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD	Well Contractor's Licence No. 4879		
Business Address (Street Number/Name) 1680 SCHEEL DR	Municipality BRAESIDE		
Province ONT	Postal Code K0A1G0	Business E-mail Address	

Bus. Telephone No. (inc. area code) 613 625 5048	Name of Well Technician (Last Name, First Name) SAUNDERS TROY	Date Package Delivered 2017/10/10	Ministry Use Only Audit No. 2260689
Well Technician's Licence No. 1517	Signature of Technician and/or Contractor Troy Saunders	Date Work Completed 2017/10/10	OCT 31 2017
Date Submitted 2017/11/10		Received	

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	JAMES CUSTON HOMES		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT GARFUF DR	STITHVILLE	ONT.		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
222 RIDGEMONT	BECKWITH	11	

County/District/Municipality	City/Town/Village	Province	Postal Code
1. ALABAMA	ASHTON	Ontario	

JTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD	8	3	18415349	50093807	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)	
				From	To
BROWN	CLAY, LOAM, SHALE		FILL	0	3
SHALE	BROKEN LIMESTONE			3	5 1/2
GREY	LIMESTONE	GREEN + RED SHALE LAYERS		5 1/2	120

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m³) yd ³
0 60	BENTONITE GROUT	0.768

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i> _____		☐ Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (mm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm/in)	Depth (m/ft)	
			From	To
G4	STEEL	0.188	0 + 2	60

Status of Well

- ☒ Water Supply
- ☐ Replacement Well
- ☐ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, *specify*
- ☐ Other, *specify*

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

Water Details

Water found at Depth <u>83</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth <u>108</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____

Hole Diameter

Depth (m/ft)		Diameter (cm/in)
From	To	
60	120	6

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.
SAUNDERS WELL DRILLING CO		48719
Business Address (Street Number/Name)		Municipality
16 PO SCHEEL DR		BRAESIDE
Province	Postal Code	Business E-mail Address

ONT. KOPALGO	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
613 613 5044	SAUNDERS TRAY

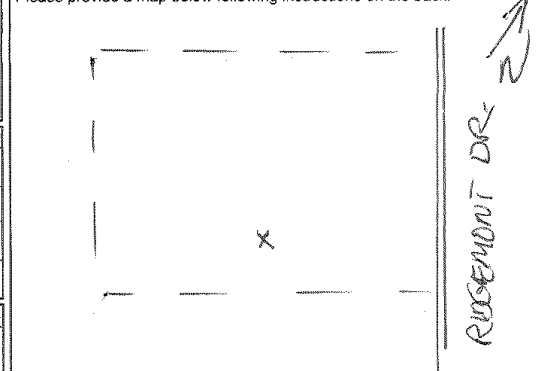
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
7517	Joy Sew	2017/11/10

Results of Well Yield Testing

After test of well yield, water was:	Draw Down		Recovery	
☐ Clear and sand free	Time (min)	Water Level (m/ft)	Time	Water Level (m/ft)
☐ Other, specify CLEARING	Static Level			
If pumping discontinued, give reason:	1	36.20		
Pump intake set at (m/ft)	1	40.0	1	43.90
110	2	41.80	2	39.40
Pumping rate (l/min / GPM)	3	43.15	3	37.30
8	4	44.20	4	36.45
Duration of pumping	5	45.55	5	36.30
1 hrs + 0 min	10	46.70	10	36.25
Final water level end of pumping (m/ft)	15	47.35	15	36.20
47.94	20	47.55	20	36.20
If flowing give rate (l/min / GPM)	25	47.70	25	36.20
Recommended pump depth (m/ft)	30	47.75	30	36.20
110	40	47.83	40	36.20
Recommended pump rate	50	47.90	50	36.20
(l/min / GPM)	60	47.94	60	36.20
8				
Well production (l/min / GPM)				
10				
Disinfected?				
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20171010	Ministry Use Only Audit No. 2260700 OCT 31 2017 Received _____
	Date Work Completed 20171010	

A213255

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name		Last Name / Organization		E-mail Address		☐ Well Constructed by Well Owner		
		TOMAR CUSTOM HOMES						
Mailing Address (Street Number/Name)			Municipality	Province	Postal Code		Telephone No. (inc. area code)	
54 BERT G. ARGUE DR			STITTSVILLE	ONT.				
Well Location								
Address of Well Location (Street Number/Name)			Township		Lot	Concession		
179 RIDGEMONT DR			BECKWITH		179 18			
County/District/Municipality			City/Town/Village			Province	Postal Code	
LANARK			ASHTON			Ontario		
UTM Coordinates Zone		Easting	Northing		Municipal Plan and Sublot Number			Other
NAD 83		18Q UTM	526115		50004211			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth (m/ft) To
BROWN	CLAY	LOAM, STONES	FILL	0	1
YELLOW	CLAY			1	6½
GREY	LIMESTONE	LAYERS OF GREEN + RED SHALE		6½	120

Annular Space

Depth Set at (m/ft)		Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)
From	To		
0	50	BENTONITE GROUT	0.690
50	60	CEMENT GROUT	0.130

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Craving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i>		☐ Other, <i>specify</i>		

Well Use

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Craving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, <i>specify</i>		☐ Other, <i>specify</i>		

Construction Record - Casing

Construction Record - Casing					Status of Well
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned
			From	To	
64	STEEL	0.188	0+2	60	

Construction Record - Screen

General Inspection Worksheet					
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (mm)		
			From	To	

☐ Abandoned; Poor Water Quality
☐ Abandoned, other, specify _____

☐ Other, specify _____

Water Details

Water found at Depth <u>63</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth <u>92</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth ____ (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____

Hole Diameter

Water found at Depth <u>63</u> (m/ft) ☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
Water found at Depth <u>92</u> (m/ft) ☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☒ Untested	<u>60</u> <u>120</u>	<u>6</u>
Water found at Depth ____ (m/ft) ☐ Gas ☐ Other, <i>specify</i>	Kind of Water: ☐ Fresh ☐ Untested		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4879
Business Address (Street Number/Name) 1080 SCHEEL DR		Municipality BRAESIDE
Province ONT	Postal Code K0A1G0	Business E-mail Address
Bus. Telephone No. (inc. area code) 6136235648		Name of Well Technician (Last Name, First Name) SAUNDERS TRUY
Well Technician's Licence No. T517	Signature of Technician and/or Contractor Truy Auld	Date Submitted 2017/10/28

Results of Well Yield Testing

After test of well yield, water was:	Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify: CLEARING	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:	Static Level	26.53		
Pump intake set at (m/ft)	1	29.60	1	29.0
Pumping rate (l/min / GPM)	2	30.45	2	28.40
Duration of pumping	3	31.0	3	28.20
1 hrs + 0 min	4	31.32	4	28.0
Final water level end of pumping (m/ft)	5	31.55	5	27.90
If flowing give rate (l/min / GPM)	10	32.0	10	27.60
Recommended pump depth (m/ft)	15	32.10	15	27.40
110	20	32.20	20	27.25
Recommended pump rate (l/min / GPM)	25	32.32	25	27.01
12	30	32.20	30	26.86
Well production (l/min / GPM)	40	32.30	40	26.79
15+	50	32.30	50	26.75
Disinfected?	60	32.30	60	26.74
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back

ROSEMONT DR

Comments:

Well owner's information package delivered

☒ Yes

☐ No

Date Package Delivered	20170928
Date Work Completed	20170928

Ministry Use Only
Audit No. Z260690
OCT 31 2017
Received

Measurements recorded in: ☐ Metric ☒ Imperial

A228006

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	JOMAR CUSTOM HOMES		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
54 BERT & ARGUE DR.	STITTSVILLE	ONT	K7S2H2
Telephone No. (inc. area code)			

Well Location

Address of Well Location (Street Number/Name) 212 RIDGEMONT DR		Township BECKWITH	Lot 10	Concession	
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario		Postal Code
UTM Coordinates Zone Easting NAD 83 18 11153111		Northings 50013849	Municipal Plan and Sublot Number		Other

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)	
				From	To
BROWN	FILL			0	2
BROWN	LOAM	SHALE		2	4
GREY	LIMESTONE	BLACK LIMESTONE		4	180
		GREY SANDSTONE			
		+ GREEN SHALE LAYERS			

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
0	60	BENTONITE GROUT	0.910

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>CLEARING</u>		Time (min)	Water Level (m/ft)	Time	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	31.20		
Pump intake set at (m/ft)		1	31.25	1	31.20
170		2	31.40	2	31.20
Pumping rate (l/min / GPM)		3	31.43	3	31.20
15		4	31.43	4	31.20
Duration of pumping		5	31.43	5	31.20
1 hrs + 0 min		10	31.45	10	31.20
Final water level end of pumping (m/ft)		15	31.45	15	31.20
31.45		20	31.45	20	31.20
If flowing give rate (l/min / GPM)		25	31.45	25	31.20
Recommended pump depth (m/ft)		30	31.45	30	31.20
170		40	31.45	40	31.20
Recommended pump rate (l/min / GPM)		50	31.45	50	31.20
15		60	31.45	60	31.20
Well production (l/min / GPM)					
15					
Disinfected?					
☒ Yes ☐ No					

Construction Record - Casing

Inside Diameter (mm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (mm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned,
			From	To	
64	STEEL	.188	072	60	

Construction Record - Screen

Outside Diameter (mm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth <i>128</i> (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
Water found at Depth <i>111</i> (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☒ Untested	<i>60</i> <i>180</i>	<i>5.5</i>
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested		

Well Contractor and Well Technician Information

Business Name of Well Contractor SAUNDERS WELLDRIILLING LTD		Well Contractor's Licence No. 4181719	
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRASIDE	
Province ONT	Postal Code K0A1K6	Business E-mail Address	
Bus. Telephone No. (inc. area code) 4162235648		Name of Well Technician (Last Name, First Name) SAUNDERS TROY	
Well Technician's Licence No. T5117	Signature of Technician and/or Contractor Troy Saunders	Date Submitted 20180407	

Map of Well Location

Please provide a map below following instructions on the back.

PLEASE provide a map below following instructions on the back.

↑

RIDGEMOUNT DR.

A hand-drawn map of a rectangular area, possibly a field or a lot, with dashed lines indicating boundaries. An 'X' is marked in the center. The map is oriented vertically, with 'RIDGEMOUNT DR.' written vertically along the right side. An arrow points upwards from the top of the page.

Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20180307	Ministry Use Only Audit No. 72260717
	Date Work Completed 20180307	MAR 27 2018 Received

Measurements recorded in: ☐ Metric ☒ Imperial

Page ____ of ____

A252424

Well Owner's Information

First Name	Last Name / Organization TOMAR HOMES	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 54 BERT G. ARGUE DR.	Municipality STITTSVILLE	Province ONT.	Postal Code K2S2H2

Well Location

Address of Well Location (Street Number/Name) 151 RIDGEMONT DR.	Township BECKWITH	Lot 21	Concession
County/District/Municipality LAWARK	City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates Zone Easting NAD 83 18 41 51 72 50 04 114	Northing	Municipal Plan and Sublot Number	Other

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth From (m/ft)	To (m/ft)
BROWN	SAND	STONES		0	1
GREY	LIMESTONE		FRACTURED	1	2
GREY	LIMESTONE	LAYERS OF GREY SANDSTONE		2	180

Annular Space		
Depth Set at (m/ft) From 0 To 60	Type of Sealant Used (Material and Type) BENTONITE GROUT	Volume Placed (m ³ /yd) 0.896

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Public ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in) 64	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) STEEL	Wall Thickness (cm/in) 0.188	Depth (m/ft) From 0 To 60	☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

Water Details		Hole Diameter	
Water found at Depth (m/ft) 83	Kind of Water: ☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify	Depth (m/ft) From To	Diameter (cm/in) 60 180 6"
Water found at Depth (m/ft) 120-180	Kind of Water: ☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify HYDRO FRACK		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD	Well Contractor's Licence No. 418179		
Business Address (Street Number/Name) 1680 SCHEEL DR	Municipality BRAESIDE		
Province ONT.	Postal Code K0A1G0	Business E-mail Address	
Bus. Telephone No. (inc. area code) 6136235648	Name of Well Technician (Last Name, First Name) Judy Saul		
Well Technician's Licence No. T75117	Signature of Technician and/or Contractor	Date Submitted 2018/10/10	

Results of Well Yield Testing			
After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify CLEARING		Draw Down	
If pumping discontinued, give reason:		Time (min)	Water Level (m/ft)
		Static Level	
		1 25.0	1 20.25
Pump intake set at (m/ft) 170		2 24.5	2 20.25
Pumping rate (l/min / GPM) 8		3 24.30	3 20.25
Duration of pumping 1 hrs + 0 min		4 24.25	4 20.25
Final water level end of pumping (m/ft) 24.40		5 24.25	5 20.25
If flowing give rate (l/min / GPM)		10 24.30	10 20.25
		15 24.30	15 20.25
		20 24.35	20 20.25
Recommended pump depth (m/ft) 170		25 24.35	25 20.25
Recommended pump rate (l/min / GPM) 10		30 24.35	30 20.25
Well production (l/min / GPM) 10+		40 24.40	40 20.25
Disinfected? ☒ Yes ☐ No		50 24.40	50 20.25
		60 24.40	60 20.25

Map of Well Location	
Please provide a map below following instructions on the back.	

Comments:	Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2018/10/10	Date Work Completed 2018/10/10
Ministry Use Only		Audit No. 7292769 JAN 07 2019	
Received			



A252425

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TOMAR HOMES		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
54 BERT G. ARGUE DR.	STITTSVILLE	ONT	K2S2H2

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
190 RIDGEMONT	BECKWITH	8	
County/District/Municipality	City/Town/Village	Province	Postal Code
LANARK	ASHTON	Ontario	
UTM Coordinates Zone, Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83 18 4158585003926			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BROWN	CLAY	LOAM		0 1 1/2
GREY	LIMESTONE	LAYERS OF GREEN SHALE		1 1/2 120

Annular Space		
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³)
0 60	BENTONITE GROUT	896

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	
64	STEEL	0.188	0 3 1/2 60	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
84	☐ Gas ☐ Other, specify	From To	
		60 120	6 3/8
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested		
105	☐ Gas ☐ Other, specify		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor	Well Contractor's Licence No.		
SAUNDERS WELL DRILLING LTD	418719		
Business Address (Street Number/Name)	Municipality		
1680 SCHEEL DR.	BRAESIDE		
Province	Postal Code	Business E-mail Address	
ONT	K0A1G0		

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
613 623 5648	SAUNDERS TROY		Troy Saunders	2018/12/08

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☐ Clear and sand free		Time (min)	Water Level (m/ft)
☐ Other, specify CLEARING		Static Level	19.80
If pumping discontinued, give reason:		1	22.80
Pump intake set at (m/ft)		2	23.45
110		3	23.65
Pumping rate (l/min / GPM)		4	23.90
12		5	24.0
Duration of pumping		10	24.30
1 hrs + 0 min		15	24.40
Final water level end of pumping (m/ft)		20	24.45
24.65		25	24.50
If flowing give rate (l/min / GPM)		30	24.55
Recommended pump depth (m/ft)		40	24.60
110		50	24.65
Recommended pump rate (l/min / GPM)		60	24.65
12			
Well production (l/min / GPM)			
12+			
Disinfected?			
☒ Yes ☐ No			

Map of Well Location	
Please provide a map below following instructions on the back.	

Comments:	Well owner's information package delivered	Date Package Delivered	Ministry Use Only
	☒ Yes ☐ No	2018/12/08	Audit No. 7292768
	Date Work Completed	2018/12/08	JAN 07 2013
	Received		

A 252405

Measurements recorded in: ☐ Metric ☒ Imperial

Page of

Well Owner's Information

First Name	Last Name / Organization	E-mail Address		☐ Well Constructed by Well Owner	
	TOMAR CUSTOM HOMES				
Mailing Address (Street Number/Name)		Municipality	Province	Postal Code	Telephone No. (Inc. area code)
54 BERT G. ARGUE DR.		STITTSVILLE	ONT.	K2S2H2	

Well Location

Address of Well Location (Street Number/Name) 241 RIDGEMONT DR			Township BECKWITH		Lot 18		Concession 2	
County/District/Municipality LAWARK			City/Town/Village ASNTON		Province Ontario		Postal Code 	
UTM Coordinates NAD 83		Zone 18		Easting 415461		Northing 5003808		Municipal Plan and Sublot Number
Other 								

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (mft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (mft) ³ /yd
0	60	BENTONITE GROUT	0.76

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, specify _____		☐ Other, specify _____		

Construction Record - Casing

Construction Record - Casing					Status of Well
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Inoperable, or Non-Functional
			From	To	
64	STEEL	0.188	0+	60	

Construction Record - Screen

Outside Diameter (mm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (mm)	
			From	To

☐ Abandoned; Poor Water Quality
☐ Abandoned, other, *specify* _____
☐ Other, *specify* _____

Water Details

Water found at Depth <u>78</u> (m/ft) ☐ Gas ☒ Other, <i>specify</i> _____	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)		
Water found at Depth <u>184</u> (m/ft) ☐ Gas ☒ Other, <i>specify</i> _____	Kind of Water: ☐ Fresh ☒ Untested			<u>60</u> <u>200</u>	<u>6 1/2</u>
Water found at Depth _____ (m/ft) ☐ Gas ☐ Other, <i>specify</i> _____	Kind of Water: ☐ Fresh ☐ Untested				

Hole Diameter

Depth (m/ft)		Diameter (cm/in)
From	To	
60	200	6 $\frac{1}{8}$

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING LTD		41819	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL DR		BRAESIDE	
Province	Postal Code	Business E-mail Address	
ONT	K0A1G0		
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
6136235648	SAUNDERS TROY		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
75117	Troy Saunders	20190515	

Results of Well Yield Testing

Results of Well Yield Testing				
After test of well yield, water was:	Draw Down		Recovery	
☒ Clear and sand free	Time (min)	Water Level (mft)	Time (min)	Water Level (mft)
☐ Other, specify CLEARING	Static Level	28.15		
If pumping discontinued, give reason:	1	30.10	1	28.40
Pump intake set at (mft)	2	30.25	2	28.25
190	3	30.40	3	28.25
Pumping rate (l/min / GPM)	4	30.75	4	28.23
7	5	30.75	5	28.23
Duration of pumping	10	30.75	10	28.20
hrs + 0 min	15	30.80	15	28.20
Final water level end of pumping (mft)	20	30.80	20	28.18
30.90	25	30.85	25	28.15
If flowing give rate (l/min / GPM)	30	30.85	30	28.15
Recommended pump depth (mft)	40	30.90	40	28.15
190	50	30.90	50	28.15
Recommended pump rate	60	30.90	60	28.15
(l/min / GPM)				
8				
Well production (l/min / GPM)				
Disinfected?				
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back.

A hand-drawn map of Ridgeмонт Dr. The street name is written vertically on the left side. To the right of the street is a dashed rectangular area. Inside this area is a handwritten 'x'. A north arrow, labeled 'N', is located in the top right corner of the map.

Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20190415	Ministry Use Only Audit No. 2292766 MAY 07 2019 Received
	Date Work Completed 20190415	

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Tag No. (Place Sticker and/or Print Below)

A276761

Well Owner's Information

First Name	Last Name / Organization	E-mail Address			☐ Well Constructed by Well Owner
	TOMAR CUSTOM HOMES				
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)	
54 BERT G. ARGUE DR	STITTSVILLE	ONT	K7S2H2		

Well Location

Address of Well Location (Street Number/Name) 325 RIDGEMONT DR		Township BECKWITH	Lot 10	Concession	
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario	Postal Code 	
UTM Coordinates NAD 83	Zone 18N	Easting 5700	Northing 500	Municipal Plan and Sublot Number 3454	
				Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)	
				From	To
BROWN	CLAY	SANDY STONES	FILL	0	4
BROWN	HUMUS			4	6
BROWN	CLAY			6	8
GREY	LIMESTONE	LAYERS OF GREY SANDSTONE		8	124
		LAYERS OF GREENY RED SHALE			

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed, (m ³ /yd ³)
0 60	BENTONITE GROUT	0.765

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>CLEARING</u>		Time (min)	Water Level (mft)	Time (min)	Water Level (mft)
If pumping discontinued, give reason:		Static Level	34.30		
Pump intake set at (mft)		1	39.02	1	35.16
<u>1 1/4</u>		2	39.23	2	34.35
Pumping rate (l/min / GPM)		3	40.08	3	34.31
<u>10</u>		4	40.58	4	34.30
Duration of pumping		5	40.85	5	34.30
<u>1</u> hrs + <u>0</u> min		10	41.43	10	34.30
Final water level end of pumping (mft)		15	41.62	15	34.30
If flowing give rate (l/min / GPM)		20	41.63	20	34.30
Recommended pump depth (mft)		25	41.78	25	34.30
<u>114</u>		30	41.80	30	34.30
Recommended pump rate (l/min / GPM)		40	41.92	40	34.30
<u>10</u>		50	42.0	50	34.30
Well production (l/min / GPM)		60	42.10	60	34.30
<u>10⁺</u>					
Disinfected?					
☒ Yes ☐ No					

Method of Construction

☐ Cable Tool
☐ Rotary (Conventional)
☐ Rotary (Reverse)
☐ Boring
☒ Air percussion
☐ Other, specify _____

☐ Diamond
☐ Jetting
☐ Driving
☐ Digging

Well Use

☐ Public ☐ Commercial ☐ Not used
☒ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify _____

Construction Record - Casing

Inside Diameter (mm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm/in)	Depth (mm/ft)	
			From	To
6 7/8	STEEL	0.188	0 3/4	60
6	OPEN HOLE		60	124

Status of Well

☒ Water Supply

☐ Replacement Well

☐ Test Hole

☐ Recharge Well

☐ Dewatering Well

☐ Observation and/or Monitoring Hole

☐ Alteration (Construction)

☐ Abandoned, Insufficient Supply

☐ Abandoned, Poor Water Quality

☐ Abandoned, other, *specify*

☐ Other, *specify*

Construction Record - Screen

Outside Diameter (<i>cm/in</i>)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (<i>mm/in</i>)	
			From	To

Water Details

Water found at Depth <u>87</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth <u>114</u> (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☒ Untested ☐ Other, specify _____
Water found at Depth (m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify _____

Hole Diameter

Depth (m/ft)		Diameter (cm/in)
From	To	
0	60	9 $\frac{3}{4}$
60	124	6

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING LTD		4 8 7 9	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL DR		BRAESIDE	
Province	Postal Code	Business E-mail Address	

ONT KORA/160	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
613 623 5048	SAUNDERS TROY
Well Technician's Licence No.	Signature of Technician and/or Contractor Date Submitted
7-513	Troy Saunders 2019/2/20

Map of Well Location

Please provide a map below following instructions on the back.

A hand-drawn diagram showing a vertical line labeled "RIDGE MOUNT" and a horizontal line labeled "DOUGLAS SIDE RD". A dashed rectangle is drawn in the corner, with an "x" marked inside it.

Comments:

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2019/2/04	Ministry Use Only Audit No. Z3189777 Received DEC 20 2019
	Date Work Completed 2019/2/04	

A 276752

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

Address of Well Location (Street Number/Name) 254 RIDGEMONT DR		Township BECKWITH	Lot	Concession
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates Zone NAD 83	Eastings 184154235	Northings 5003689	Municipal Plan and Sublot Number	
Other				

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
BROWN	LOAM	SHALE, CLAY		0 4 1/2
GREY	LIMESTONE	LAYERS OF RED & GREEN SHALE		4 1/2 99

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m³)	After test of well yield, water was:		Draw Down	
0 60	BENTONITE GROUT.	0.768	☐ Clear and sand free	☒ Other, specify CLEARING	Time (min)	Water Level (m/ft)
			If pumping discontinued, give reason:		Static Level	
			Pump intake set at (m/ft)		1	35.10
			Pumping rate (l/min / GPM)		2	36.0
			Duration of pumping		3	36.02
			1 hrs + 0 min		4	36.0
			Final water level end of pumping (m/ft)		5	36.05
			If flowing give rate (l/min / GPM)		10	36.02
			Recommended pump depth (m/ft)		15	36.05
			Recommended pump rate (l/min / GPM)		20	36.05
			Well production (l/min / GPM)		25	36.10
			Disinfected?		30	36.10
			☒ Yes ☐ No		40	36.10
					50	36.10
					60	36.10

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Industrial	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	☒ Water Supply	☐ Replacement Well
6 1/4	STEEL	0.188	0 2 60	☐ Test Hole	☐ Recharge Well
6	OPEN HOLE		60 99	☐ Dewatering Well	☐ Observation and/or Monitoring Hole
				☐ Alteration (Construction)	☐ Abandoned, Insufficient Supply
				☐ Abandoned, Poor Water Quality	☐ Abandoned, other, specify
				☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
8 1/2	☐ Gas ☐ Other, specify	0 60	9 3/4
		60 99	6

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4879	
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE	
Province ONT	Postal Code K9A 1G0	Business E-mail Address	

Bus. Telephone No. (inc. area code) 613 623 5648	Name of Well Technician (Last Name, First Name) SAUNDERS TROY	Well Technician's Licence No. T517	Signature of Technician and/or Contractor [Signature]	Date Submitted 2019/12/30
---	--	---------------------------------------	--	------------------------------

Map of Well Location			
Please provide a map below following instructions on the back.			
Comments:			

Well owner's information package delivered		Ministry Use Only	
☒ Yes	Date Package Delivered 2019/12/16	Audit No. Z318991	Received JAN 27 2020
☐ No	Date Work Completed 2019/12/18		



A276739

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name / Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 54 BERT G. ARGUE DR.	Municipality STITTSVILLE	Province ONT	Postal Code K7S2H2

Well Location

Address of Well Location (Street Number/Name) 255 RIDGEMONT DR	Township BECKWITH	Lot 17	Concession PHASE 2
County/District/Municipality LANARK	City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates NAD 83 18 415503 50 037511	Municipal Plan and Sublot Number	Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
GREY	BROKEN ROCK		FILL	0 1
BROWN	CLAY	STONES		1 3
GREY	LIMESTONE	LAYERS OF GREY	SANDSTONE	3 180

Annular Space			Results of Well Yield Testing				
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /m ³)	After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify CLEARING	Draw Down		Recovery	
0 60	BENTONITE GROUT	0.896	☐ Clear and sand free ☐ Other, specify CLEARING	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
			If pumping discontinued, give reason:	Static Level	44.90		
				1	49.0	1	68.50
			Pump intake set at (m/ft) 170	2	50.70	2	60.40
			Pumping rate (l/min / GPM) 8	3	51.85	3	55.75
			Duration of pumping 1 hrs + 0 min	4	53.70	4	53.30
			Final water level end of pumping (m/ft) 70.75	5	54.85	5	51.10
			If flowing give rate (l/min / GPM)	10	60.35	10	45.30
				15	63.75	15	45.05
				20	66.0	20	44.95
				25	67.60	25	44.90
				30	68.40	30	44.90
				40	69.75	40	44.90
				50	70.30	50	44.90
				60	70.75	60	44.90

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	☒ Water Supply	
64	STEEL	188	0 60	☐ Replacement Well	
6	OPEN HOLE		60 180	☐ Test Hole	
				☐ Recharge Well	
				☐ Dewatering Well	
				☐ Observation and/or Monitoring Hole	
				☐ Alteration (Construction)	
				☐ Abandoned, Insufficient Supply	
				☐ Abandoned, Poor Water Quality	
				☐ Abandoned, other, specify	
				☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

Water Details		Hole Diameter	
Water found at Depth (m/ft) 80 180	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
	☐ Gas ☐ Other, specify	0 60	9 3/4
		60 180	6

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING		Well Contractor's Licence No. 4879	
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE	
Province ONT	Postal Code K0A1G0	Business E-mail Address	
Bus. Telephone No. (inc. area code) 6136235648		Name of Well Technician (Last Name, First Name) SAUNDERS TROY	
Well Technician's Licence No. T5117		Signature of Technician and/or Contractor Troy Saunders	
		Date Submitted 2019/12/20	

Map of Well Location			
Please provide a map below following instructions on the back.			

Comments:	Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 2019/12/20	Date Work Completed 2019/11/16
Ministry Use Only		Audit No. 7318976	
Received		JAN 27 2020	



Measurements recorded in: ☐ Metric ☒ Imperial

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A276753

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TOMAR CUSTOM HOMES		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
54 BERT G. ARGUE DR.	STITTSVILLE	ONT.	K7L5A2H2

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
310 RIDGEMONT DR	BECKWITH	8	PHASE 2
County/District/Municipality	City/Town/Village	Province	Postal Code
LANARK		Ontario	
UTM Coordinates Zone Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83 10 41 55 90 500 3470			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BROWN	SHALE		FILL	0 1 1/2
YELLOW	CLAY			1 1/2 4
GREY	LIMESTONE			4 160

Annular Space		
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)
0 60	BENTONITE GROUT	0.890

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Public ☒ Domestic ☐ Livestock ☐ Industrial ☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	
6 1/4	STEEL	.188	0 2	60
6	OPEN HOLE		60	160

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

Water Details			Hole Diameter	
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
68 (m/ft)	☐ Gas ☐ Other, specify		From	To
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested	0 60	9 1/2
109 (m/ft)	☐ Gas ☐ Other, specify		60	160
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested		
148 (m/ft)	☐ Gas ☐ Other, specify			

Water Details			Hole Diameter	
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
68 (m/ft)	☐ Gas ☐ Other, specify		From	To
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested	0 60	9 1/2
109 (m/ft)	☐ Gas ☐ Other, specify		60	160
Water found at Depth	Kind of Water:	☐ Fresh ☒ Untested		
148 (m/ft)	☐ Gas ☐ Other, specify			

Well Contractor and Well Technician Information		
Business Name of Well Contractor	Well Contractor's Licence No.	
SAUNDERS WELL DRILLING	4879	
Business Address (Street Number/Name)	Municipality	
1680 SCHEEL DR	BRATISLAVA	
Province	Postal Code	Business E-mail Address
ONT	K0A1G0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
613 623 5648	SAUNDERS TROY
Well Technician's Licence No.	Signature of Technician and/or Contractor
517	Troy Saunders
	Date Submitted
	2019/12/20

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☐ Clear and sand free ☒ Other, specify CLEARING		Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	Recovery
		29.05	
Pump intake set at (m/ft)		1 32.50	1 47.35
1.50		2 35.04	2 43.75
Pumping rate (l/min / GPM)		3 38.30	3 40.63
6.5		4 39.27	4 37.90
Duration of pumping		5 40.16	5 35.55
1 hrs + 0 min		10 43.47	10 29.54
Final water level end of pumping (m/ft)		15 45.70	15 29.05
51.46		20 47.90	20 29.05
If flowing give rate (l/min / GPM)		25 48.40	25 29.05
		30 49.03	30 29.05
Recommended pump depth (m/ft)		40 50.15	40 29.05
150		50 50.90	50 29.05
Recommended pump rate (l/min / GPM)		60 51.46	60 29.05
7			
Well production (l/min / GPM)			
Disinfected?			
☒ Yes ☐ No			

Map of Well Location	
Please provide a map below following instructions on the back.	

Comments:	Well owner's information package delivered	Date Package Delivered	Ministry Use Only
	☒ Yes ☐ No	2019/12/16	Audit No. 318978
		Date Work Completed	Received
		2019/12/20	JAN 28 2020

Well ID

Well ID Number: 7356155
Well Audit Number: Z334321
Well Tag Number: A276774

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	277 Ridgemont Dr
Township	BECKWITH TOWNSHIP
Lot	
Concession	
County/District/Municipality	LANARK
City/Town/Village	ASHTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 415585.00 Northing: 5003664.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	LMSN	SNDS	SHLE	0 ft	120 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	60.5 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Air Percussion	
	Domestic

Status of Well

Water Supply

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
6.25 Inch	STEEL	-583 ft	60.5 ft
6.125 Inch	OPEN HOLE	60.5 ft	120 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 4879

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 4879

Results of Well Yield Testing

After test of well yield, water was	OTHER
If pumping discontinued, give reason	
Pump intake set at	110 ft
Pumping Rate	14 GPM
Duration of Pumping	1 h:0 m
Final water level	31.15 ft
If flowing give rate	
Recommended pump depth	10 ft
Recommended pump rate	14 GPM
Well Production	
Disinfected?	Y

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	30.35 ft		
1	31 ft	1	30.5 ft
2	31 ft	2	30.45 ft
3	31.05 ft	3	30.43 ft
4	31.03 ft	4	30.42 ft
5	31.05 ft	5	30.41 ft
10	31.08 ft	10	30.4 ft
15	31.1 ft	15	30.38 ft
20	31.1 ft	20	30.37 ft
25	31.1 ft	25	30.37 ft
30	31.12 ft	30	30.36 ft
40	31.12 ft	40	30.35 ft
45		45	
50	31.13 ft	50	30.35 ft
60	31.15 ft	60	30.35 ft

Water Details

Water Found at Depth	Kind
79 ft	Untested
93 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	60.5 ft	9.75 Inch
60.5 ft	120 ft	6.125 Inch

Audit Number: Z334321

Date Well Completed: March 12, 2020

Date Well Record Received by MOE: March 31, 2020



Ontario

Ministry of the Environment,
Conservation and Parks

Well Tag No. (Place Sticker and/or Print Below)

A296816

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	TOMAR CUSTOM HOMES		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
BERT G. ARGUE DR	STITTVILLE	ONT	
Telephone No. (inc. area code)			

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
259 RIDGEMONT DR	BECKWITH	16	
County/District/Municipality	City/Town/Village	Province	Postal Code
LAMARK	ASHTON	Ontario	
JTM Coordinates: Zone	Easting	Northing	Municipal Plan and Sublot Number
NAD 83	18415536	5003747	
Other			

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
GREY	GRAVEL		FILL	0 1
BROWN	LOAM	CLAY + SHALE		1 3
GREY	LIMESTONE	LAYERS OF GREY SANDSTONE		3 91
GREY	SANDSTONE	LAYERS OF RED + GREEN SHALE		91 160

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed	After test of well yield, water was:		Draw Down	Recovery
0 60	BENTONITE GROUT	0.640 yd ³	☐ Clear and sand free	☒ Other, specify CLEARING	Time (min)	Water Level (m/ft)
			If pumping discontinued, give reason:		Static Level	
			Pump intake set at (m/ft)		1 42.80	1 53.10
			Pumping rate (l/min / GPM)		2 45.70	2 47.10
			Duration of pumping		3 48.50	3 43.55
			Final water level end of pumping (m/ft)		4 50.65	4 39.80
			If flowing give rate (l/min / GPM)		5 52.40	5 37.80
			Recommended pump depth (m/ft)		10 58.0	10 36.23
			Recommended pump rate (l/min / GPM)		15 59.60	15 36.20
			Well production (l/min / GPM)		20 60.70	20 36.20
			Disinfected?		25 61.35	25 36.20
			☒ Yes ☐ No		30 61.65	30 36.20
					40 62.30	40 36.20
					50 62.55	50 36.20
					60 62.80	60 36.20

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	☒ Water Supply	☐ Replacement Well
From	To	From	To		
54	STEEL	0.188	0 7	60	☐ Test Hole
58	OPEN HOLE		60	160	☐ Recharge Well
					☐ Dewatering Well
					☐ Observation and/or Monitoring Hole
					☐ Alteration (Construction)
					☐ Abandoned, Insufficient Supply
					☐ Abandoned, Poor Water Quality
					☐ Abandoned, other, specify
					☐ Other, specify

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
From	To	From	To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
107.2	☐ Gas ☐ Other, specify	From	To
		0 60	9 3/4
53	☐ Gas ☐ Other, specify	60 160	6 5/8

Well Contractor and Well Technician Information			
Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING LTD		4 8 7 9	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL DR		BRAESIDE	
Province	Postal Code	Business E-mail Address	
ONT.	K0A1G0		

us Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5136235648	SAUNDERS TROY
Well Technician's Licence No.	Signature of Technician and/or Contractor
T 5 1 7	Troy Saul
Date Submitted	
20200801	

Map of Well Location

Please provide a map below following instructions on the back.

Map showing well location on a grid. The well is located at the intersection of RIDGEMONT DR and a vertical line. The well is marked with an 'X' and labeled 'A296816'.

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☒ Yes ☐ No	20200701	Audit No. 2334345
Date Work Completed		Received JUL 30 2020
20200701		

Measurements recorded in: ☐ Metric ☒ Imperial

Regulation 903 Ontario Water Resources Act

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Well Owner's Information

First Name	Last Name / Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
Vailing Address (Street Number/Name) BERT G ARQUE DR		Municipality STITTVILLE	Province ONT
Postal Code		Telephone No. (inc. area code)	

Well Location

Address of Well Location (Street Number/Name) 295 RIDGEMONT DR.		Township BECKWITH	Lot 12	Concession
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario	Postal Code
JTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	
NAD 83	18415645	5003570	Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
GREY	ROCK		FILL	0 2 1/2
BROWN	CLAY	SHALE		2 1/2 4
GREY	LIMESTONE	GREY SANDSTONE		4 160

Annular Space		
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /yd ³)
0 60	BEUTONITE GROUT	0.768

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☐ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☒ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	☒ Water Supply	☐ Replacement Well
5 1/2	STEEL	0.188	0 60	☐ Test Hole	☐ Recharge Well
5 1/2	OPEN HOLE		60 160	☐ Dewatering Well	☐ Observation and/or Monitoring Hole
				☐ Alteration (Construction)	☐ Abandoned, Insufficient Supply
				☐ Abandoned, Poor Water Quality	☐ Abandoned, other, specify
				☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

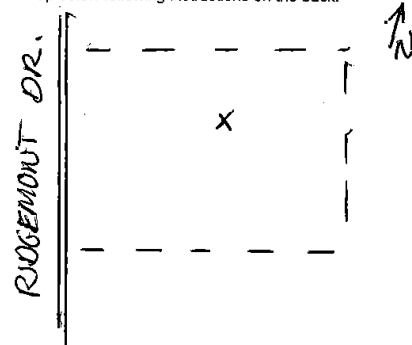
Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
77	☐ Gas ☐ Other, specify	0 60	9 3/4
8	☐ Gas ☐ Other, specify	60 160	6 1/2
30	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information	
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD	Well Contractor's Licence No. 4 8 7 9
Business Address (Street Number/Name) 1680 SCHEEL DR.	Municipality BRAESIDE
Province ONT	Postal Code K0A 1B0
Business E-mail Address	
Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20200702
Date Work Completed 20200702	Ministry Use Only Audit No. 7334339 JUL 30 2020 Received
Signature of Technician and/or Contractor Tracy Saul	Date Submitted 20200802

Results of Well Yield Testing					
After test of well yield, water was:		Draw Down		Recovery	
☐ Clear and sand free		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
☐ Other, specify CLEARING					
If pumping discontinued, give reason:		Static Level	39.3		
Pump intake set at (m/ft) 150		1	42.45	1	42.0
Pumping rate (l/min / GPM) 6		2	43.35	2	40.40
Duration of pumping 1 hrs + 0 min		3	43.90	3	39.80
Final water level end of pumping (m/ft) 45.30		4	44.32	4	39.70
If flowing give rate (l/min / GPM)		5	44.90	5	39.67
Recommended pump depth (m/ft) 150		10	45.45	10	39.55
Recommended pump rate (l/min / GPM) 8		15	45.75	15	39.39
Well production (l/min / GPM) 8		20	45.55	20	39.37
Disinfected?		25	45.30	25	39.35
☒ Yes ☐ No		30	45.25	30	39.31
		40	45.30	40	39.3
		50	45.30	50	39.3
		60	45.30	60	39.3

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
TOMAR CUSTOM HOMES			
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
54 BERT G ARGUE DR.	STITTSVILLE ONT		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Phase	Concession
309 RIDGEMONT DR.	BECKWITH	11	2	
County/District/Municipality	City/Town/Village	Province	Postal Code	
LANARK	ASHTON	Ontario		
UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	
NAD 83	18415665	5003531		
Other				

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BROWN	SAND	CLAY		0 6
GREY	SHALE			6 9
GREY	LIMESTONE			9 180

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/yd³)	After test of well yield, water was:		Draw Down	Recovery
0 60	BENTONITE GROUT	0.704	☐ Clear and sand free	☒ Other, specify CLEAN	Time (min)	Water Level (m/ft)
			If pumping discontinued, give reason:		Static Level	
					1 42.70	1 52.10
			Pump intake set at (m/ft)		2 45.70	2 48.10
			Pumping rate (l/min / GPM)		3 47.60	3 43.30
			Duration of pumping		4 48.40	4 40.60
			1 hrs + 0 min		5 49.60	5 38.15
			Final water level end of pumping (m/ft)		10 53.0	10 35.80
			If flowing give rate (l/min/GPM)		15 55.0	15 35.65
			Recommended pump depth (m/ft)		20 55.90	20 35.58
			Recommended pump rate (l/min/GPM)		25 56.40	25 35.52
			8		30 56.65	30 35.48
			Well production (l/min/GPM)		40 56.90	40 35.45
			9		50 57.0	50 35.45
			Disinfected?		60 57.25	60 35.44
			☒ Yes ☐ No			

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning
☒ Air percussion		☐ Industrial	
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	☒ Water Supply	☐ Replacement Well
			From To		
6 1/4	STEEL	0.188	0 5	60	☐ Test Hole
6 1/8	OPEN HOLE		60	180	☐ Recharge Well
					☐ Dewatering Well
					☐ Observation and/or Monitoring Hole
					☐ Alteration (Construction)
					☐ Abandoned, Insufficient Supply
					☐ Abandoned, Poor Water Quality
					☐ Abandoned, other, specify
					☐ Other, specify

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
89	☐ Gas ☐ Other, specify	From To	
		0 60	9 3/4
Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested	60 180	6 1/8
160-180	☐ Gas ☐ Other, specify		
Water found at Depth	Kind of Water: ☐ Fresh ☐ Untested		
(m/ft)	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING		40 4 8 7 9	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL DR		BRAESIDE	
Province	Postal Code	Business E-mail Address	
ONT	K0A1G0		
Bus. Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)	
613 623 5648		SAUNDERS TROY	
Well Technician's Licence No.		Signature of Technician and/or Contractor	
T 5117		Troy Saunders	
		Date Submitted	
		2020/10/30	

Map of Well Location

Please provide a map below following instructions on the back.

Map of Well Location

ROSEMONT DR.

11

Comments:

Well owner's information package delivered		Date Package Delivered		Ministry Use Only	
☒ Yes	☐ No	20200930	20200930	Audit No.	2349864
		Date Work Completed		OCT 27 2020	
		20200930		Received	

Measurements recorded in: ☐ Metric ☒ Imperial

Page of

Well Tag No. (Place Sticker and/or Print Below)

A309683

Well Owner's Information

First Name	Last Name/Organization	E-mail Address		☐ Well Constructed by Well Owner	
	TOMAR CUSTOM HOMES				
Mailing Address (Street Number/Name)		Municipality	Province	Postal Code	Telephone No. (inc. area code)
54 BERT & ARGUE DR		STITTSVILLE	ONT.		

Well Location

Address of Well Location (Street Number/Name) 244 RIDGEMONT DR		Township BECKWITH	Lot	Concession
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates NAD 83 18 41 5.389	Zone 5000	Eastings 37.54	Municipal Plan and Sublot Number Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (cu ft) ^{yd}
0 60	BENTONITE GROUT	0.640

Method of Construction

☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☒ Air percussion		☐ Industrial		
☐ Other, specify _____		☐ Other, specify _____		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Gelvenized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole
			From	To	
6 7/8	STEEL	0.188	0+2 1/2	60	
3 1/2	OPEN HOLE		60	140	

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Abandoned, not for Water Quality
☐ Abandoned, other, specify _____
☐ Other, specify _____

Water Details

Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft)	Diameter (cm/in)
77 (m/ft) ☐ Gas	☐ Other, specify	From	To
Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested	0	60
84 (m/ft) ☐ Gas	☐ Other, specify	60	140
Water found at Depth	Kind of Water: ☐ Fresh ☒ Untested		
120-140 (m/ft) ☐ Gas	☐ Other, specify		

Well Contractor and Well Technician Information

Business Name of Well Contractor		Well Contractor's Licence No.	
SAUNDERS WELL DRILLING LTD		418719	
Business Address (Street Number/Name)		Municipality	
1680 SCHEEL		BRAESIDE	
Province	Postal Code	Business E-mail Address	
ONT.	K0A1G0		
Bus. Telephone No. (inc. area code)		Name of Well Technician (Last Name, First Name)	
6136235648		SAUNDERS TROY	
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
517	Troy Saunders	20210430	

Results of Well Yield Testing

After test of well yield, water was:	Draw Down		Recovery	
☐ Clear and sand free ☐ Other, specify <u>CLEARING</u>	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:	Static Level	<u>29.35</u>		
Pump intake set at (m/ft)	1	<u>35.0</u>	1	<u>44.40</u>
<u>130</u>	2	<u>37.50</u>	2	<u>40.0</u>
Pumping rate (l/min / GPM)	3	<u>38.80</u>	3	<u>36.75</u>
<u>8</u>	4	<u>39.70</u>	4	<u>34.20</u>
Duration of pumping	5	<u>40.50</u>	5	<u>31.90</u>
<u>1</u> hrs + <u>0</u> min	10	<u>43.0</u>	10	<u>30.50</u>
Final water level end of pumping (m/ft)	15	<u>45.10</u>	15	<u>29.40</u>
<u>48.35</u>	20	<u>46.35</u>	20	<u>29.35</u>
If flowing give rate (l/min/GPM)	25	<u>46.90</u>	25	<u>29.35</u>
	30	<u>47.10</u>	30	<u>29.35</u>
Recommended pump depth (m/ft)	40	<u>47.75</u>	40	<u>29.35</u>
<u>130</u>	50	<u>48.10</u>	50	<u>29.35</u>
Recommended pump rate (l/min/GPM)	60	<u>48.35</u>	60	<u>29.35</u>
<u>8</u>				
Well production (l/min/GPM)				
<u>9</u>				
Disinfected?				
☒ Yes ☐ No				

Map of Well Location

Please provide a map below following instructions on the back.

Comments:

Well owner's information package delivered	Date Package Delivered	Ministry Use Only Audit No. Z34989 APR 12 2021 Received _____
	Date Work Completed	

A309684

Measurements recorded in: ☐ Metric ☒ Imperial

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Well Owner's Information

First Name	Last Name/Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 54 BERT G. ARGUE DR.		Municipality STITTSVILLE	Province ONT.
		Postal Code	Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name) 270 RIDGEMOUNT DR.		Township BECKWITH	Lot	Concession
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	
NAD 83	18	4155035003610	Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
BROWN	LOAM	CLAY & SHALE		0 9 1/2
GREY	LIMESTONE	LAYERS OF BLACK LIMESTONE		9 1/2 92
GREY	LIMESTONE	LAYERS OF GREY & RED SANDSTONE		92 176

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ / yd ³)	After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify CLEARING	Draw Down Time (min) Water Level (m/ft)	Recovery Time (min) Water Level (m/ft)	
0 60	BENTONITE GROUT	0.640	If pumping discontinued, give reason:	Static Level		
				1 34.10	1 45.0	
			Pump intake set at (m/ft) 160	2 36.20	2 40.40	
			Pumping rate (l/min / GPM) 8	3 37.90	3 37.70	
			Duration of pumping 1 hrs + 0 min	4 39.30	4 35.20	
			Final water level end of pumping (m/ft) 53.0	5 40.40	5 30.10	
			If flowing give rate (l/min/GPM)	10 45.50	10 30.10	
				15 47.10	15 30.10	
				20 48.90	20 30.10	
			Recommended pump depth (m/ft) 160	25 50.0	25 30.10	
			Recommended pump rate (l/min/GPM) 8	30 50.90	30 30.10	
			Well production (l/min/GPM) 8	40 51.90	40 30.10	
			Disinfected? ☒ Yes ☐ No	50 52.55	50 30.10	
				60 53.0	60 30.10	

Method of Construction		Well Use	
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial
☐ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Not used
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Dewatering
☐ Boring	☐ Digging	☐ Irrigation	☐ Test Hole
☒ Air percussion		☐ Industrial	☐ Cooling & Air Conditioning
☐ Other, specify		☐ Other, specify	

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	☒ Water Supply	
64	STEEL	0.188	0+ 60	☐ Replacement Well	
				☐ Test Hole	
				☐ Recharge Well	
				☐ Dewatering Well	
				☐ Observation and/or Monitoring Hole	
				☐ Alteration (Construction)	
				☐ Abandoned, Insufficient Supply	
				☐ Abandoned, Poor Water Quality	
				☐ Abandoned, other, specify	
				☐ Other, specify	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
166	☐ Gas ☐ Other, specify	0 60	9 3/4
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested	60 176	6 7/8
	☐ Gas ☐ Other, specify		
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4879	
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE	
Province ONT.	Postal Code K0A1G0	Business E-mail Address	
Bus. Telephone No. (inc. area code) 613 623 5648		Name of Well Technician (Last Name, First Name) SAUNDERS TROY	
Well Technician's Licence No. T 517		Signature of Technician and/or Contractor <i>Troy Saunders</i>	
Date Submitted 20210430			

Map of Well Location			
Please provide a map below following instructions on the back.			
Comments:			

Well owner's information package delivered		Ministry Use Only	
☒ Yes	Date Package Delivered 20210331	Add. No.	2349906
☐ No	Date Work Completed 20210331	Received	APR 12 2021

Measurements recorded in: ☐ Metric ☒ Imperial

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A309682

Address of Well Location (Street Number/Name) 288 RIDGEMONT DR. BECKWITH		Township 6	Concession
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario
UTM Coordinates Zone Easting Northing NAD 83 18 41 55 45 00 3 553		Municipal Plan and Sublot Number Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
BROWN	LOAM	CLAY & SHALE		0 5
GREY	LIMESTONE			5 85
GREY	LIMESTONE	LAYERS OF RED SANDSTONE		85 100

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)	After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify CLEARING	Draw Down Time (min) Water Level (m/ft)	Recovery Time (min) Water Level (m/ft)	
0	60 BENTONITE GROUT	0.640	If pumping discontinued, give reason: Pump intake set at (m/ft) 75 Pumping rate (l/min / GPM) 12 Duration of pumping 1 hrs + 0 min Final water level end of pumping (m/ft) 24.85 If flowing give rate (l/min/GPM)	Static Level 24.0 1 24.7 2 24.7 3 24.72 4 24.70 5 24.70 10 24.75 15 24.75 20 24.75 25 24.80 30 24.80 40 24.83 50 24.85 60 24.85	1 24.0 2 24.0 3 24.0 4 24.0 5 24.0 10 24.0 15 24.0 20 24.0 25 24.0 30 24.0 40 24.0 50 24.0 60 24.0	

Method of Construction		Well Use	
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Diamond ☐ Jetting ☐ Driving ☐ Digging	☐ Public ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify	☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify
64 6 7/8	STEEL OPEN HOLE	0.188	0+2 60 60 100	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested ☐ Gas ☐ Other, specify	Depth (m/ft) From To	Diameter (cm/in)
67		0 60	9 3/4
92		60 100	6 7/8

Well Contractor and Well Technician Information			
Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4 8 7 9	
Business Address (Street Number/Name) 1680 SCHEEL DR.		Municipality BRAESIDE	
Province ONT.	Postal Code K0A1G0	Business E-mail Address	
Bus. Telephone No. (inc. area code) 613 623 5648		Name of Well Technician (Last Name, First Name) SAUNDERS TROY	
Well Technician's Licence No. T5117		Signature of Technician and/or Contractor Troy Saund	
Date Submitted 20210430			

Map of Well Location

Please provide a map below following instructions on the back.

Well owner's information package delivered ☒ Yes ☐ No	Date Package Delivered 20210331 Date Work Completed 20210331	Ministry Use Only Audit No. 7349899 APR 17 2021 Received
--	---	--

Measurements recorded in: ☐ Metric ☒ Imperial

Page _____ of _____

A309702

Well Owner's Information

First Name	Last Name/Organization TOMAR CUSTOM HOMES	E-mail Address	☐ Well Constructed by Well Owner
Mailing Address (Street Number/Name) 54 BERT GARGUE	Municipality STITTISVILLE	Province ONT	Postal Code
Address of Well Location (Street Number/Name) 145 RIDGEMONT DR.		Township BECKWITH	Lot 22
County/District/Municipality LANARK		City/Town/Village ASHTON	Province Ontario
UTM Coordinates Zone Easting NAD 83 18 415163		Northing 5004149	Municipal Plan and Sublot Number

Well Location

Address of Well Location (Street Number/Name) 145 RIDGEMONT DR.	Township BECKWITH	Lot 22	Concession
County/District/Municipality LANARK	City/Town/Village ASHTON	Province Ontario	Postal Code
UTM Coordinates Zone Easting NAD 83 18 415163	Northing 5004149	Municipal Plan and Sublot Number	Other

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
BROWN	LOAM			0 6"
GREY	SHALE			6" 1 1/2
GREY	LIMESTONE	LAYERS OF GREEN SHALE		1 1/2 120

Annular Space		
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0 60 1/2	BENTONITE GROUT	0.650

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☒ Air percussion ☐ Other, specify	☐ Public ☒ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify
☐ Diamond ☐ Jetting ☐ Driving ☐ Digging	☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	
6 7/8	STEEL	0.188	0 6 1/2	☒ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify
6	OPEN HOLE		60 1/2 120	

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To	
				☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

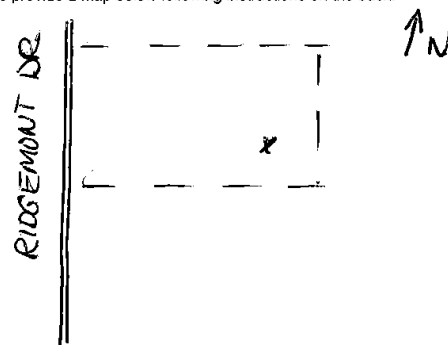
Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☒ Untested	Depth (m/ft) From To	Diameter (cm/in)
61 (m/ft)	☐ Gas ☐ Other, specify	0 60 1/2	9 3/4
98-110 (m/ft)	☐ Gas ☐ Other, specify	60 1/2 120	6
	☐ Fresh ☐ Untested		
	☐ Gas ☐ Other, specify		

Business Name of Well Contractor SAUNDERS WELL DRILLING LTD		Well Contractor's Licence No. 4 8 7 9
Business Address (Street Number/Name) 1680 SCHEEL DR		Municipality BRAESIDE
Province ONT	Postal Code K0A 1G0	Business E-mail Address
Bus. Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) 613 623 5048 SAUNDERS TROY		
Well Technician's Licence No. T 5 1 7	Signature of Technician and/or Contractor <i>Troy Saunders</i>	Date Submitted 2021 07 05

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☐ Clear and sand free ☐ Other, specify CLEARING		Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	Recovery
		23.90	
Pump intake set at (m/ft) 110		1 27.50	1 29.25
Pumping rate (l/min / GPM) 10		2 27.30	2 23.90
Duration of pumping 1 hrs + 0 min		3 27.25	3 23.90
Final water level end of pumping (m/ft) 27.50		4 27.30	4 23.90
If flowing give rate (l/min/GPM)		5 27.30	5 23.90
Recommended pump depth (m/ft) 110		10 27.35	10 23.90
Recommended pump rate (l/min/GPM) 10		15 27.37	15 23.90
Well production (l/min/GPM) 12		20 27.40	20 23.90
Disinfected? ☒ Yes ☐ No		25 27.40	25 23.90
		30 27.40	30 23.90
		40 27.45	40 23.90
		50 27.45	50 23.90
		60 27.50	60 23.90

Map of Well Location

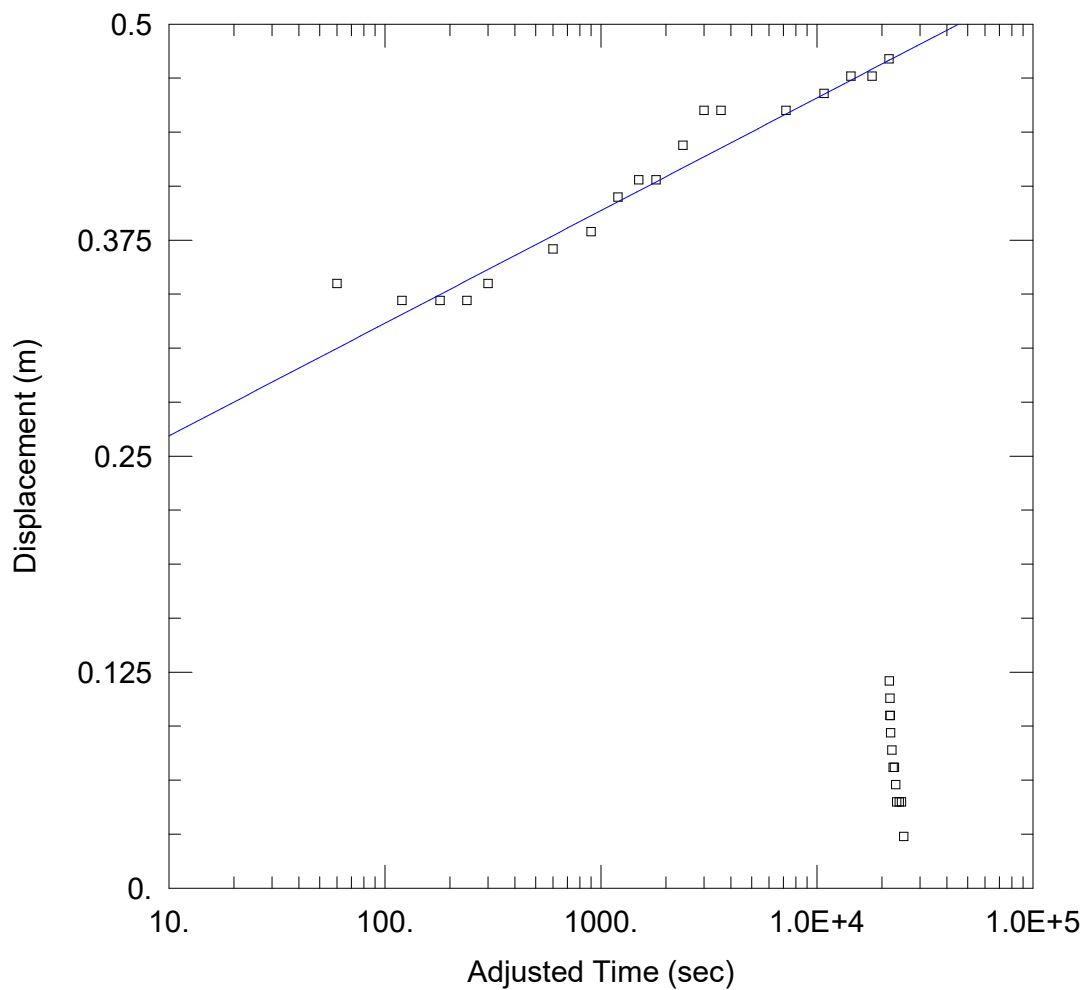
Please provide a map below following instructions on the back.



Comments:

Well owner's Information package delivered ☒ Yes ☐ No	Date Package Delivered 2021 06 05	Ministry Use Only Audit No. 2361794
Date Work Completed 2021 06 05	Received JUN 22 2021	

APPENDIX III
Aqtesolv Analysis Output



PROJECT INFORMATION

Company: Pinchin Ltd.
 Client: Douglas Landing Developments
 Project: 283258
 Location: Beckwith Township
 Test Well: A360957
 Test Date: October 24, 2024

AQUIFER DATA

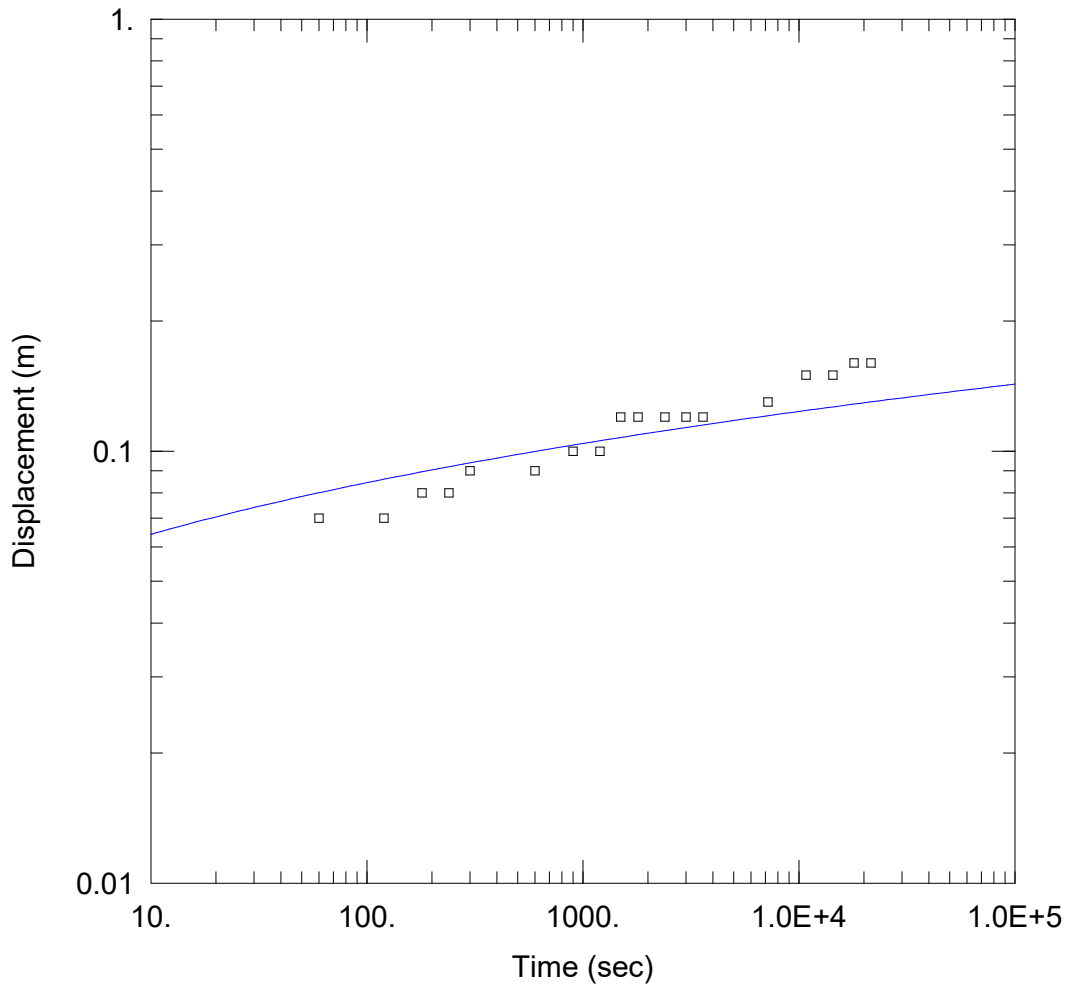
Saturated Thickness: 34.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)
A360957	0	0	□ A360957	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob
 T = 0.003546 m²/sec S = 0.0007489



PROJECT INFORMATION

Company: Pinchin Ltd.
 Client: Douglas Landing Developments
 Project: 283258
 Location: Beckwith Township
 Test Well: A360958
 Test Date: October 25, 2024

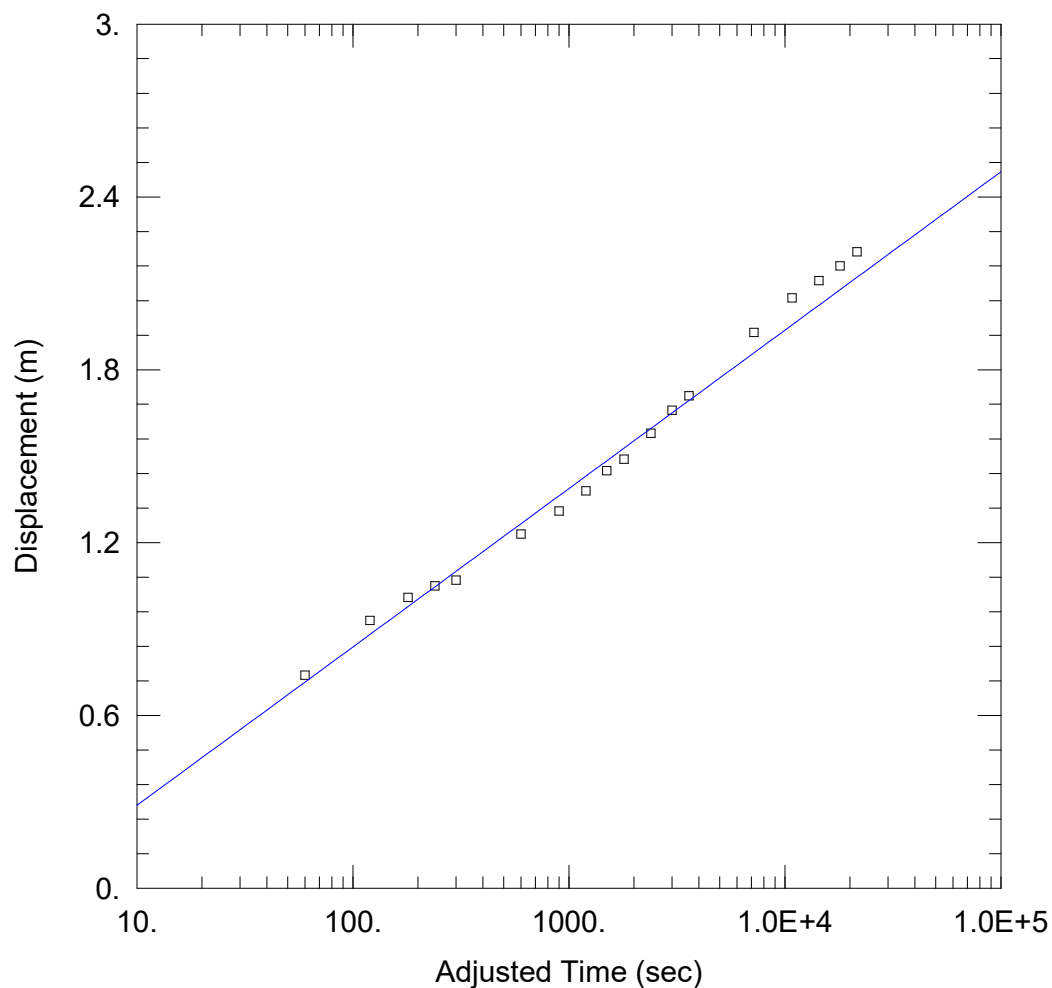
WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)
A360958	0	0	□ A360958	0	0

SOLUTION

Aquifer Model: Leaky
 $T = 0.005984 \text{ m}^2/\text{sec}$
 $\beta = 0.1$
 $b = 21.26 \text{ m}$

Solution Method: Hantush
 $S = 0.04113$
 $Kz/Kr = 1.$



PROJECT INFORMATION

Company: Pinchin Ltd.
 Client: Douglas Landing Developments
 Project: 283258
 Location: Beckwith Township
 Test Well: A360960
 Test Date: October 21, 2024

AQUIFER DATA

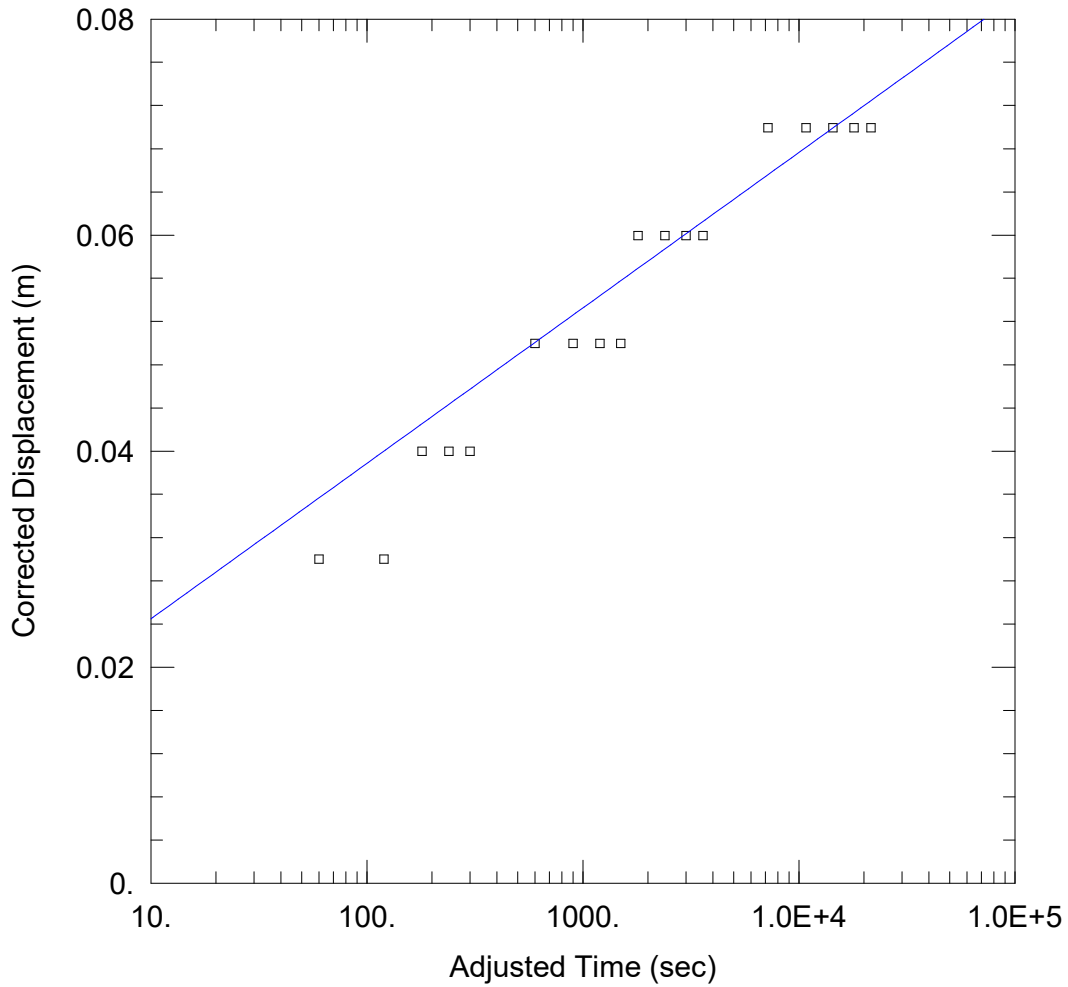
Saturated Thickness: 48.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)
A360959	0	0	□ A360959	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob
 T = 0.0005047 m²/sec S = 0.3299



PROJECT INFORMATION

Company: Pinchin Ltd.
Client: Douglas Landing Developments
Project: 283258
Location: Beckwith Township
Test Well: A360960
Test Date: October 22, 2024

AQUIFER DATA

Saturated Thickness: 43.11 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (m)	Y (m)	Well Name	X (m)	Y (m)
A360960	0	0	□ A360960	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Cooper-Jacob
T = 0.01606 m²/sec S = 0.6973

APPENDIX IV
Permission Letters



August 25, 2023

Attention: Homeowner / Resident

Re: Hydrogeological Study – Well Pumping Tests.
Permission to Monitor
Douglas Side Rd. Pt Lot 25 Con 12, County of Lanark, Ontario
Pinchin File: 283258.001

Dear Homeowner / Resident,

A Hydrogeological Study is being done on four new wells located on undeveloped land at the west end of Douglas Side Road (Pt Lot 25 Con 12). This work is being done to examine the groundwater quantity, quality, and the potential interactions with nearby existing wells as part of studies for a proposed development on the property.

The new wells will be pumped for approximately 6 hours, sampled for groundwater quality, and then the recovery of water level in the well will be recorded. During the Study, we would like to monitor the water level in some other wells at adjacent properties to determine if they are hydrogeologically connected. Your well is potentially in a suitable location. With your permission, staff from Pinchin would install a small datalogger in your well to measure water levels during the study.

Equipment is sterilized and does not affect your well operation. You can use your water supply as normal during the testing. The device is removed at the end of the investigation period. Participation is voluntary. The testing is being scheduled to take place within the next couple weeks.

If you would be willing to participate, please complete the attached information form at the end of this letter and Pinchin will contact you with more information regarding timing and to arrange a visit.

Pinchin Ltd.

Prepared by:

Jeanette McCann
Project Technologist
613.449.0685
jmcann@pinchin.com

Reviewed by:

Phil Tibble, M.Sc., P.Geo., QP_{ESA}
Senior Technical Manager – Hydrogeology
613.449.3731
ptibble@pinchin.com

\\Pinchin.com\miss\Job\283000s\0283258.000 GillianEspie,9243McArtonRd,Ott,ENS,EIS\0283258.001 GillianEspie,9243McArtonRd,Ott,ERC,Potab\Deliverables\permission to monitor\289258.001 Permission to Monitor Letter 9243 McArton Rd OTT Espie.docx

Template: Master Template for Peer Review Letter, EDR, May 28, 2019



**Re: Hydrogeological Study – Well Pumping Tests.
Permission to Monitor**
Douglas Side Rd. Pt Lot 25 Con 12, County of Lanark, Ontario
Pinchin File: 283258.001

If you have questions regarding the testing process, please contact Phil Tibble (Pinchin)
email: ptibble@pinchin.com or by phone: 613-449-3731.

If you have questions regarding the proposed development, please contact Gillian Espie
email: g.espie@rogers.com or by phone: 613-882-6504.

Please complete and return this page

Scan and email, or send a photo of the completed form to: ptibble@pinchin.com

Permission to monitor private well.

I am willing to have my well used as a monitoring well in the study: YES ☐ or NO ☐	
Address:	
Contact Name:	
Contact Phone:	
Contact email:	
Other Info/Comments:	
Signature:	
Date:	



August 14, 2025

Attention: **Homeowner / Resident**

Re: **Hydrogeological Study Follow Up – Permission to Sample**
Douglas Side Rd. Pt Lot 25 Con 12, County of Lanark, Ontario
Pinchin File: 283258.005

Dear Homeowner / Resident,

A Hydrogeological Study was completed on undeveloped land at the west end of Douglas Side Road (Pt Lot 25 Con 12) during 2023/24. This work assessed groundwater quantity, quality, and the potential interactions with nearby existing wells as part of studies for a proposed development on the property.

As follow up to that work it was recommended that nearby residents be asked if a sample from their well water could be collected and tested to provide additional information on the background water quality in the area. It was also recommended that nearby residents be asked if they had any issues with the water quality or quantity from their well.

The purpose of this letter is to ask if a sample of untreated water could be collected from a tap or sample point prior to treatment equipment at your home and be submitted to a certified testing laboratory for analysis of water quality parameters. We also request if you could please complete a brief questionnaire about your experiences with your water quality or quantity that is attached to this letter.

Participation is voluntary. We are proposing to conduct the sampling in the next week or so. We hope that you are willing to complete the information form attached to this letter, and Pinchin will contact you with more information regarding timing and to arrange a visit to sample your water supply if you are willing to participate.

Pinchin Ltd.

Prepared by:

Jeanette McCann
Project Technologist
613.449.0685
jmcann@pinchin.com

Reviewed by:

Phil Tibble, M.Sc., P.Geo., QP_{ESA}
Senior Technical Manager – Hydrogeology
613.449.3731
ptibble@pinchin.com

\\pinchin.com\kgn\Job\283000s\0283258.000 GillianEspie,9243McArtonRd,Ott,GEO,ASSMT\0283258.005
GillianEspie,9243McArtonRd,Ott,EDR,Hydro\Deliverables\289258.005 Permission to Sample Letter 9243McArtonRd Ottawa ESPIE.docx

Template: Master Template for Peer Review Letter, EDR, May 28, 2019



Re: Hydrogeological Study Follow Up – Permission to Sample
Douglas Side Rd. Pt Lot 25 Con 12, County of Lanark, Ontario
Pinchin File: 283258.005

If you have questions regarding the sampling process, contact Phil Tibble (Pinchin). Email: ptibble@pinchin.com or phone: 613-449-3731. If you have questions regarding the proposed development, contact Gillian Espie email: g.espie@rogers.com or phone: 613-882-6504.

Please complete and return this page
Scan and email, or send a photo of the completed form to: ptibble@pinchin.com

Permission to sample private well:

I am willing to have a water sample collected for the study: YES ☐ or NO ☐	
Address:	Contact Name:
Phone:	Email:
Signature:	Date:

Questionnaire on your water supply:

1) Do you have issues with the quantity of water? Such as running out in the summer or any time of the year?
2) Do you have a water treatment system? If yes, what type (such as water softener / UV etc.)?
3) Do you have issues with the quality of the water? Such as taste or smell? Continually? Seasonally?
4) Any other comments you wish to share regarding your water supply?

APPENDIX V
Analytical Summary Tables and Plots

TABLE 9
RAW WELL WATER ANALYTICAL RESULTS
 Douglas Landing Developments
 Part Lot 25, Concession 12, Beckwith Township, Ontario

Parameter	Units	MDL	ODWQS Standards		Sample Designation			
			Standard	Type of Standard	Sample Collection Date (dd/mm/yyyy)			
					Well #1 A360958	Well #2 A360957	Well #3 A360960	Well #4 A360959
					25-10-2024	24-10-2024	23-10-2024	21-10-2024
Microbiological Parameters								
E. Coli	CFU/100mL	1	0	MAC	0	0	0	0
Total Coliforms	CFU/100mL	1	0	MAC	0	0	0	0
General Inorganics								
Alkalinity, total	mg/L	5	30-500	OG	260	262	277	279
Ammonia as N	mg/L	0.01	-	-	0.2	0.2	0.13	<0.05
Dissolved Organic Carbon	mg/L	1	5	AO	1.8	1.7	2.4	1.5
Colour	TCU	2	5	AO	3	<2	<2	<2
Conductivity	uS/cm	1	-	-	672	636	737	781
Hardness	mg/L		500 / 80-100	AO / OG	343	311	357	385
pH	pH Units	0.1	6.5-8.5	OG	8.17	8.08	7.99	8.14
Total Dissolved Solids	mg/L	10	500	-	349	330	385	409
Turbidity	NTU	0.1	5	AO	2.0	2.5	1.2	0.5
Anions								
Chloride	mg/L	0.5	250	AO	19.9	23.3	39.3	49.8
Fluoride	mg/L	0.1	1.5	MAC	<0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	0.1	10	MAC	<0.05	0.05	<0.05	1.08
Nitrite as N	mg/L	0.1	1	MAC	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	500	AO	61	38	58	64
Metals								
Calcium	mg/L	0.02	-	-	90.8	74.8	84	94.4
Iron	mg/L	0.005	0.3	AO	0.131	0.214	0.10	0.027
Magnesium	mg/L	0.2	-	-	28.2	30.1	35.7	36.2
Manganese	mg/L	0.001	0.05	AO	0.144	0.009	0.008	0.007
Potassium	mg/L	0.1	-	-	8	4.2	3.9	3.1
Sodium	mg/L	0.2	20 / 200	MAC* / AO	39.8	8.0	11.3	15

Notes:

**Ontario Drinking Water
Quality Standards**

Type of Standard

MAC: Maximum Acceptable Concentration

AO: Aesthetic Objective

OG: Operational Guidelines

BOLD
BOLD
BOLD

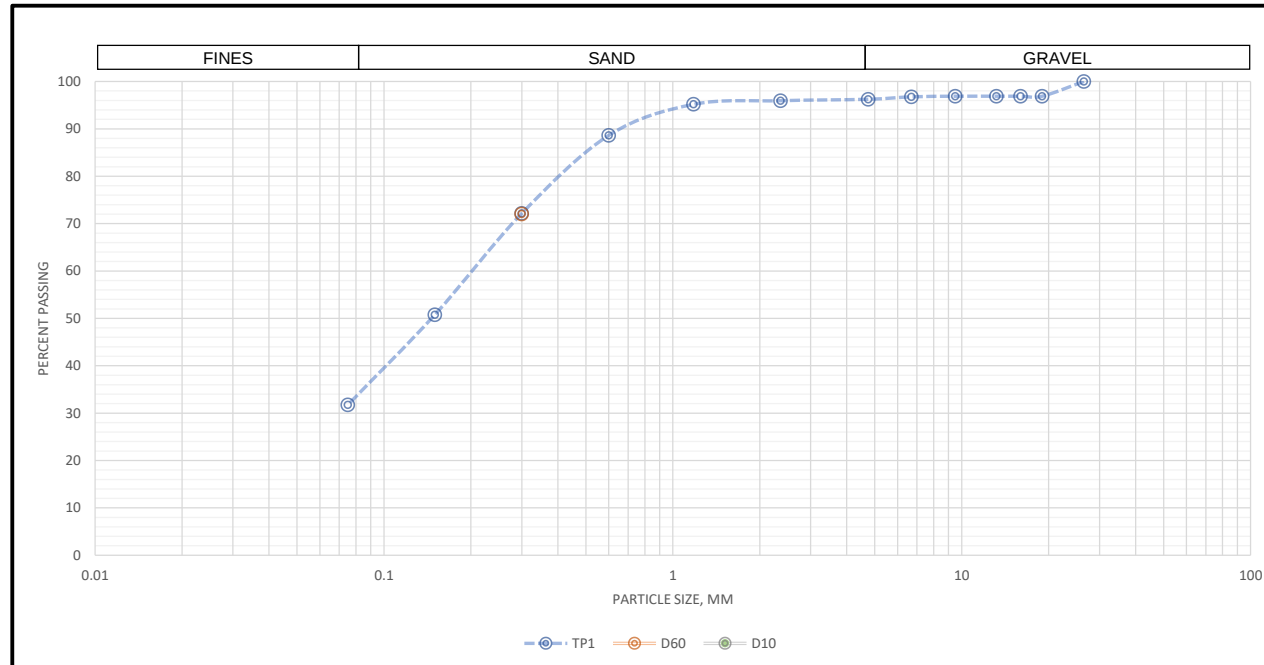
Exceed MAC Standard

Exceeds AO or OG Standard

Reportable Detection Limit Exceeds Standard

* This health-related limit for sodium is a "warning level" only. Exceedance calls for a recommendation that the local Medical Officer of Health be notified in order to alert persons with relevant medical conditions. Sodium also has an Aesthetic Objective of 200 mg/L. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines June 2003 Revised June 2006 (PIBS 4449e01)

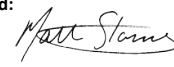
Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	97
16.0 mm	97
13.2 mm	97
9.5 mm	97
6.7 mm	97
4.75 mm	96
2.36 mm	96
1.18 mm	95
600 µm	89
300 µm	72
150 µm	51
75 µm	32

Silt and Clay (%)	Sand (%)	Gravel (%)
32	64	4
silty SAND, trace gravel		

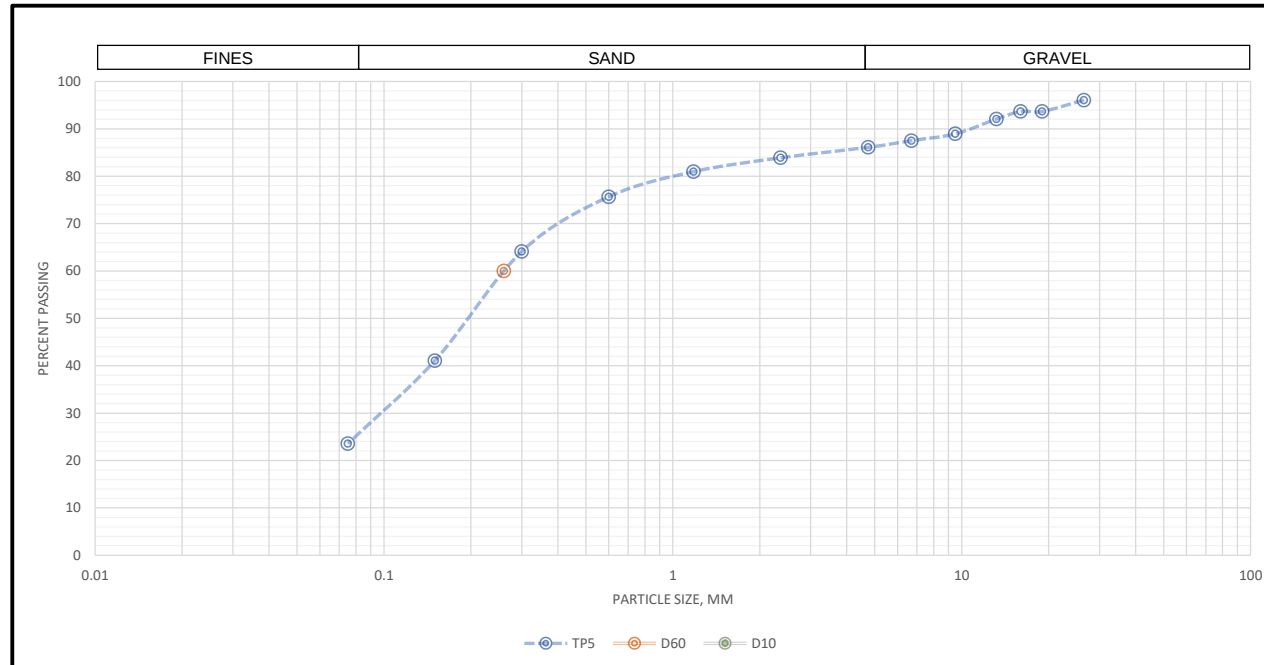
Lab No: SA24-097
Client: Pinchin
Project No: 1812
Sample ID: TP1
Location: -
Coefficient of Uniformity, Cu: n/a
Effective size, D10 (mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	96
19.0 mm	94
16.0 mm	94
13.2 mm	92
9.5 mm	89
6.7 mm	88
4.75 mm	86
2.36 mm	84
1.18 mm	81
600 µm	76
300 µm	64
150 µm	41
75 µm	24

Silt and Clay (%)	Sand (%)	Gravel (%)
24	63	14
silty, clayey SAND, some gravel		

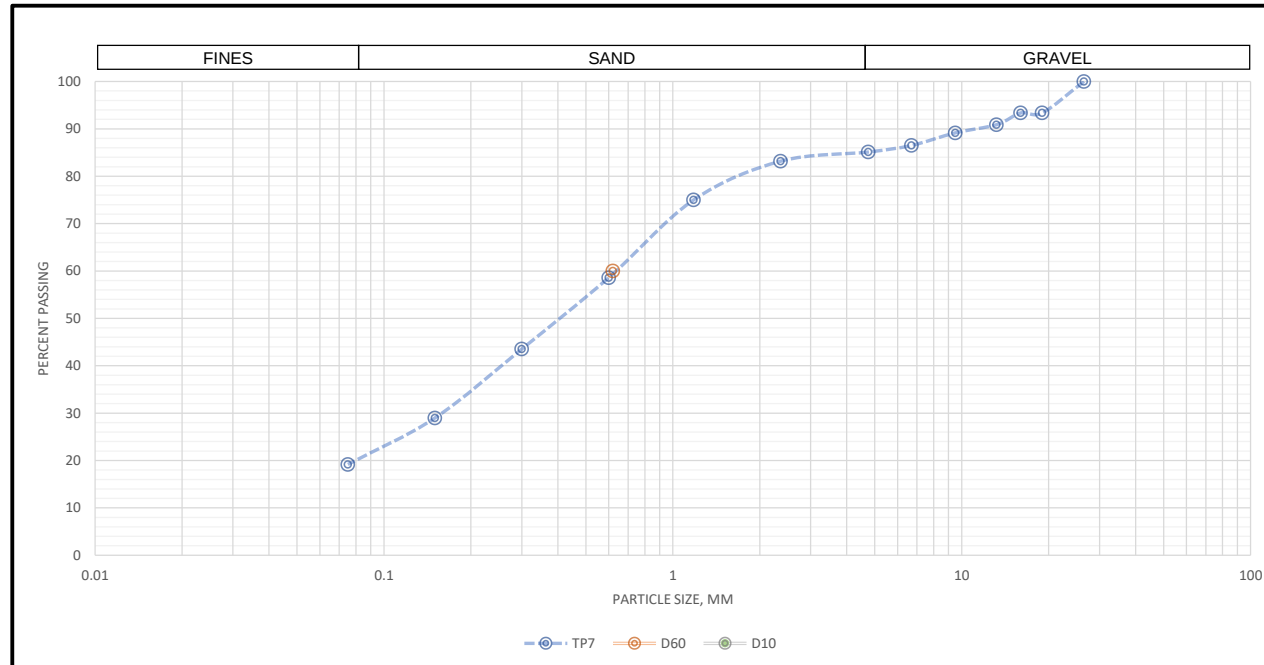
Lab No: SA24-097A
Client: Pinchin
Project No: 1812
Sample ID: TP5
Location: -
Coefficient of
Uniformity, Cu: n/a
Effective size, D10
(mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	93
16.0 mm	93
13.2 mm	91
9.5 mm	89
6.7 mm	87
4.75 mm	85
2.36 mm	83
1.18 mm	75
600 µm	59
300 µm	44
150 µm	29
75 µm	19

Silt and Clay (%)	Sand (%)	Gravel (%)
19	66	15
SAND, some gravel, some silt and clay		

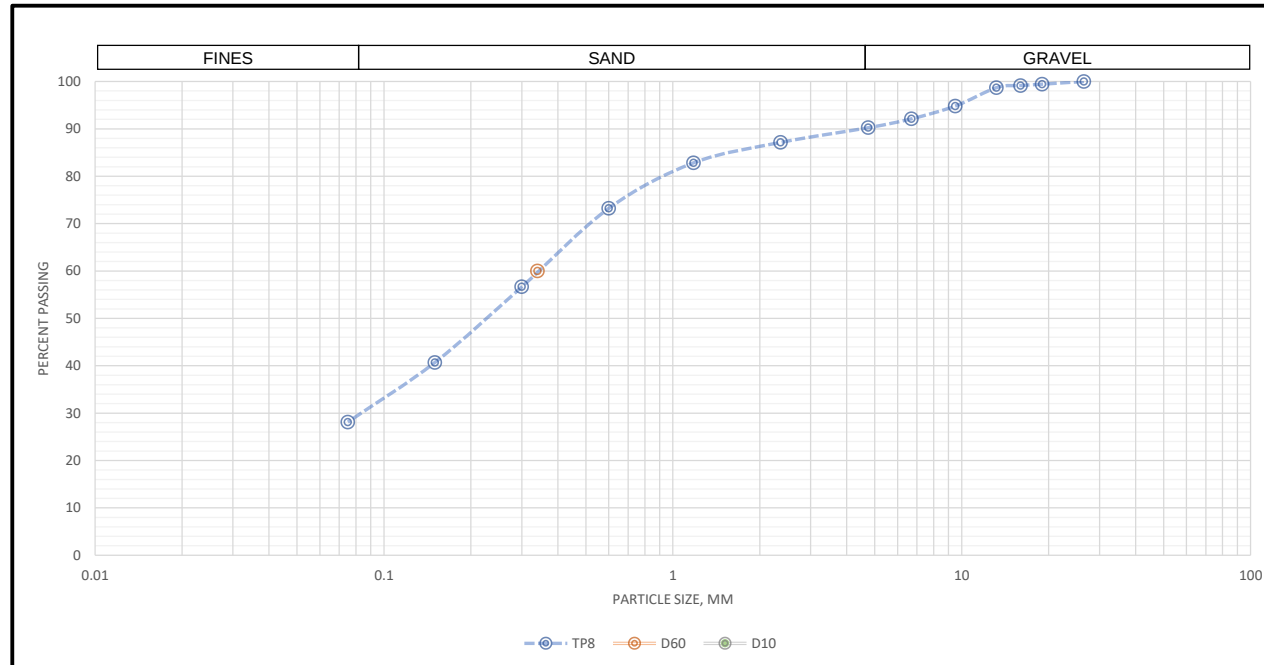
Lab No: SA24-097B
Client: Pinchin
Project No: 1812
Sample ID: TP7
Location: -
Coefficient of Uniformity, Cu: n/a
Effective size, D10 (mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

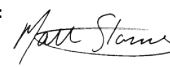
Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	99
16.0 mm	99
13.2 mm	99
9.5 mm	95
6.7 mm	92
4.75 mm	90
2.36 mm	87
1.18 mm	83
600 µm	73
300 µm	57
150 µm	41
75 µm	28

Silt and Clay (%)	Sand (%)	Gravel (%)
28	62	10
silty, clayey SAND, some gravel		

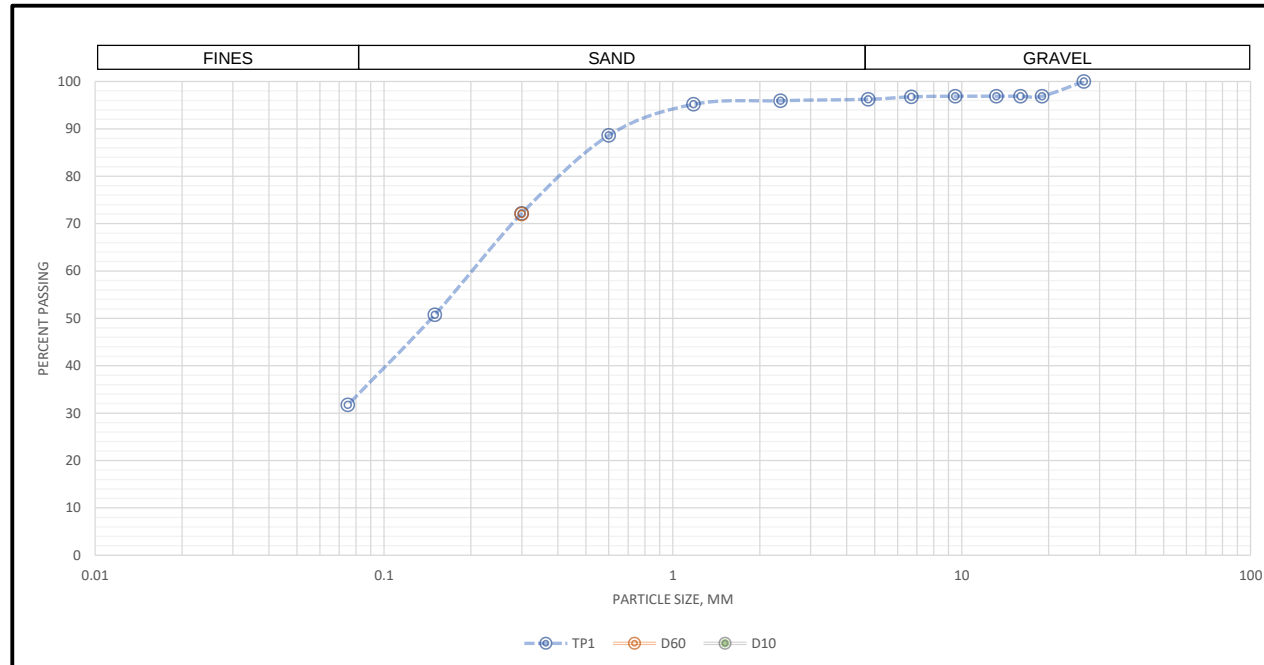
Lab No: SA24-097C
Client: Pinchin
Project No: 1812
Sample ID: TP8
Location: -
Coefficient of
Uniformity, Cu: n/a
Effective size, D10
(mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

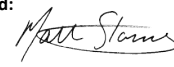
Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	97
16.0 mm	97
13.2 mm	97
9.5 mm	97
6.7 mm	97
4.75 mm	96
2.36 mm	96
1.18 mm	95
600 µm	89
300 µm	72
150 µm	51
75 µm	32

Silt and Clay (%)	Sand (%)	Gravel (%)
32	64	4
silty SAND, trace gravel		

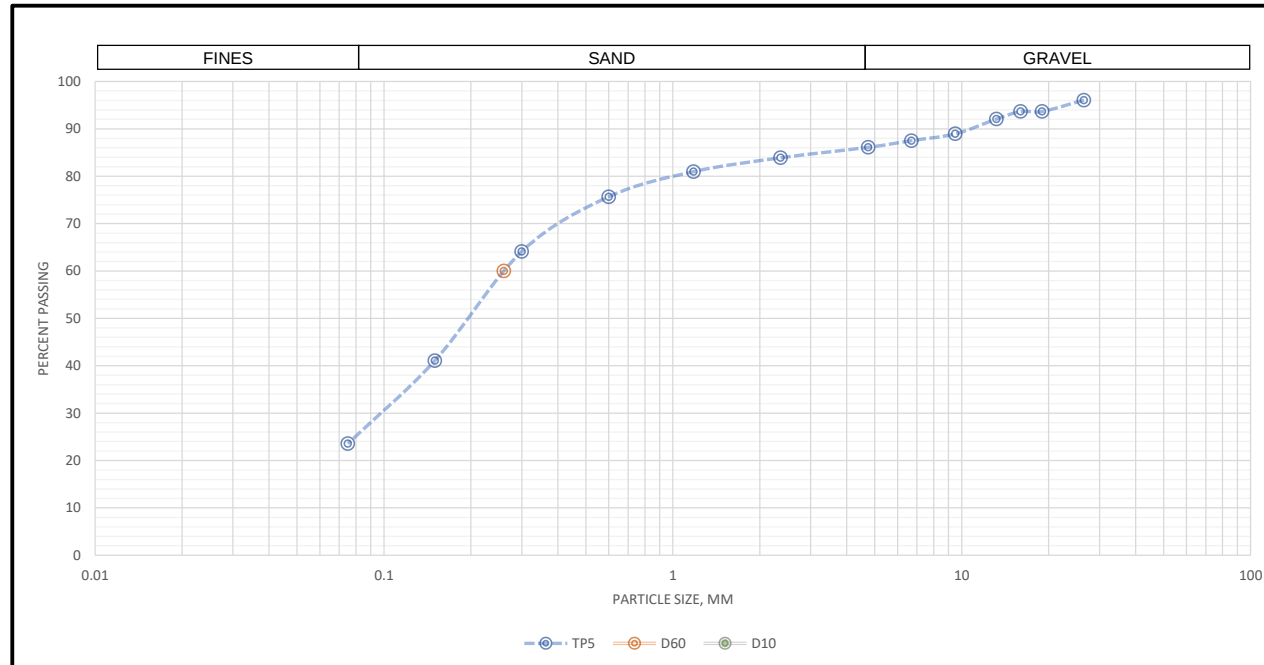
Lab No: SA24-097
Client: Pinchin
Project No: 1812
Sample ID: TP1
Location: -
Coefficient of
Uniformity, Cu: n/a
Effective size, D10
(mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	96
19.0 mm	94
16.0 mm	94
13.2 mm	92
9.5 mm	89
6.7 mm	88
4.75 mm	86
2.36 mm	84
1.18 mm	81
600 µm	76
300 µm	64
150 µm	41
75 µm	24

Silt and Clay (%)	Sand (%)	Gravel (%)
24	63	14
silty, clayey SAND, some gravel		

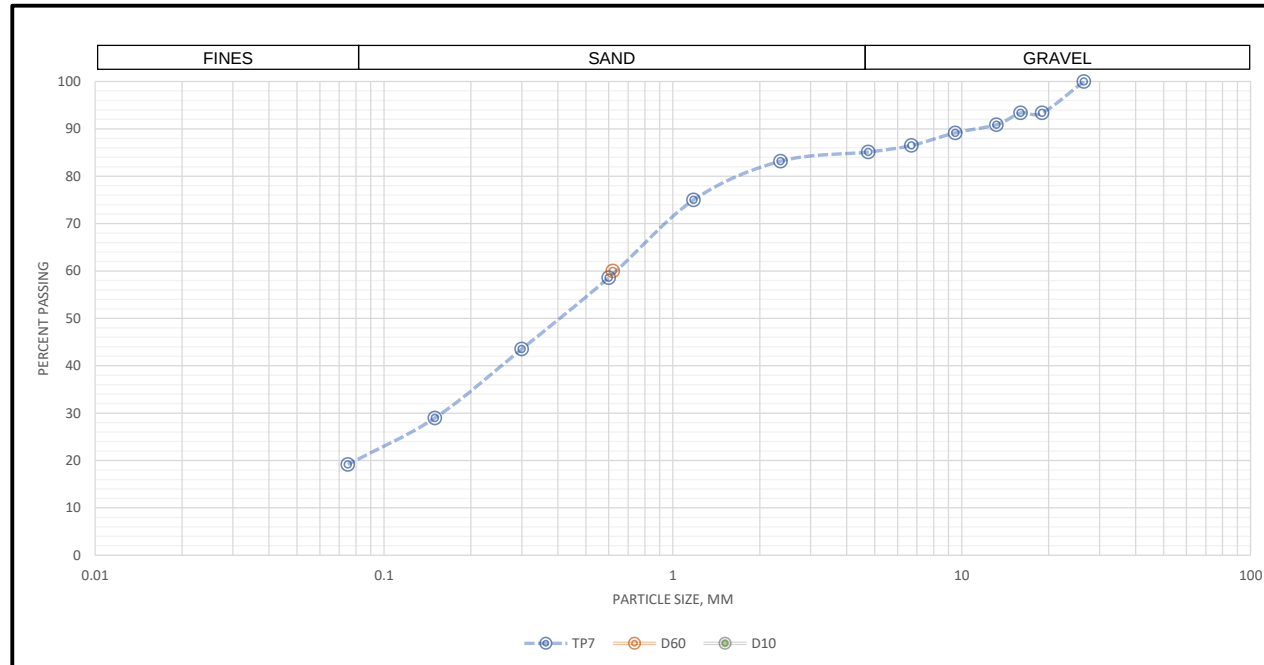
Lab No: SA24-097A
Client: Pinchin
Project No: 1812
Sample ID: TP5
Location: -
Coefficient of Uniformity, Cu: n/a
Effective size, D10 (mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	93
16.0 mm	93
13.2 mm	91
9.5 mm	89
6.7 mm	87
4.75 mm	85
2.36 mm	83
1.18 mm	75
600 µm	59
300 µm	44
150 µm	29
75 µm	19

Silt and Clay (%)	Sand (%)	Gravel (%)
19	66	15
SAND, some gravel, some silt and clay		

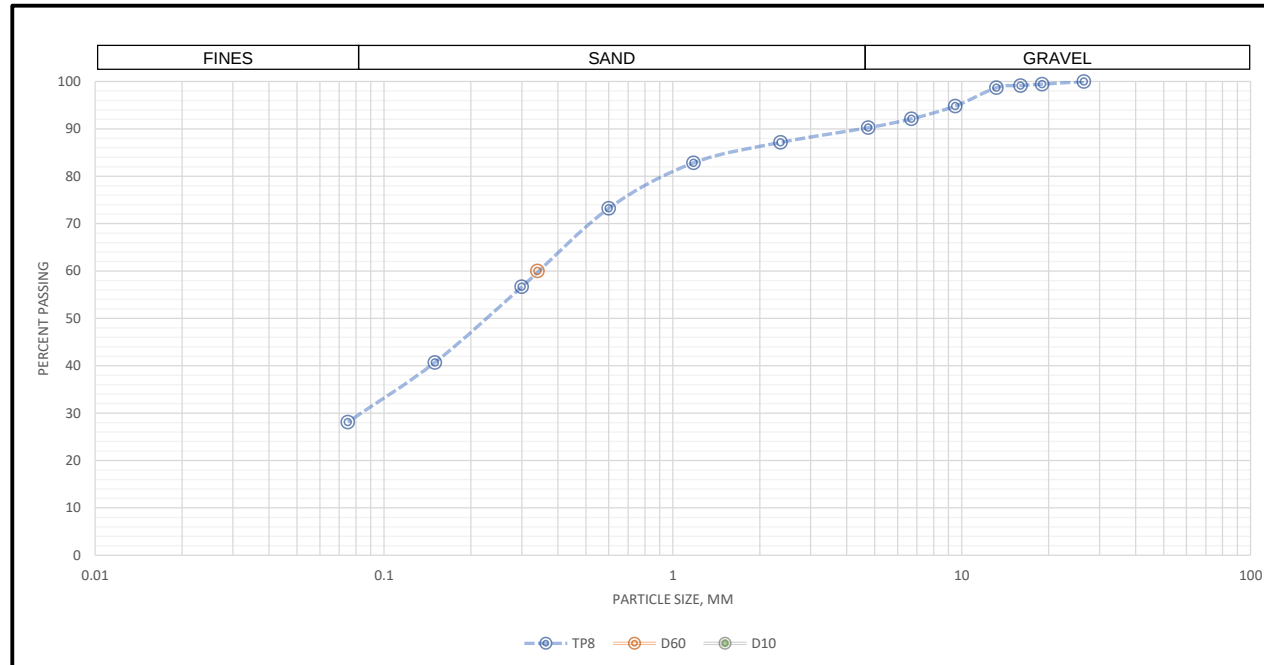
Lab No: SA24-097B
Client: Pinchin
Project No: 1812
Sample ID: TP7
Location: -
Coefficient of Uniformity, Cu: n/a
Effective size, D10 (mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

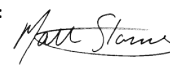
Sieve Analysis (LS-602)



Sieve Opening	% Passing
63.0 mm	100
53.0 mm	100
37.5 mm	100
26.5 mm	100
19.0 mm	99
16.0 mm	99
13.2 mm	99
9.5 mm	95
6.7 mm	92
4.75 mm	90
2.36 mm	87
1.18 mm	83
600 µm	73
300 µm	57
150 µm	41
75 µm	28

Silt and Clay (%)	Sand (%)	Gravel (%)
28	62	10
silty, clayey SAND, some gravel		

Lab No: SA24-097C
Client: Pinchin
Project No: 1812
Sample ID: TP8
Location: -
Coefficient of
Uniformity, Cu: n/a
Effective size, D10
(mm): n/a

Tested: TB
Date: 2024-12-10
Validated: 
Date: 12/12/2024

Notes: Estimated T-time: 8 - 20 mins/cm

T-time is estimated from grain size data only, in comparison to OBC 2012 SB-6, and based solely on the sample as received.

APPENDIX VI
Laboratory Certificates of Analysis

C.O.C.: G 130347

REPORT No: 24-032854 - Rev. 0

Report To:

Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2024-Oct-21
DATE REPORTED: 2024-Oct-25
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 283258001
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2024-Oct-23	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2024-Oct-23	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Oct-23	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-21	ECTC-001	MECP E3407
DOC/DIC (Liquid)	1	OTTAWA	MMACMILLAN	2024-Oct-25	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-21	FC-001	SM 9222D
Ion Balance (Calc)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	APRUDYVUS	2024-Oct-22	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	JYEARWOOD	2024-Oct-22	NH3-001	SM 4500NH3
Turbidity (Liquid)	1	OTTAWA	PLUSSIER	2024-Oct-23	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 24-032854 - Rev. 0

					Client I.D.	A360959
					Sample I.D.	24-032854-1
					Date Collected	2024-Oct-21
Parameter	Units	R.L.	Limits	DWG		
Total Coliform (DC Media)	CFU/100mL	1	0	MAC	0	
E coli (DC Media)	CFU/100mL	1	0	MAC	0	
Background (DC Media)	CFU/100mL	1			7	
Fecal Coliform	CFU/100mL	1	0	MAC	0	
Alkalinity(CaCO3) to pH4.5	mg/L	5	500	OG	279	
TDS (Calc. from Cond.)	mg/L	3	500	AO	409	
Conductivity @25°C	uS/cm	1			781	
pH @25°C	pH units	-	8.5	OG	8.14	
Colour	TCU	2	5	AO	<2	
Turbidity	NTU	0.1	5	AO	0.5	
Fluoride	mg/L	0.1	1.5	MAC	<0.1	
Chloride	mg/L	0.5	250	AO	49.8	
Nitrate (N)	mg/L	0.05	10.0	MAC	1.08	
Nitrite (N)	mg/L	0.05	1.0	MAC	<0.05	
Sulphate	mg/L	1	500	AO	64	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05			<0.05	
Dissolved Organic Carbon	mg/L	0.2	5	AO	1.5	
Hardness (as CaCO3)	mg/L as CaCO3	0.02	100, 500	OG, D55	385	
Calcium	mg/L	0.02			94.4	
Iron	mg/L	0.005	0.3	AO	0.027	
Magnesium	mg/L	0.02			36.2	



Michelle Dubien
Data Specialist

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CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 24-032854 - Rev. 0

					Client I.D.	A360959
					Sample I.D.	24-032854-1
					Date Collected	2024-Oct-21
Parameter	Units	R.L.	Limits	DWG		
Manganese	mg/L	0.001	0.05	AO	0.007	
Potassium	mg/L	0.1			3.1	
Sodium	mg/L	0.2	200, 20	AO, MAC	15.0	
Anion Sum	meq/L	-			8.39	
Cation Sum	meq/L	-			8.42	
% Difference	%	-			0.215	
TDS (Ion Sum Calc)	mg/L	1	500	AO	435	
Conductivity Calc	µmho/cm	-			789	

DWG - Drinking Water Guidelines

ODWS - Ontario Drinking Water Standards

AO - Aesthetic Objectives

IMAC - Interim Maximum Acceptable Concentration

MAC - Maximum Acceptable Concentration

ODWO - D-5-5 Objective

OG - Operational Guidelines

WL - Warning Level - Sodium Restricted Diets

Summary of Exceedances		
Operational Guidelines		
A360959	Found Value	Limit
Hardness (as CaCO3)	385	100



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: G 130350

REPORT No: 24-033331 - Rev. 0

Report To:

Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2024-Oct-23
DATE REPORTED: 2024-Oct-29
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 283258001
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2024-Oct-25	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2024-Oct-25	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Oct-25	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-23	ECTC-001	MECP E3407
DOC/DIC (Liquid)	1	OTTAWA	SLOZO	2024-Oct-28	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-23	FC-001	SM 9222D
Ion Balance (Calc)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	APRUDYVUS	2024-Oct-25	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	JYEARWOOD	2024-Oct-24	NH3-001	SM 4500NH3
Turbidity (Liquid)	1	OTTAWA	STAILLON	2024-Oct-24	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

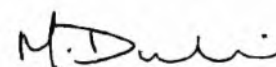


Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 24-033331 - Rev. 0

		Client I.D.	A360960
		Sample I.D.	24-033331-1
		Date Collected	2024-10-23
Parameter	Units	R.L.	-
Total Coliform (DC Media)	CFU/100mL	1	0
E coli (DC Media)	CFU/100mL	1	0
Background (DC Media)	CFU/100mL	1	0
Fecal Coliform	CFU/100mL	1	0
Alkalinity(CaCO3) to pH4.5	mg/L	5	277
TDS (Calc. from Cond.)	mg/L	3	385
Conductivity @25°C	uS/cm	1	737
pH @25°C	pH units	-	7.99
Colour	TCU	2	<2
Turbidity	NTU	0.1	1.2
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	39.3
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	58
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.13
Dissolved Organic Carbon	mg/L	0.2	2.4
Hardness (as CaCO3)	mg/L	0.02	357
Calcium	mg/L	0.02	84.0
Iron	mg/L	0.005	0.100
Magnesium	mg/L	0.02	35.7



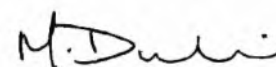
Michelle Dubien
Data Specialist

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Final Report
REPORT No: 24-033331 - Rev. 0

		Client I.D.	A360960
		Sample I.D.	24-033331-1
		Date Collected	2024-10-23
Parameter	Units	R.L.	-
Manganese	mg/L	0.001	0.008
Potassium	mg/L	0.1	3.9
Sodium	mg/L	0.2	11.3
Anion Sum	meq/L	-	7.83
Cation Sum	meq/L	-	7.74
% Difference	%	-	0.612
TDS (Ion Sum Calc)	mg/L	1	398
Conductivity Calc	µmho/cm	-	727



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: G 130362

REPORT No: 24-033470 - Rev. 0

Report To:

Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2024-Oct-24
DATE REPORTED: 2024-Nov-04
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 283258001
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2024-Oct-28	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2024-Oct-30	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Oct-28	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-24	ECTC-001	MECP E3407
DOC/DIC (Liquid)	1	OTTAWA	MMACMILLAN	2024-Nov-01	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-24	FC-001	SM 9222D
Ion Balance (Calc)	1	OTTAWA	TPRICE		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	NHOGAN	2024-Oct-28	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	JYEARWOOD	2024-Nov-01	NH3-001	SM 4500NH3
Turbidity (Liquid)	1	OTTAWA	PLUSSIER	2024-Oct-28	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 24-033470 - Rev. 0

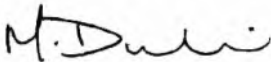
		Client I.D.	A360957
		Sample I.D.	24-033470-1
		Date Collected	2024-10-24
Parameter	Units	R.L.	-
Total Coliform (DC Media)	CFU/100mL	1	0
E coli (DC Media)	CFU/100mL	1	0
Background (DC Media)	CFU/100mL	1	0
Fecal Coliform	CFU/100mL	1	0
Alkalinity(CaCO3) to pH4.5	mg/L	5	262
TDS (Calc. from Cond.)	mg/L	3	330
Conductivity @25°C	uS/cm	1	636
pH @25°C	pH units	-	8.08
Colour	TCU	2	<2
Turbidity	NTU	0.1	2.5
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	23.3
Nitrate (N)	mg/L	0.05	0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	38
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.20
Dissolved Organic Carbon	mg/L	0.2	1.7
Hardness (as CaCO3)	mg/L	0.02	311
Calcium	mg/L	0.02	74.8
Iron	mg/L	0.005	0.214
Magnesium	mg/L	0.02	30.1



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

		Client I.D.	A360957
		Sample I.D.	24-033470-1
		Date Collected	2024-10-24
Parameter	Units	R.L.	-
Manganese	mg/L	0.001	0.009
Potassium	mg/L	0.1	4.2
Sodium	mg/L	0.2	8.0
Anion Sum	meq/L	-	6.68
Cation Sum	meq/L	-	6.67
% Difference	%	-	0.0348
TDS (Ion Sum Calc)	mg/L	1	336
Conductivity Calc	µmho/cm	-	620



Michelle Dubien
Data Specialist

C.O.C.: G 131064

REPORT No: 24-033583 - Rev. 0

Report To:

Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2024-Oct-25
DATE REPORTED: 2024-Nov-01
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 283258001
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2024-Oct-28	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2024-Oct-31	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Oct-29	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-25	ECTC-001	MECP E3407
DOC/DIC (Liquid)	1	OTTAWA	MMACMILLAN	2024-Oct-31	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2024-Oct-25	FC-001	SM 9222D
Ion Balance (Calc)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	APRUDYVUS	2024-Oct-31	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	KDIBBITS	2024-Oct-31	NH3-001	SM 4500NH3
Turbidity (Liquid)	1	OTTAWA	PLUSSIER	2024-Oct-29	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

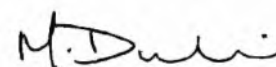


Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 24-033583 - Rev. 0

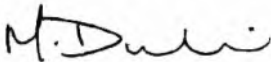
		Client I.D.	A360958
		Sample I.D.	24-033583-1
		Date Collected	2024-10-25
Parameter	Units	R.L.	-
Total Coliform (DC Media)	CFU/100mL	1	0
E coli (DC Media)	CFU/100mL	1	0
Background (DC Media)	CFU/100mL	1	6
Fecal Coliform	CFU/100mL	1	0
Alkalinity(CaCO3) to pH4.5	mg/L	5	260
TDS (Calc. from Cond.)	mg/L	3	349
Conductivity @25°C	uS/cm	1	672
pH @25°C	pH units	-	8.17
Colour	TCU	2	3
Turbidity	NTU	0.1	2.0
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	19.9
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	61
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.20
Dissolved Organic Carbon	mg/L	0.2	1.8
Hardness (as CaCO3)	mg/L	0.02	343
Calcium	mg/L	0.02	90.8
Iron	mg/L	0.005	0.131
Magnesium	mg/L	0.02	28.2



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

		Client I.D.	A360958
		Sample I.D.	24-033583-1
		Date Collected	2024-10-25
Parameter	Units	R.L.	-
Manganese	mg/L	0.001	0.144
Potassium	mg/L	0.1	8.0
Sodium	mg/L	0.2	39.8
Anion Sum	meq/L	-	7.02
Cation Sum	meq/L	-	8.80
% Difference	%	-	11.3
TDS (Ion Sum Calc)	mg/L	1	404
Conductivity Calc	µmho/cm	-	732



Michelle Dubien
Data Specialist

APPENDIX VII
Borehole Logs



Log of Borehole: BH1

Project #: 283258.002

Logged By: MK

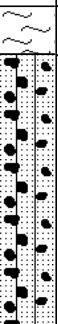
Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									□	20	40	60	Δ kPa Δ					
													100 200					
0		Ground Surface		No Monitoring Well Installed														
		Organics ~ 50 mm	0.00															
		Glacial Till Silty sand, some gravel, some clay, brown, damp, compact	0.05															
		End of Borehole	0.30															
		Borehole terminated at 0.30 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1

Log of Borehole: BH2

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

[illegible]

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH3

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									20	40	60	kPa						
0		Ground Surface	0.00	No Monitoring Well Installed														
		Organics ~ 75 mm	0.00															
		Glacial Till Silty sand, some gravel, some clay, brown, moist, loose	0.08		SS	1	20	7										
		End of Borehole	0.46															
		Borehole terminated at 0.46 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH4

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE												
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
									□	20	40	60	□	Δ	kPa	Δ	
0		Ground Surface		No Monitoring Well Installed													
		Organics ~ 75 mm	0.00														
		Glacial Till Silty sand, some gravel, some clay, brown, damp, compact	0.08		SS	1	30	22	□								
	End of Borehole	0.30															
	Borehole terminated at 0.30 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																	

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1

Log of Borehole: BH5

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

[illegible]

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH6

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									20	40	60	kPa						
0		Ground Surface		No Monitoring Well Installed														
		Organics ~ 75 mm	0.00															
		Glacial Till Gravelly, silty sand, trace clay, brown, damp, compact	0.08															
		End of Borehole	0.46															
		Borehole terminated at 0.46 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH7

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									20	40	60	kPa						
0		Ground Surface	0.00	No Monitoring Well Installed														
		Organics ~ 75 mm	0.00															
		Glacial Till Gravelly, silty sand, trace clay, brown, damp, compact	0.08		SS	1	40	15										
		End of Borehole	0.46															
		Borehole terminated at 0.46 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH8

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									20	40	60	kPa						
0		Ground Surface	0.00	No Monitoring Well Installed														
		Organics ~ 150 mm																
		Glacial Till Silty sandy gravel, trace clay, brown, damp, very dense	0.15		SS	1	80	95										
		End of Borehole	0.61															
		Borehole terminated at 0.61 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH9

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
0	  	Ground Surface		▶No MW Installed◀										7.2			Hyd.	
		Organics ~ 75 mm	0.00															
		Glacial Till Silty sandy gravel, trace clay, brown, damp, loose	0.08		SS	1	10	5										
		End of Borehole	0.15															
1		Borehole terminated at 0.15 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1



Log of Borehole: BH10

Project #: 283258.002

Logged By: MK

Project: Geotechnical Investigation

Client: 1503948 Ontario Inc.

Location: 9243 McArton Road, Almonte, ON

Drill Date: September 15, 2022

Project Manager: WT

SUBSURFACE PROFILE					SAMPLE													
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value			Shear Strength		Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis	
									20	40	60	Δ kPa	Δ					
0		Ground Surface		No Monitoring Well Installed														
		Organics ~ 150 mm	0.00															
		Glacial Till Silty sandy gravel, trace clay, brown, damp, dense	0.15		SS	1	60	31										
		End of Borehole	0.46															
		Borehole terminated at 0.46 mbgs due to auger refusal on probable bedrock. At drilling completion, groundwater was not encountered.																
1																		

Contractor: Canadian Environmental Drilling and Contractors Inc.

Grade Elevation: N/A

Drilling Method: Solid Stem Auger/Split Spoon

Top of Casing Elevation: N/A

Well Casing Size: N/A

Sheet: 1 of 1

APPENDIX VIII
Nitrate Attenuation Calculations

Nitrate Dilution Calculation

N-II System - 75% reduction in Nitrate in Effluent (10 mg/L)

Variable Description	Variable	Units	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10	Lot 11	Lot 12	Lot 13	Lot 14	Lot 15	Lot 16	Lot 17	Lot 18	Lot 19	Lot 20	Lot 21	Lot 22	Lot 23
Lots area		m ²	5,590	5,662	5,344	19,233	6,927	4,343	7,108	5,418	6,391	5,195	5,008	5,917	5,899	6,347	4,781	5,205	4,094	4,156	4,670	5,320	4,538	4,049	4,104
Nitrate Concentration of Infiltration	CI	mg/m ³	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Site Infiltration Qi = A*Pi (area*potential infiltration)	Qi	m ³ /yr	1484	1505	1415	5335	1862	1132	1913	1436	1710	1373	1320	1577	1571	1698	1256	1376	1062	1079	1225	1408	1187	1049	1065
Daily Sewage Volume per lot (4 bed/m)	Qd	m ³ /day	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Maximum Yearly Sewage Volume (wetter) Qm=365*Qd		m ³	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730	730
Infiltration volume associated with sewage effluent		m ³ /day	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Infiltration volume associated with sewage effluent	Qp	m ³ /yr	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365
Total yearly dilution Volume from sewage effluent		m ³ /yr	1849	1870	1780	5700	2227	1497	2278	1801	2075	1738	1685	1942	1936	2063	1621	1741	1427	1444	1590	1773	1552	1414	1430
Nitrate Concentration in Sewage	Ce	mg/m ³	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Allowable Nitrate Concentration at Boundary	Cb	mg/L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Max Observed Background Nitrate Concentration	Cb	mg/L	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Nitrate Concentration at Boundaries C = (QeCe+QCI)/(Qe+QI)-Cb	C	mg/L	3.13	3.11	3.21	1.81	2.80	3.59	2.77	3.19	2.92	3.26	3.32	3.04	3.05	2.93	3.41	3.26	3.71	3.68	3.45	3.22	3.51	3.74	3.71

lots area X potential infiltration

This volume of sewage effluent, if used as dilution water in mass balance calculations, should not exceed 1000L/day/lot.

SITE Potential Evapotranspiration

Period	Temperature		Annual Heat Index (I)	Potential Evapotranspiration			Annual PET (mm/yr)
	Monthly Mean T (°C)	i		Monthly PET (unadjusted)	Correction Factor	PET	
JAN	-10.0	0.00	37.88	0.00	0.80	0.00	603.03
FEB	-8.5	0.00		0.00	0.81	0.00	
MAR	-2.4	0.00		0.00	1.02	0.00	
APR	5.9	1.28		26.01	1.13	29.40	
MAY	13.6	4.55		65.03	1.28	83.23	
JUN	18.7	7.37		92.22	1.29	118.96	
JUL	21.2	8.91		105.62	1.31	138.63	
AUG	20.1	8.22		99.82	1.21	120.78	
SEP	15.3	5.44		73.99	1.04	76.95	
OCT	8.4	2.11		37.33	0.94	35.09	
NOV	1.7	0.00		0.00	0.79	0.00	
DEC	-5.8	0.00		0.00	0.70	0.00	
Annual	6.5						

PET unadjusted calculation

$$PET_{unadjusted} = 16 \left(\frac{10T}{T} \right)^4$$

Annual Heat Index

$$I = \sum (T/5)^{1.514}$$

$I =$ Sum of monthly i values

Calculation of 'a' (exponent in PET calculation)

$$a = (6.7 \times 10^{-4} T^2) - (7.71 \times 10^{-4} T) + (0.01792 T) + (0.49239)$$

$$a = 1.10$$

PET Correction Factor by Latitude

Latitude (°)	J	F	M	A	M	J	J	A	S	O	N	D
10	1.04	0.94	1.04	1.01	1.04	1.01	1.04	1.04	1.03	1.04	1.01	1.04
20	1.09	0.91	1.02	1.03	1.06	1.06	1.08	1.07	1.02	1.02	0.98	0.99
30	0.95	0.99	1.03	1.05	1.12	1.11	1.14	1.11	1.02	1.09	0.93	0.94
40	0.86	0.87	1.03	1.06	1.18	1.17	1.29	1.14	1.02	0.98	0.89	0.88
50	0.87	0.85	1.03	1.09	1.21	1.21	1.23	1.16	1.03	0.97	0.86	0.83
60	0.81	0.83	1.03	1.11	1.26	1.25	1.27	1.18	1.04	0.96	0.81	0.81
70	0.80	0.81	1.02	1.13	1.26	1.29	1.31	1.21	1.04	0.94	0.79	0.75
80	0.74	0.78	1.02	1.15	1.35	1.36	1.37	1.25	1.06	0.92	0.76	0.70

Table 3.14: Adjustment Factors for Temperature Values of T_p

SITE INFILTRATION

Period	Monthly Precipitation (mm)	
	OTTAWA AP	
JAN	80.4	
FEB	63.3	
MAR	64.4	
APR	83.2	
MAY	85.3	
JUN	94.8	
JUL	97.2	
AUG	82.6	
SEP	98.9	
OCT	99.5	
NOV	81.9	
DEC	76.8	
Annual		1006.3

Infiltration Factor	
Topography	0.3
Soils	0.3
Cover	0.2
TOTAL =	0.7

Potential Infiltration
 $PI = (\text{Precipitation} - PET) \times \text{Infiltration Coefficient}$
 $PI = 282.3 \text{ mm/yr}$

Infiltration Factor

Table 2: Infiltration Factors	
Description of Area/Development Site	Value of Infiltration Factor
TOPOGRAPHY	
Flat land, average slope not exceeding 0.6 m per km	0.30
Rolling land, average slope of 2.5 m to 3.5 m per km	0.20
Hilly land, average slope of 28 m to 47 m per km	0.10
SOIL	
Tight impervious clay	0.10
Medium combinations of clay and loam	0.20
Open sandy loam	0.4
COVER	
Cultivated lands	0.1
Woodland	0.2

LOT Areas	Units	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10	Lot 11	Lot 12	Lot 13	Lot 14	Lot 15	Lot 16	Lot 17	Lot 18	Lot 19	Lot 20	Lot 21	Lot 22	Lot 23
Total	m ²	5,590	5,662	5,344	19,233	6,927	4,343	7,108	5,418	6,391	5,195	5,008	5,917	5,899	6,347	4,781	5,205	4,094	4,156	4,670	5,320	4,538	4,049	4,104
Impervious - House	m ²	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232	232
Impervious - Lane	m ²	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Lawn/other	m ²	5258	5330	5012	18901	6595	4011	6776	5086	6059	4863	4676	5585	5567	6015	4449	4873	3762	3824	4338	4988	4206	3717	3772

LOT Infiltration	Units	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10	Lot 11	Lot 12	Lot 13	Lot 14	Lot 15	Lot 16	Lot 17	Lot 18	Lot 19	Lot 20	Lot 21	Lot 22	Lot 23
AREA	m ²	5258	5330	5012	18901	6595	4011	6776	5086	6059	4863	4676	5585	5567	6015	4449	4873	3762	3824	4338	4988	4206	3717	3772
Infiltration	m ³ /yr	1484	1505	1415	5335	1862	1132	1913	1436	1710	1373	1320	1577	1571	1698	1256	1376	1062	1079	1225	1408	1187	1049	1065
Volume	L/yr	1484058	1504583	1414816	5335483	1861675	1132248	1912768	1435705	1710369	1372756	1319968	1576566	1571485	1697949	1255889	1375578	1061959	1079461	1224556	1408041	1187294	1049256	1064782