GROUNDWATER SCIENCE CORP.

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Water Supply and Nitrate Loading Assessment
Audrey Meadows Development
Concession 8, Part Lots 17 to 19
Puslinch Township
Wellington County

Prepared For:

Audrey Meadows Ltd.

Provided To:

Stovel and Associates Inc.
651 Orangeville Road
Fergus, Ontario
N1M 1T9

Prepared By:

Andrew Pentney, P.Geo.
Groundwater Science Corp.

July 2025

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1.0 INTRODUCTION

This report presents the results of a hydrogeologic assessment completed on behalf of Audrey Meadows Ltd. for the proposed Audrey Meadows residential development. The development lands in question are within Concession 8, Part Lots 17 to 19, Township of Puslinch. The site location is shown on **Figure 1**.

1.1 BACKGROUND AND OBJECTIVES

The development lands are immediately adjacent to, and north of, the existing Audrey Meadows subdivision. The existing subdivision consists of 49 residential lots within an approximate 27 hectare (ha) area. Lot sizes vary from approximately 0.36 to 0.62 ha. Residential house construction and occupation began in 2009, and continues to date. Currently there are 46 completed residences, each with an individual water well and tertiary treatment septic system.

The proposal extends the existing subdivision northward onto the remaining land parcel, which is approximately 11.8 ha in size in total. The development proposal and final lot fabric has not yet been determined, however for the purpose of this assessment it is assumed that the proposal could include up to 28 new lots. The continued development would also use individual water supply wells and tertiary treatment septic systems at each new lot.

This water supply and nitrate loading assessment was completed according to Ontario Ministry of the Environment, Conservation and Parks Procedure D-5-5: Technical Guideline for Private Wells: Water Supply Assessment (August 1996), and, Procedure D-5-4: Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment (August 1996). This assessment expands upon a preliminary letter report provided on December 20, 2021 (*Audrey Meadows Subdivision Nitrate Impact Analysis and Water Supply Assessment*, Groundwater Science Corp.) for this development.

2.0 METHODOLOGY

This assessment included a background information review to characterize the local setting and the use of standard field and analysis methods for the site characterization and impact assessment.

2.1 INFORMATION REVIEW

Regional to local geologic and groundwater information is available from published information, reports and mapping. Site specific information is available from the geotechnical assessment completed for the development and from assessments completed regarding the existing development lands.

As part of this study the following information sources were used:

1) CMT Engineering Inc., June 25, 2025; *Geotechnical Investigation, Proposed Audrey Meadows Estates Subdivision Phase 2, Victoria Street South, Puslinch, Ontario*.

2) Groundwater Science Corp., December 20, 2021; *Audrey Meadows Subdivision Nitrate Impact Analysis and Water Supply Assessment*.

3) Stovel and Associates Inc., 2023; *Part of Lot 12, Concession 7, Belwood, Wellington County, Environmental Impact Study* (EIS).

4) Hydrogeology Consulting Services (HCS), April 9, 2021: *2019-2020 Annual Report, Groundwater And Surface Water Monitoring Program, Audrey Meadows Subdivision, Lot 18 & 19, Concession 8, Township of Puslinch, Ontario*.

5) Grand River Conservation Authority (GRCA), Grand River Information Network (GRIN) interactive mapping application, available at: *https://www.grandriver.ca/en/our-watershed/Maps-and-data.aspx.*

6) Ministry of the Environment Conservation and Parks (MECP) published Water Well Records, available at: *https://www.ontario.ca/page/map-well-records*.

7) Ministry of the Environment Conservation and Parks (MECP) Source Protection Atlas interactive mapping application, available at: *https://www.ontario.ca/page/source-protection*.

8) Ontario Geological Survey OGSEarth published geological mapping (KML files viewed on Google Earth); available online at: *http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth*

9) Geographic Data Information obtained through Land Information Ontario (LIO) and licensed under the Open Government Licence – Ontario; available online at: *https://geohub.lio.gov.on.ca/*

Additional general references used are noted in the text of this report.

2.2 FIELD WORK

As part of this study field work was undertaken to assess water supply potential at the site. The field work undertaken included:

- drilling 3 test wells (completed by Jim Wilson Well Drilling as arranged by Audrey Meadows Ltd.);
- 6 hr pump tests at each of the 3 test wells (completed by Jim Wilson Well Drilling as arranged by Audrey Meadows Ltd.);
- water level monitoring at the 3 test wells, 2 existing subdivision wells and 3 on-site shallow overburden monitors; and,
- water quality sampling at the 3 test wells at the completion of pump testing.

The specific field methodologies used are summarized in more detail in each of the respective sections of this report.

3.0 INFORMATION REVIEW

3.1 SITE TOPOGRAPHY AND DRAINAGE

According to topographic surveys completed at the site (see Triton Engineering *Existing Elevation Plan*), topography within the subject development area varies from a high of approximately 340.7 to 343.5 metres above sea level (mASL) along a north-south trending knoll/ridge system bisecting the property, to 329.3 mASL near the south corner of the proposed development area.

3.2 SURFICIAL GEOLOGY

The study site is located at the southern edge of the Paris Moraine, as defined by available Quaternary (geology) mapping. Surficial soils are described as (Wentworth) Till (stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain). Additional surficial soils information is provided within the geotechnical report.

3.3 GEOTECHNICAL STUDY RESULTS

The geotechnical report, completed by CMT Engineering, included 34 shallow (overburden) boreholes, 17 of which were completed as monitoring wells. The boreholes ranged from 1.9 to 7.6 m in depth. The CMT borehole and monitor location map, and borehole logs, are included in **Appendix A**.

The drilling results indicate that the shallow overburden consists primarily of silty sand to silty sand and gravel, with layers of sand to sand and gravel. Clayey silt till was encountered at depth. Consistent with the existing subdivision area, and as reported by local water well records, the till unit extends to bedrock.

3.4 BEDROCK GEOLOGY

The bedrock subcropping this area is reported to consist of the dolostone of the Guelph Formation. The Guelph Formation is part of a thick, regionally extensive, aquifer system (formerly characterized as the Guelph-Amabel aquifer) that includes underlying bedrock units generally consisting of the Eramosa Formation, Goat Island Formation and Gasport Formation (as currently identified). The Eramosa formation is thought to form a regional aquitard layer that separates the overlying Guelph Formation aquifer and the underlying Goat Island/Gasport Formation aquifers.

This aquifer system is utilized for private water supply within the existing subdivision and surrounding rural residential/farm properties.

3.5 WELL RECORD INFORMATION

As part of the December 2021 assessment reported water well records for all 51 properties between the site and Mill Creek (all downgradient properties including the existing 49 lot subdivision, plus single lots at 4550 and 4506 Victoria Road South), were reviewed.

As shown on **Figure 2**, a total of 44 records were correlated to specific addresses using well record location maps, noted subdivision plan lot, or, reported 911 address numbers. Within the subdivision 3 lots have not yet been developed. One lot (80 Old Ruby Lane) corresponds to an original farm house currently used as a site office. The office is supplied by a drilled well (reported to date from the 1960's), however no well record is available.

Well records could also not be located for two additional residences (43 Old Ruby Lane, and 91 Old Ruby Lane). The most recent well drilled within the subdivision is located at 71 Old Ruby Lane, a copy of that well record is included in **Appendix B**.

According to the well record information, all of the 44 wells reviewed were completed in the bedrock aquifer at depths between 11.6 and 43.6 m. At almost all locations the predominant overburden material was described as including "clay" (assumed to be representative of Till). Sand and gravel is occasionally noted over bedrock, however at those locations a significant thickness (5.5 m or more) of clay till occurs at surface.

The well records indicate that the bedrock wells are highly productive, with reported pumping rates from 38 to 114 Litres per minute and limited drawdown (maximum reported drawdown 4.3 m however over 90% of wells having less than 1 m drawdown). Calculated specific capacities are all above 12 L/min/m and commonly range above 90 L/min/m.

In general, the water well record review indicates that the main water supply source in this area is the bedrock aquifer. The bedrock in this area is confined, overlain by clayey overburden that is generally over 10 m, and may be up to 42 m, thick. Since about 1955 reported static levels have remained within a relatively consistent range, indicating no long-term decline in potentiometric levels within the bedrock system.

3.6 SOURCE PROTECTION CONSIDERATIONS

There is no Well Head Protection Area or Intake Protection Zone identified at the site or in the vicinity of the proposed development. Select Source Protection figures are included in **Appendix C** for reference.

The site is mapped as part of a Significant Groundwater Recharge area. However, given the presence of till at depth, actual recharge contribution to regional groundwater flow systems (i.e. that support municipal water taking at distance) will likely be marginal.

The site is identified within an area of low intrinsic groundwater vulnerability. The site is also not within any identified Wellhead Water Quantity Zone.

4.0 FIELD WORK

The field work undertaken corresponds to the work plan as provided to Harden Environmental Services Limited, acting on behalf of the Township of Puslinch, in an email dated June 10, 2025. A copy of the email chain indicating agreement with the well testing scope is included in **Appendix D**.

4.1 OBSERVATION WELL MONITORING

Prior to the pump testing program several of the CMT Engineering geotechnical monitoring wells were located and assessed for monitoring purposes. Many of the shallow geotechnical wells were "dry", however 3 wells (BH2, BH22 and BH24) which intercepted the water table in the area of the new test wells were chosen for monitoring. The location of the 3 overburden wells monitored is shown on **Figure 3**. Well logs are included in **Appendix A**.

In addition, 2 private bedrock water supply wells within the existing subdivision were made available for pump test monitoring. The wells are located at 9 Old Ruby Lane (WWR#7285585) referenced as the Lot 1 Well, and, 71 Old Ruby Lane (Tag#A409199), referenced as the Lot 23 Well. The respective well records for the 2 bedrock observation wells are included in **Appendix B**. The locations are shown on **Figure 3**.

Water level monitoring at observation wells included continuous measurements using dataloggers (5 minute intervals), and manual measurements at deployment and removal.

4.2 TEST WELL DRILLING

As per Procedure D-5-5, based on the development area (11.8 ha) a total of 3 domestic water supply test wells were drilled on the property in June 2025 by Jim Wilson Water Well Drilling Ltd. These wells were then pump tested by Jim Wilson Water Well Drilling Ltd., as described in **Section 4.3**. The test well locations are shown on **Figure 3**. Copies of the water well records for each well are included in **Appendix B**.

The wells were drilled using the air rotary method and constructed with nominal 15 cm (6 inch) diameter casings set into the upper Guelph Formation bedrock. This is consistent with the current Township of Puslinch request (per Harden Environmental Services Limited) that open hole well construction does not extend over the Eramosa Formation (aquitard) and create a vertical connection between the Guelph Formation aquifer and the Goat Island/Gasport Formation aquifer. The test well drilling results and construction details are summarized in **Table 1**.

Well #	Tag#	Depth (mBGS)					Rate (LPM)
		Static	Bedrock	Casing	Water Found	Total	
TW1	A429779	4.88	26.82	27.13	27.43	27.43	56.8
TW2	A429780	10.06	27.43	29.87	30.48	30.48	56.8
TW3	A429781	9.14	28.96	34.14	35.66	35.66	56.8
mBGS = metres below ground surface LPM = Litres Per Minute							

Table 1: Test Well Drilling Summary

The overburden encountered at the test well drilling locations was described as consisting primarily of clay, with some sand/gravel/stones present (i.e. till). Bedrock was encountered at depths between 27 and 29 m, indicating a thick till sequence occurs over the bedrock aquifer. Static levels are above the bedrock surface, indicating the aquifer is a confined system at the site.

The drilling results indicate that the bedrock aquifer system at the site is suitable for private wells, is relatively "protected" by the confining overburden sequence and provides sufficient water supply for typical residential use.

4.3 PUMPING TEST PROGRAM

The 3 bedrock test wells were pump tested by Jim Wilson Water Well Drilling Ltd. between July 7th and 14th, 2025 (testing period).

Each well was pumped for 6 hours (per Jim Wilson Water Well Drilling Ltd) using a submersible pump installed for that purpose at rates that were based on well capacity determined during the airlift development process. Pumping rates were measured using an inline flow meter. Water taking volumes remained below 50,000 Litres per day.

Pumped water was discharged to surface, into either roadside ditches along Old Ruby Lane or Victoria Road, or within the same ownership parcel outside of the development area (i.e. at distance from each well). We note that no recirculation effects were noted in the observed response, and none would be expected given the thick (27 m or more) till layer over bedrock at the site.

The pumping test program is summarized in **Table 2**.

Well	Rate (LPM)	Test Date	Test Start	Note
TW1	60.6	July 9, 2025	9:10 am	water quality sample at 2:30 pm
TW2	60.6	July 11, 2025	830 am	water quality sample at 1:00 pm
TW3	68.1	July 14, 2025	8:00 am	water quality sample at 12:00 pm

Table 2: Pump Test Summary

Dataloggers were installed in the pumping wells on July 7th, 2 days prior to the first test. The dataloggers were removed on July 15th, 1 day after the last test.

Dataloggers were installed in the (private water well) bedrock observation wells on the day of the first test and removed on July 15th.

Dataloggers were installed in the on-site overburden monitoring wells on July 7th and removed on July 15th.

The water level monitoring results are summarized as a series of hydrographs for both test and observation wells in **Appendix E**. The pump test results are further discussed in **Section 5**.

Water samples were obtained from the end of the discharge hose near the end of each well test. The samples were collected in bottles provided by the laboratory (ALS Labs, Waterloo) and were submitted for analysis on the same day. The samples were analyzed

for the ALS potability package. The metals samples were unfiltered and therefore represent total metals. The water quality analysis, including relevant results compiled within a summary table and respective laboratory reports, can be found in **Appendix F**.

5.0 DATA INTERPRETATION

5.1 PUMP TEST ANALYSIS

The total drawdown for each test, as observed at monitored locations, is summarized in **Table 3**.

Monitored Location	Well Type	Drawdown Response (m) to Pump Test At:		
		TW1	TW2	TW3
TW1	bedrock	0	0	0
TW2	bedrock	0	0	0
TW3	bedrock	0	0	0
Lot 1 Well	bedrock	0	0	0
Lot 23 Well	bedrock	0	0	0
BH2	overburden	0	0	0
BH22	overburden	0	0	0
BH24	overburden	0	0	0

Table 3: Drawdown Summary

As shown on the hydrographs and summarized above, no drawdown was observed at either the pumping wells or the observation wells. Therefore, no drawdown or recovery analysis was completed. The testing confirms the high water supply capacity of the bedrock system at the site, consistent with the successful development of 44+ private water supply wells within the existing development area and surrounding lands.

5.2 BEDROCK (WATER SUPPLY) AQUIFER WATER QUALITY

Water quality sampling at the test wells provides a detailed assessment of the bedrock aquifer water quality in this area. In general, the water quality is considered good with almost all health related drinking water criteria met. The water is somewhat hard, however has very low nitrate concentrations (in the range of 1 mg/L).

The exceptions relate to bacteriological test results, which show elevated total coliforms at each well, and a positive E.Coli result at TW1. We note that given the pumping and sampling configuration (well development limited to sand-free state and samples obtained at the end of the discharge hose), the presence of some bacteria at this stage is not unusual. We recommend: typical required pump installation practices be utilized, including well chlorination and purge at the time of installation; continued well pumping and development after pumping equipment is installed; and, bacteriological sampling (free Public Heath Unit potability test) be completed by the homeowner prior to use and regularly afterward (per standard recommended practice).

Overall water quality is typical for bedrock aquifers in this area of Southern Ontario.

6.0 IMPACT ASSESSMENT

In order to address initial development requirements, and to show the feasibility of the proposal, this impact assessment is intended to address MECP Procedure D-5-5: Technical Guideline for Private Wells: Water Supply Assessment (August 1996); and, Procedure D-5-4: Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment (August 1996). In the context of the proposed development Procedure D-5-4 is essentially a septic system nitrate loading assessment.

6.1 WATER SUPPLY

We note that the pumping tests were completed for extended periods at rates well above typical expected residential water taking, therefore are a very conservative assessment of potential water supply interference. Procedure D-5-5 specifies a minimum test rate of 13.7 L/min, and, a test rate of 3.75 L/min/person within the expected household. The procedure states number of persons is estimated as the number of bedrooms plus one. Assuming the proposed residential dwellings have 4 bedrooms a test rate of 18.75 L/min would be required. The pumping test rates at the 2025 test wells exceeded the MECP requirements.

As indicated by **Table 3**, the pumping tests indicate that no significant interference can be expected due to the proposed water supply wells within the development, either on-site at newly constructed wells, or off-site at existing wells in the area.

The test well water quality sampling results indicate that the bedrock aquifer in this area can provide good potable water to the development. The thick till aquitard system in the area of the site protects the bedrock aquifer from surficial influences.

The existing development is a model of the water supply capability and sustainability of the bedrock aquifer in this area.

6.2 NITRATE LOADING

As part of the original (December 2021) impact assessment the development was assumed to consist of 22 lots. The current proposal may include more lots (up to 28), therefore the nitrate loading calculation was revised, as discussed below.

MECP Procedure D-5-4 (*Technical Guideline For Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment*, August 1996) indicates that for the proposed development a 3 step process is appropriate, consisting generally of:

1. Determination of lot size.
2. System isolation identification.
3. Contaminant attenuation (risk) assessment.

We note that this is a risk assessment, and not a predictor of actual nitrate concentrations in the groundwater system. This type of methodology acknowledges that it does not account for all dilution and denitrification processes, and therefore we can consider the method as an approximation that allows for relative risk to be determined. If the nitrate loading calculation has a result of 10 mg/L (drinking water limit) or less, the “risk” of associated environmental impact to groundwater systems associated with the proposed development is considered relatively low.

Lot Size

Given that the total development area is 11.8 ha, and up to 28 lots may be included, we can assume the proposed lots are less than 1 ha. Therefore, system isolation should be considered as the next "step" in the assessment process.

System Isolation

System isolation can be considered in the context of the hydrogeologic setting.

The shallow water table system is the primary "receiver" for septic system impacts. The water table system flows southward, below the existing subdivision, and is expected to discharge to the surface water system.

Overall vertical flow through the till layer to the bedrock system will be limited due to the geologic setting. The till sequence will promote horizontal flow within any shallow (water table) flow systems associated with either sand/gravel or weathered till horizons at, or near surface.

Each house between the proposed development and Mill Creek to the south (e.g. within the existing subdivision and residential lots on Victoria Road South) is reportedly serviced by a bedrock well. Based on the water well information review, the primary water source, and recommended water supply aquifer for this development, is the confined bedrock system. The bedrock aquifer is protected by the overlying till sequence. Therefore, the water supply aquifer in use in the area, and proposed to be used at the site, is relatively isolated from septic system impacts.

The private well water quality sampling, as outlined in the December 2021 report and completed for this assessment, confirms that the bedrock aquifer is relatively isolated from nitrate loading impacts associated with both local agricultural loading and local septic system use.

Based on system isolation considerations, and assuming well construction meets applicable provincial regulations and standards, local bedrock water supplies are interpreted to be at relatively low "risk" from septic loading impacts within the overburden system due to the proposed development. However, for completeness a contaminant attenuation assessment is also provided.

Contaminant Attenuation Assessment

The following nitrate loading calculation (predictive assessment) is provided as part of the risk assessment. It is our understanding that tertiary treatment septic systems are in use within the existing subdivision and are proposed as part of this development. As noted above, the shallow water table system is the primary receptor of septic loading impacts, however consideration is also given to any potential vertical migration to the deeper bedrock aquifer system.

Based on the test well sampling results, the bedrock system at the site has a baseline (background) nitrate concentration of approximately 1 mg/L. As noted in the December 2021 hydrogeological assessment, sampling indicates that the overburden system within the existing developed lands has a baseline nitrate concentration ranging from of approximately <0.1 mg/L to 3.6 mg/L. The overburden sampling results also indicate the

existing development has decreased nitrate loading as compared to surrounding lands in agricultural use.

Based on 28 (maximum) proposed residential lots, each with individual tertiary treatment septic systems (1,000 L/day) achieving 10 mg/L nitrate concentration at the septic bed, the daily nitrate loading would be expected to be 280,000 mg/day. As shown in the December 2021 assessment existing site recharge is estimated to be 0.357 m/yr over 11.8 ha. Assuming that recharge is maintained post development, and incorporating septic volumes, total site recharge would be 143,414 L/day. Therefore, expected maximum potential nitrate loading due to the proposed development would result in nitrate concentrations of 2.0 mg/L at the water table. Based on baseline nitrate concentrations of 3.6 mg/L in the overburden and 1.0 mg/L in the bedrock aquifer, the overall final nitrate concentration at the site, assuming a maximum 28 potential lots, would be much less than the risk assessment criteria of 10 mg/L. Fewer lots would have a reduced impact potential, and would therefore also meet the risk assessment criteria.

We note that repeating the calculation assuming standard nitrate concentrations of 30 mg/L at each septic bed would result in a nitrate concentration of 5.9 mg/L, which would also satisfy the risk assessment criteria when considering background levels. Therefore, the absolute effectiveness of proposed tertiary treatment systems is not critical at this site, any effective reduction in nitrate concentrations would help mitigate potential for impact. Any reduction in lots (below the 28 lot maximum considered for this calculation) would result in reduced impacts.

The predictive assessment calculations indicate that the proposal satisfies the MECP Procedure D-5-4 septic loading risk assessment criteria. Given that additional dilution and can be expected if groundwater does move vertically to depth, both within the overburden aquitard and due to aquifer flow, potential impact to the bedrock water supply aquifer supplying both existing and planned new wells is projected to be low.

Procedure D-5-4 also indicates that where existing development has occurred monitoring assessments can be considered. While the current site sampling (see December 2021 assessment) does not constitute a full seasonal monitoring assessment, the results do confirm that the existing development does not have a negative impact on either the bedrock water supply aquifer or on the shallow water table flow system between the subdivision and Mill Creek. Based on site water quality monitoring (see December 2021 report), overall nitrate concentrations are observed to decrease from the active agricultural area (proposed development) to the existing subdivision. Therefore, the same can be expected as land use changes from agricultural to residential within the propose development.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the hydrogeologic assessment, the proposed Audrey Meadows development site is suitable to support a subdivision of up to 28 lots using private water wells and private sewage systems with tertiary treatment without causing impact to the local groundwater resources or natural heritage features.

The following recommendations are made with respect to the proposed development:

- Tertiary sewage treatment systems are to be provided to residences constructed as part of the proposed development.
- Private water wells servicing the proposed development are recommended to be completed within the bedrock aquifer and constructed according to all applicable regulations. As per Township of Puslinch requests, well drillers should either complete wells in the Guelph Formation, or in the Goat Island/Gasport Formation with the well casing extending through the Eramosa Formation.
- At the time of residential pump installation all applicable regulations should be followed, including well chlorination and purge in order to provide some additional well development.
- Homeowners should complete bacteriological sampling using the free Public Heath Unit potability test prior to well use and regularly afterward (per standard recommended practice). Public Health Unit instructions issued after sampling should be followed.

All of which is respectfully submitted,

Andrew Pentney, P.Geo.
Senior Hydrogeologist
Groundwater Science Corp.

Figures

Grand River
Conservation Authority
Date: Jun 04, 2021

Figure 1:
Proposed Development
Site Location

Legend

- Municipal Boundary (GRCA)
- Watercourse - Local (GRCA)
- Parcel - Assessment Public (MPAC/MNRF)
- Waterbody - Local (GRCA)
- Great Lakes - Local (GRCA)

Audrey Meadows
Nitrate Impact Analysis and
Water Supply Assessment
.
Groundwater Science Corp.
.
Modified From:
GRCA as noted below

0 70 140 280 420 Metres

N

Map Centre (UTM NAD83 z17): 568,990.78 4,815,911.29

This map is not to be used for navigation | 2015 Ortho (ON)

NAD 1983 UTM Zone 17N

Scale: 12,260

Site (approximate)

water well location confirmed

other well record locations matched to lot

air photo: GRCA

Modified from: geographic data obtained through Land Information Ontario

July 2025

Scale: as shown

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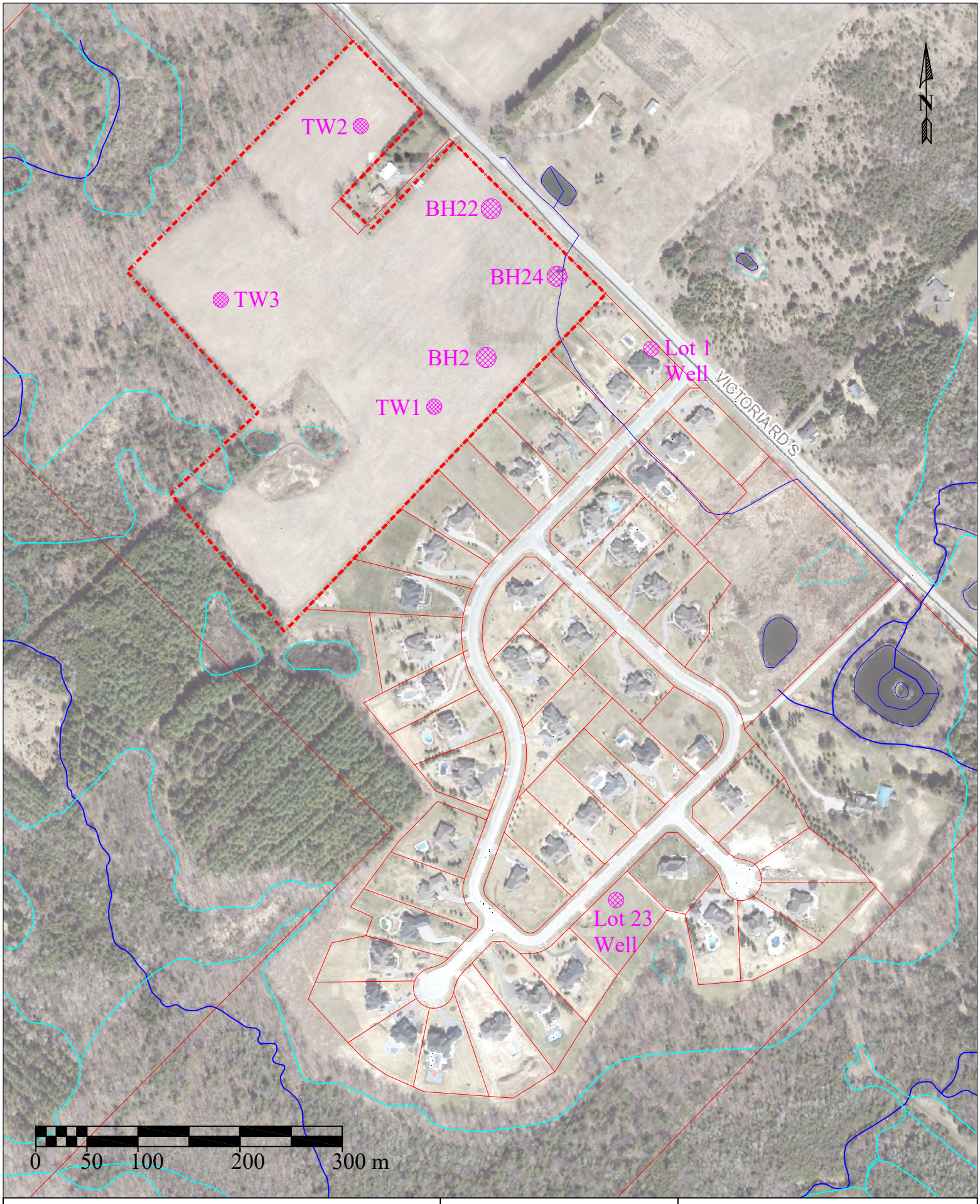
Figure 2: Private Well Record Information

Audrey Meadows Development

Nitrate Loading and Water Supply



Site (approximate)

monitoring location and reference

air photo: GRCA

Modified from: geographic data obtained through Land Information Ontario

July 2025
Scale: as shown

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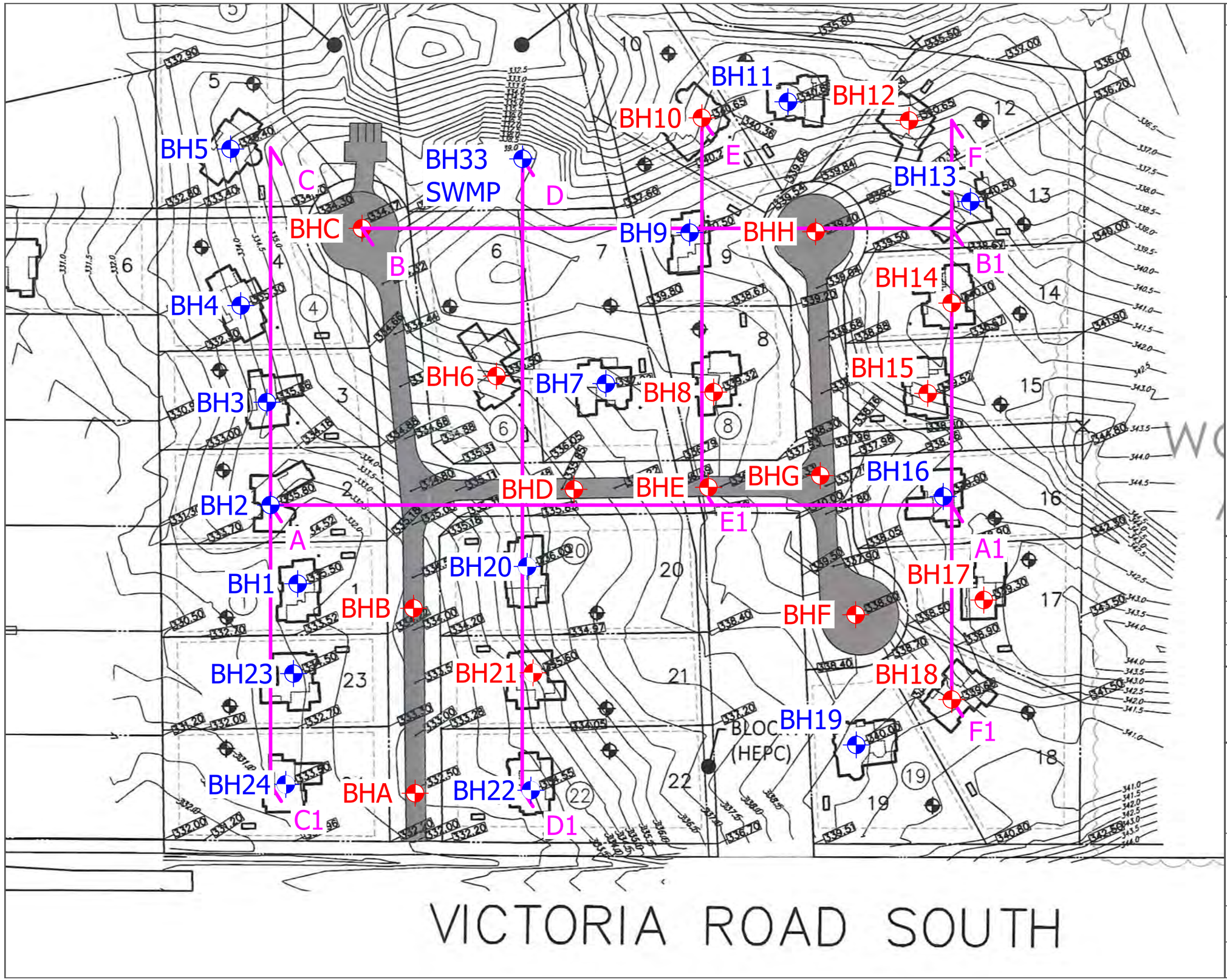
Figure 3: Monitoring Locations

Audrey Meadows Development
Nitrate Loading and Water Supply

Appendix A
Geotechnical Report Excerpts



NOTES:

1. DRAWING PROVIDED BY CLIENT.

CMT Borehole - 2025

CMT Borehole/Monitoring Well - 2025

N

NO.	DESCRIPTION	DATE

REVISIONS

CMT ENGINEERING INC.
1011 Industrial Crescent, Unit 1
St. Clements, Ontario N0B 2M0
Tel.: 519-699-5775
Fax: 519-699-4664
www.cmtinc.net

PROJECT:
Geotechnical Investigation
Audrey Meadows Estates Subdivision
Phase 2
Victoria Road South,
Puslinch, Ontario

DRAWING TITLE:
PROPOSED SITE PLAN SHOWING APPROXIMATE BOREHOLE LOCATIONS AND CROSS SECTIONS

PROJECT NO.:	DATE:
25-111	June 3, 2025
SCALE: N.T.S.	DRAWING NO. 4

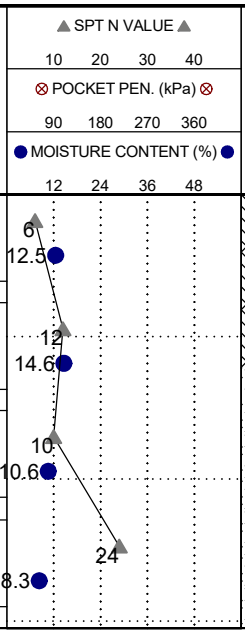
CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

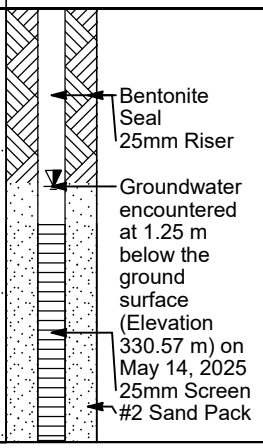
BOREHOLE NUMBER BH1

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 331.82 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (275 mm)	0.00, 331.82	SPT 1	54	2-2-4-2 (6)
	SILTY SAND: Loose, dark brown, silty sand, trace organics, moist	0.28, 331.55			
1	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, wet	0.76, 331.06	SPT 2	75	1-3-9-8 (12)
	SILTY SAND: Compact, greenish brown, silty sand, trace gravel, wet	0.81, 331.01			
	becoming brown, saturated	1.52, 330.30	SPT 3	100	2-3-7-7 (10)
2	becoming wet	1.73, 330.09			
			SPT 4	46	5-12-12-19 (24)
3					

Bottom of borehole at 3.05 m, Elevation 328.77 m.





BOREHOLE LOG WITH WELL2 25-111.GPJ CMT_TEMPLATE_2020-05-15.GDT 25-5-27

CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BH2

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 332.53 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (300 mm)	0.00, 332.53					
	SILTY SAND: Compact, brown, silty sand, trace gravel, moist	0.30, 332.23	SPT 1	49	1-2-2-1 (4)	4	Bentonite Seal 25mm Riser
1			SPT 2	100	5-9-5-5 (14)	14, 12.4	#2 Sand Pack
	becoming wet	1.52, 331.01	SPT 3	46	4-3-7-7 (10)	10, 12.3	Groundwater encountered at 1.72 m below the ground surface (Elevation 330.81 m) on May 14, 2025
2	**SAND AND GRAVEL:** Loose, brown, sand and gravel, some silt, trace clay, saturated	2.29, 330.24					
		2.44, 330.09	SPT 4	33	6-4-2-16 (6)	6, 9.3	
3	**SILTY SAND:** Loose, brown, silty sand, trace gravel, wet	2.73, 329.80					
	becoming compact						25mm Screen
	Bottom of borehole at 3.05 m, Elevation 329.48 m.						

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BOREHOLE NUMBER BH3

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 333.44 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (400 mm)	0.00, 333.44	SPT 1	67	1-1-1-1 (2)	2
	SILTY SAND: Compact, brown, silty sand, trace gravel, moist	0.40, 333.04				
1	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, wet	0.89, 332.55	SPT 2	49	2-7-7-5 (14)	14, 10
	SILTY SAND: Compact, brown, silty sand, trace gravel, wet	0.94, 332.50				
2			SPT 3	100	3-7-6-5 (13)	13, 13
	SAND AND GRAVEL: Very dense, brown, sand and gravel, some silt, trace clay, saturated	2.29, 331.15	SPT 4	41	16-16-50 (66)	>>, 6.4
3						

Bottom of borehole at 3.05 m, Elevation 330.39 m.

WELL DIAGRAM: 25mm Riser; Bentonite Seal; #2 Sand Pack; 25mm Screen; Groundwater encountered at 2.84 m below the ground surface (Elevation 330.60 m) on May 14, 2025

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BOREHOLE NUMBER BH4

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 333.49 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (275 mm)	0.00, 333.49	SPT 1	46	1-1-1-1 (2)	2	25mm Riser
	SILTY SAND AND GRAVEL: Loose, brown, silty sand and gravel, moist	0.28, 333.22					Bentonite Seal
1	becoming compact	0.76, 332.73	SPT 2	46	8-6-10-13 (16)	16, 5.9	
	SILTY SAND: Compact, brown, silty sand, trace gravel, wet	1.57, 331.92	SPT 3	87	7-6-7-8 (13)	13, 18.1	#2 Sand Pack
2	**SILT:** Compact, light brown, silt, some clay and sand, trace gravel, wet	2.29, 331.20	SPT 4	100	4-5-5-11 (10)	10, 18	25mm Screen
3	**SILT AND SAND:** Compact, brown, silt and sand, trace clay, wet	2.88, 330.61					Groundwater encountered at 2.89 m below the ground surface (Elevation 330.60 m) on May 14, 2025
	Bottom of borehole at 3.05 m, Elevation 330.44 m.						

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BOREHOLE NUMBER BH5

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 334.38 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (200 mm)	0.00, 334.38	SPT 1	59	1-1-2-3 (3)
	SILTY SAND: Very loose, brown, silty sand, with organics, moist	0.20, 334.18			
1	**SILTY SAND:** Compact, brown, silty sand, trace gravel, moist	0.76, 333.62	SPT 2	70	5-5-5-6 (10)
	becoming wet	1.83, 332.55	SPT 3	100	7-5-5-7 (10)
2	becoming dense	2.29, 332.09	SPT 4	87	6-12-21-25 (33)
	CLAYEY SILT TILL: Dense, brown, clayey silt till, trace sand and gravel, moist	2.62, 331.76	SPT 5	100	14-21-19-21 (40)
3					

Bottom of borehole at 3.66 m, Elevation 330.72 m.

SPT N VALUE
10 20 30 40
POCKET PEN. (kPa)
90 180 270 360
MOISTURE CONTENT (%)
12 24 36 48

WELL DIAGRAM
- Bentonite Seal
- 25mm Riser
- #2 Sand Pack
- 25mm Screen
- Groundwater encountered at 3.19 m below the ground surface (Elevation 331.19 m) on May 14, 2025

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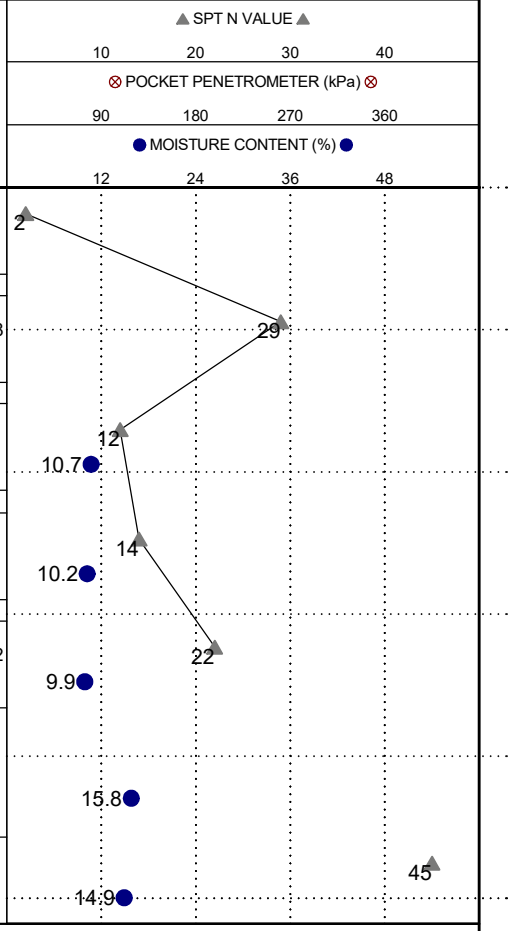
BOREHOLE NUMBER BH6

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 337.35 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
		TOPSOIL: Loose, dark brown, silty organic topsoil, moist (350 mm)	0.00, 337.35	SPT 1	59	1-1-1-1 (2)
		SILTY SAND: Very loose, dark brown, silty sand, moist	0.35, 337.00			
1		**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	0.81, 336.54	SPT 2	30	8-16-13-8 (29)
		SILTY SAND: Compact, brown, silty sand, trace gravel, very moist	1.52, 335.83	SPT 3	100	6-6-6-8 (12)
2				SPT 4	100	4-7-7-10 (14)
3				SPT 5	100	4-8-14-12 (22)
		occasional wet seams encountered	3.66, 333.69	MC5 6	100	
4		becoming dense, wet	4.57, 332.78	SPT 7	100	7-10-35-35 (45)
5						



Caving in the borehole was encountered at a depth of approximately 3.96 m (El. 333.39 m) below ground surface.

Bottom of borehole at 5.18 m, Elevation 332.17 m.

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BOREHOLE NUMBER BH7

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 338.06 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (375 mm)	0.00, 338.06	SPT 1	67	1-1-1-1 (2)	2	25mm Riser
	SILTY SAND: Very loose, dark brown, silty sand, some organics, moist	0.38, 337.69					Bentonite Seal
1	**SILTY SAND:** Compact, brown, silty sand, trace gravel, moist	0.76, 337.30	SPT 2	25	5-4-7-6 (11)	11, 7.9	
			SPT 3	100	5-6-6-5 (12)	12, 14.7	No groundwater encountered on May 14, 2025
2	becoming very moist	1.83, 336.23					
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	2.39, 335.67	SPT 4	25	16-17-12-8 (29)	29, 8.8	
3	**SILTY SAND:** Dense, brown, silty sand, trace gravel, very moist	3.05, 335.01	SPT 5	75	5-17-15-20 (32)	32, 6	#2 Sand Pack
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	3.28, 334.78					25mm Screen
4			MC5 6	100		3.3	
	becoming very dense, occasional silty sand seam	4.57, 333.49	SPT 7	100	34-50	2.2	
5							

Bottom of borehole at 5.18 m, Elevation 332.88 m.

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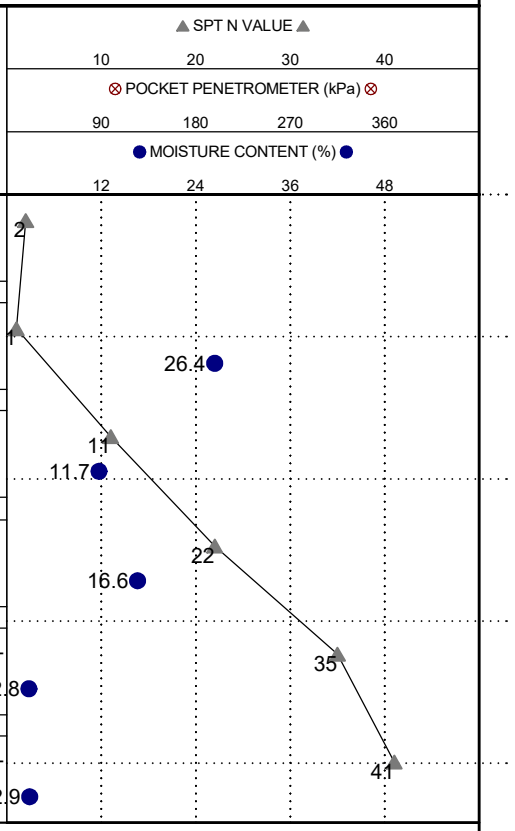
BOREHOLE NUMBER BH8

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 338.87 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (350 mm)	0.00, 338.87	SPT 1	62	1-1-1-1 (2)
	SILTY SAND: Very loose, dark brown, silty sand, with organics, moist	0.35, 338.52			
1			SPT 2	70	0-0-1-1 (1)
	SILTY SAND: Very loose, dark brown/grey, silty sand, trace gravel, very moist	1.12, 337.75			
	becoming compact, moist	1.52, 337.35	SPT 3	79	2-5-6-6 (11)
2	becoming very moist	1.60, 337.27			
	occasional wet sand seams encountered	2.29, 336.58	SPT 4	62	9-11-11-16 (22)
3					
	SAND AND GRAVEL: Dense, brown, sand and gravel, some silt, trace clay, moist	3.05, 335.82	SPT 5	100	19-19-16-18 (35)
4			SPT 6	100	15-26-15-15 (41)



Caving in the borehole was encountered at a depth of approximately 3.05 m (El. 335.82 m) below ground surface.

Bottom of borehole at 4.42 m, Elevation 334.45 m.

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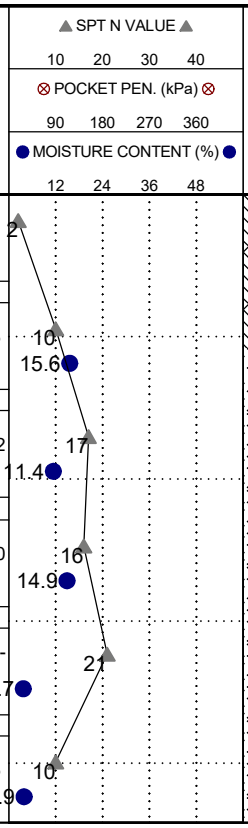
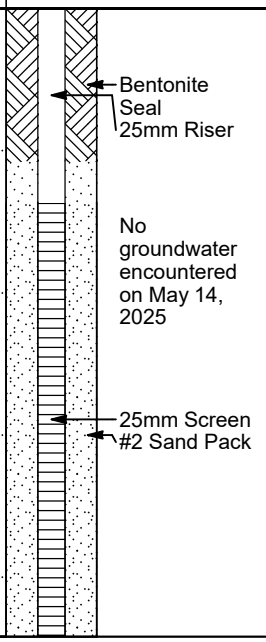
BOREHOLE NUMBER BH9

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 340.06 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (300 mm)	0.00, 340.06	SPT 1	54	1-1-1-1 (2)
	SILTY SAND: Very loose, dark brown, silty sand, trace organics, moist	0.35, 339.71			
1	**SILTY SAND:** Compact, brown, silty sand, trace gravel, moist	0.76, 339.30	SPT 2	87	4-4-6-13 (10)
2	**SILT AND SAND:** Compact, brown, silt and sand, trace clay, very moist	1.52, 338.54	SPT 3	100	15-9-8-12 (17)
	becoming moist	2.29, 337.77	SPT 4	75	7-6-10-10 (16)
3	**SAND AND GRAVEL:** Compact, brown, sand and gravel, moist	2.59, 337.47 2.69, 337.37			
	SILT AND SAND: Compact, brown, silt and sand, trace clay, wet	3.05, 337.01	SPT 5	54	10-10-11-8 (21)
	becoming moist	3.15, 336.91			
4	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist becoming very moist	3.81, 336.25	SPT 6	33	7-5-5-13 (10)

Bottom of borehole at 4.42 m, Elevation 335.64 m.





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BOREHOLE NUMBER BH10

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 336.45 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
		TOPSOIL: Loose, dark brown, silty organic topsoil, moist (200 mm)	0.00, 336.45	SPT 1	33	2-4-5-6 (9)
			0.20, 336.25			
		SILTY SAND: Loose, brown, silty sand, trace gravel, moist		SPT 2	0	13-10-11-9 (21)
1		becoming compact	0.61, 335.84	SPT 3	75	13-10-7-6 (17)

SPT N VALUE
10 20 30 40
POCKET PENETROMETER (kPa)
90 180 270 360
MOISTURE CONTENT (%)
12 24 36 48

9
21
17
11.5

Bottom of borehole at 1.83 m, Elevation 334.62 m.

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BOREHOLE NUMBER BH11

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 337.77 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (400 mm)	0.00, 337.77	SPT 1	75	1-1-1-1 (2)
	SILTY SAND: Very loose, brown, silty sand, trace gravel, moist	0.40, 337.37			
1	becoming compact	0.76, 337.01	SPT 2	84	4-4-8-7 (12)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	0.97, 336.80			
2	silty sand seams encountered	1.52, 336.25	SPT 3	87	11-11-7-8 (18)
	SILTY SAND: Compact, brown, silty sand, trace gravel, very moist	2.29, 335.48	SPT 4	100	9-6-9-14 (15)
3					

Bottom of borehole at 3.05 m, Elevation 334.72 m.

SPT N VALUE
10 20 30 40
POCKET PEN. (kPa)
90 180 270 360
MOISTURE CONTENT (%)
12 24 36 48

WELL DIAGRAM
25mm Riser
Bentonite Seal
No groundwater encountered on May 14, 2025
25mm Screen
#2 Sand Pack

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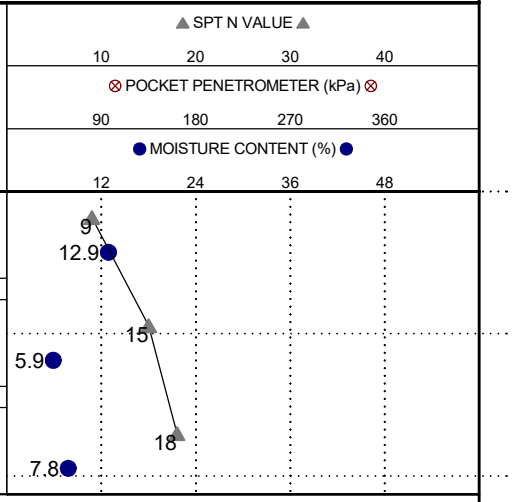
BOREHOLE NUMBER BH12

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 338.29 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (125 mm)	0.00, 338.29			
	SILTY SAND: Loose, brown, silty sand, trace gravel, moist	0.13, 338.17	SPT 1	62	3-7-2-3 (9)
1	becoming compact	0.76, 337.53			
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	1.02, 337.27	SPT 2	67	6-7-8-8 (15)
2	**SILT:** Compact, brown, silt, some clay and sand, trace gravel, wet	1.83, 336.46	SPT 3	100	9-10-8-8 (18)
	COARSE SAND: Compact, brown, coarse sand, moist	1.91, 336.38			
	Bottom of borehole at 2.13 m, Elevation 336.16 m.				



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BOREHOLE NUMBER BH13

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 340.49 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
0	**TOPSOIL:** Loose, dark brown, silty organic topsoil, moist (100 mm)	0.00, 340.49	SPT 1	49	2-3-3-3 (6)	6, 5.7	Bentonite Seal
	SILT AND SAND: Loose, brown, silt and sand, trace clay, moist	0.10, 340.39					25mm Riser
1	becoming compact	0.76, 339.73	SPT 2	100	5-5-6-7 (11)	11, 5.9	#2 Sand Pack
			SPT 3	100	12-9-9-10 (18)	18, 3.2	No groundwater encountered on May 14, 2025
2			SPT 4	100	12-10-12-15 (22)	22, 5.7	
3	becoming dense	3.05, 337.44	SPT 5	100	15-21-24-24 (45)	45, 1.6	25mm Screen
	SAND AND GRAVEL: Dense, brown, sand and gravel, some silt, trace clay, moist	3.18, 337.31					
4			SPT 6	100	29-20-18-20 (38)	38, 8.2	

Bottom of borehole at 4.42 m, Elevation 336.07 m.

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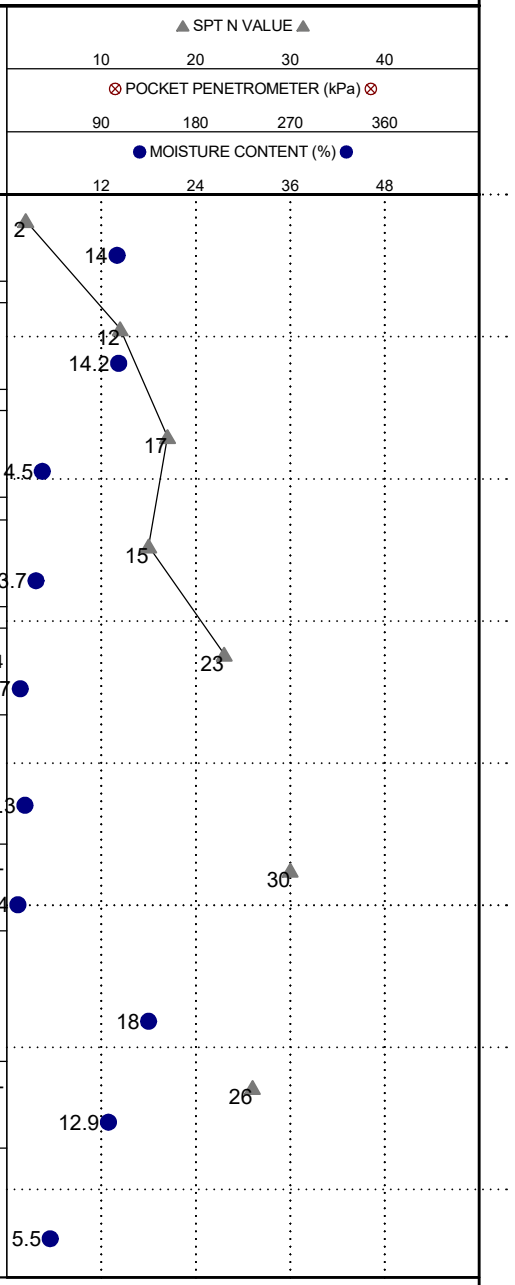
BOREHOLE NUMBER BH14

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-24
GROUND ELEVATION: 343.12 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (75 mm)	0.00, 343.12	SPT 1	75	1-1-1-1 (2)
		0.08, 343.05			
	SILT AND SAND: Very loose, dark brown, silt and sand, trace clay, trace organics, moist	0.25, 342.87			
1	becoming fine, brown, no organics	0.76, 342.36	SPT 2	92	7-6-6-5 (12)
	becoming compact				
	becoming coarse	1.27, 341.85			
	becoming fine, light brown	1.52, 341.60	SPT 3	100	7-9-8-8 (17)
2	becoming brown	2.29, 340.83	SPT 4	62	8-7-8-8 (15)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	2.57, 340.55			
3			SPT 5	59	7-9-14-14 (23)
4			MC5 6	100	
	SILT AND SAND (FINE): Compact, light brown, silt and sand (fine), trace clay, moist	4.39, 338.73			
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	4.57, 338.55	SPT 7	33	17-14-16-18 (30)
5			MC5 8	100	
6	**SILTY SAND:** Compact, brown, silty sand, trace gravel, very moist	5.99, 337.13			
	becoming very moist	6.10, 337.02	SPT 9	100	11-16-10-14 (26)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	6.45, 336.67			
7	**SILT AND SAND (FINE):** Compact, brown, silt and sand (fine), trace clay, moist	6.58, 336.54	MC5 10	100	
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	7.21, 335.91			

Caving in the borehole was encountered at a depth of approximately 3.35 m (El. 339.77 m) below ground surface.

Bottom of borehole at 7.62 m, Elevation 335.50 m.



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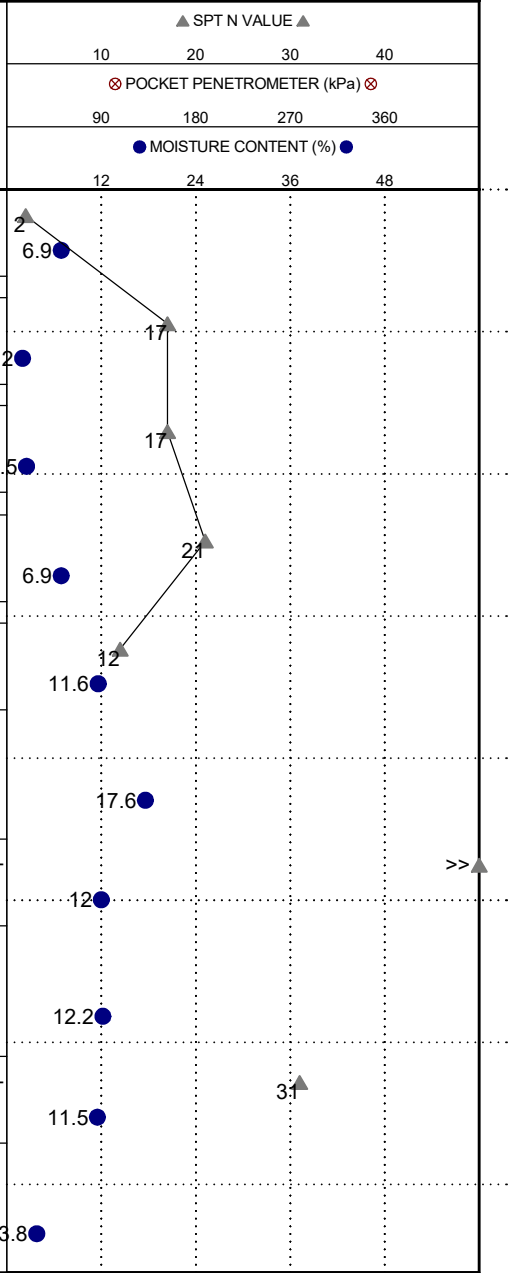
BOREHOLE NUMBER BH15

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-24
GROUND ELEVATION: 342.91 m
DRILLING CONTRACTOR: CMT DRILLING INC.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (125 mm)	0.00, 342.91			
		0.13, 342.79	SPT 1	54	1-1-1-1 (2)
	SILT AND SAND (FINE): Very loose, dark brown, silt and sand (fine), trace clay, moist	0.28, 342.63			
1	**SAND AND GRAVEL:** Very loose, brown, sand and gravel, some silt, trace clay, moist	0.76, 342.15	SPT 2	100	9-10-7-8 (17)
	becoming compact		SPT 3	100	8-8-9-13 (17)
2					
	COARSE SAND: Compact, brown, coarse sand, moist	2.29, 340.62	SPT 4	100	12-12-9-10 (21)
3					
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	3.05, 339.86	SPT 5	100	10-7-5-6 (12)
4			MC5 6	100	
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist with wet seams	4.32, 338.59			
		4.57, 338.34	SPT 7	75	36-27-27-23 (54)
5	becoming dense	4.80, 338.11			
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist		MC5 8	100	
6	becoming wet	5.89, 337.02			
	becoming moist	6.10, 336.81	SPT 9	100	12-14-17-22 (31)
7			MC5 10	100	



Caving in the borehole was encountered at a depth of approximately 4.27 m (El. 338.64 m) below ground surface.

Bottom of borehole at 7.62 m, Elevation 335.29 m.

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BOREHOLE NUMBER BH16

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 342.07 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (125 mm)	0.00, 342.07					
	SILT AND SAND: Very loose, dark brown, silt and sand, trace clay, trace organics, moist	0.25, 341.82	SPT 1	49	1-1-1-1 (2)	2, 9.4	25mm Riser
1	becoming compact	0.76, 341.31	SPT 2	75	10-9-9-11 (18)	18, 8.1	
	SILTY SAND: Compact, brown, silty sand, trace gravel, moist	0.99, 341.08	SPT 3	100	15-9-7-10 (16)	16, 12.2	No groundwater encountered on May 14, 2025
2							Bentonite Seal
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	2.39, 339.68	SPT 4	67	11-12-16-15 (28)	28, 8.7	
3	**COARSE SAND:** Compact, brown, coarse sand, moist	3.05, 339.02	SPT 5	100	10-9-8-9 (17)	17, 3.8	
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	3.66, 338.41	MC5 6	100		4.7	
4	becoming fine	4.57, 337.50	SPT 7	33	6-7-12-13 (19)	19, 14.4	
5							#2 Sand Pack
	COARSE SAND: Compact, brown, coarse sand, with occasional wet seams	5.18, 336.89	MC5 8	100		1.9	
6	becoming dense	6.10, 335.97	SPT 9	100	15-20-24-24 (44)	44, 2	25mm Screen
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist	6.71, 335.36					
7	**SILT:** Dense, brown, silt, some clay and sand, trace gravel, moist	7.01, 335.06	MC5 10	76		17.2	
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist	7.39, 334.68					

Bottom of borehole at 7.62 m, Elevation 334.45 m.

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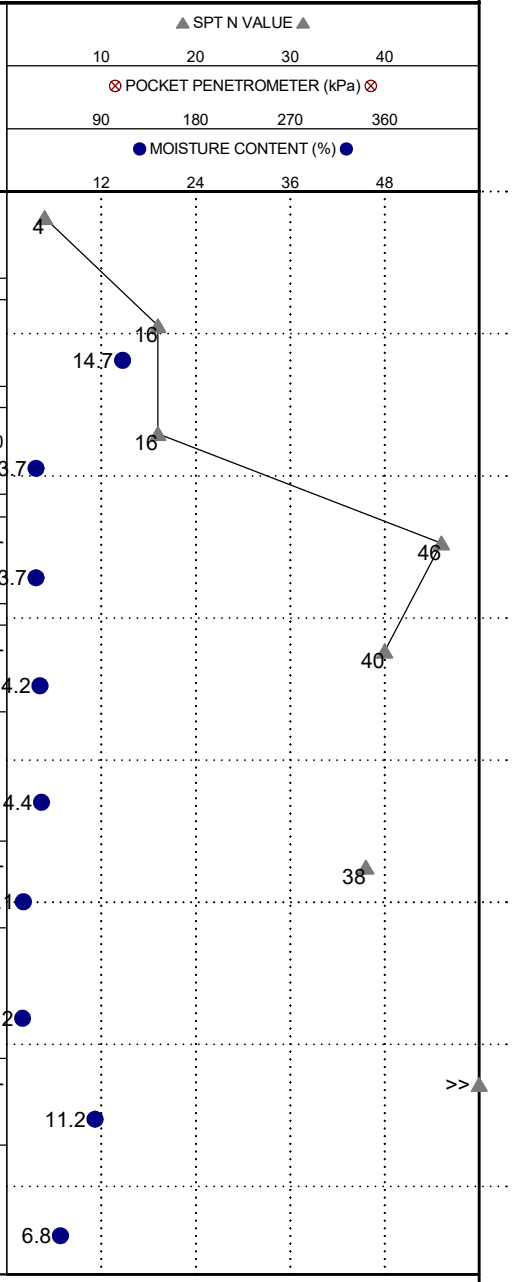
BOREHOLE NUMBER BH17

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 342.74 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (200 mm)	0.00, 342.74	SPT 1	46	1-2-2-2 (4)
	SILTY SAND: Loose, brown, silty sand, trace organics, moist	0.20, 342.54			
1	becoming compact, no organics	0.76, 341.98	SPT 2	87	9-8-8-8 (16)
	SILT AND SAND: Compact, brown, silt and sand, trace clay moist	0.97, 341.77			
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	1.52, 341.22	SPT 3	87	9-10-6-10 (16)
2	**SILT AND SAND (FINE):** Compact, brown, silt and sand (fine), trace clay, trace gravel, wet	1.96, 340.78			
	SAND AND GRAVEL: Dense, brown, sand and gravel, some silt, trace clay, moist	2.29, 340.45	SPT 4	100	26-28-18-14 (46)
3			SPT 5	100	20-20-20-20 (40)
4			MC5 6	100	
	SILT AND SAND: Dense, light brown, silt and sand, trace clay, moist	4.24, 338.50			
	becoming brown	4.57, 338.17	SPT 7	100	15-20-18-25 (38)
5	**SAND AND GRAVEL:** Dense, brown, sand and gravel, some silt, trace clay, moist	5.18, 337.56			
	SILT AND SAND: Dense, brown, silt and sand, trace clay moist	5.44, 337.30	MC5 8	100	
6	**SAND AND GRAVEL:** Dense, brown, sand and gravel, some silt, trace clay, moist	5.66, 337.08			
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist	5.89, 336.85			
	SILT: Dense, brown, silt, some clay and sand, trace gravel, moist	6.02, 336.72	SPT 9	75	25-27-28-15 (55)
7	**SILT AND SAND:** Dense, brown, silt and sand, trace clay, moist	6.27, 336.47			
	COARSE SAND: Dense, brown, coarse sand, moist	6.71, 336.03	MC5 10	100	
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist	7.01, 335.73			

Caving in the borehole was encountered at a depth of approximately 3.66 m (El. 339.08 m) below ground surface.

Bottom of borehole at 7.62 m, Elevation 335.12 m.



BOREHOLE LOG2 25-111.GPJ CMT_TEMPLATE_2020-05-15.GDT 25-5-14

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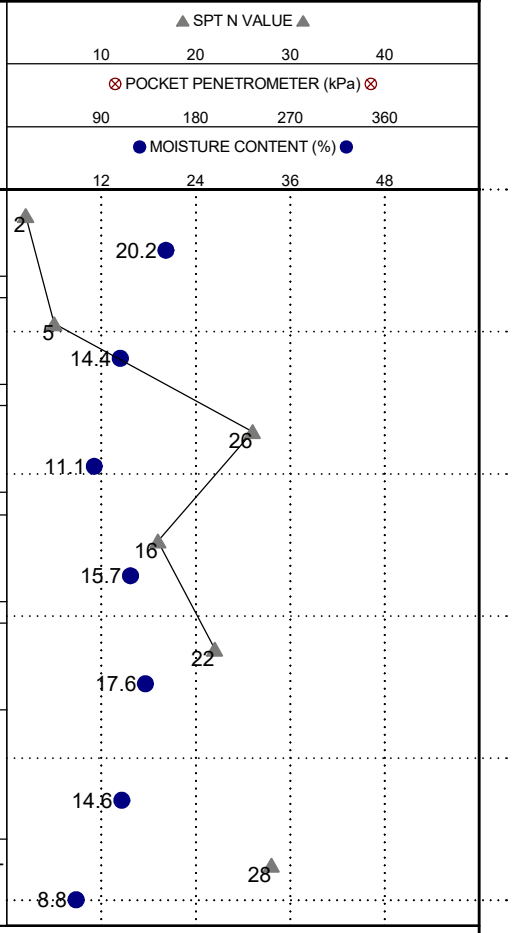
BOREHOLE NUMBER BH18

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 339.98 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (350 mm)	0.00, 339.98	SPT 1	67	1-1-1-1 (2)
	SILTY SAND: Very loose, dark brown, silty sand, some organics, moist	0.35, 339.63			
1	becoming loose, no organics	0.76, 339.22	SPT 2	84	1-2-3-6 (5)
	becoming brown	0.97, 339.01			
	becoming compact, trace gravel	1.52, 338.46	SPT 3	100	9-12-14-10 (26)
2					
	SILT AND SAND (FINE): Compact, brown, silt and sand (fine), trace clay, wet	2.29, 337.69	SPT 4	100	10-8-8-8 (16)
3			SPT 5	100	8-11-11-11 (22)
	becoming moist	3.35, 336.63			
4			MC5 6	100	
	COARSE SAND: Compact, brown, coarse sand,, wet	4.04, 335.94			
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	4.57, 335.41	SPT 7	100	12-15-13-13 (28)
5					



Caving in the borehole was encountered at a depth of approximately 4.57 m (El. 335.41 m) below ground surface.

Bottom of borehole at 5.18 m, Elevation 334.80 m.

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BOREHOLE NUMBER BH19

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 339.16 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
		TOPSOIL: Very loose, dark brown, silty organic topsoil, moist (840 mm)	0.00, 339.16	SPT 1	59	1-1-1-1 (2)	2	Bentonite Seal 25mm Riser
1		**SILTY SAND:** Compact, brown, silty sand, trace gravel, moist	0.84, 338.32	SPT 2	59	4-5-8-8 (13)	13 1.1	#2 Sand Pack
		becoming wet	1.52, 337.64	SPT 3	100	5-8-12-19 (20)	20 9.1	No groundwater encountered on May 14, 2025
2		**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	2.29, 336.87	SPT 4	100	16-11-2-28 (13)	13 17	
		SILT AND SAND: Compact, brown, silt and sand, trace clay, saturated	2.49, 336.67					25mm Screen
3		**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	2.79, 336.37	SPT 5	100	18-19-16-15 (35)	35 18.1	
		SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	3.05, 336.11					

Bottom of borehole at 3.66 m, Elevation 335.50 m.

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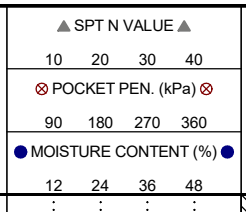
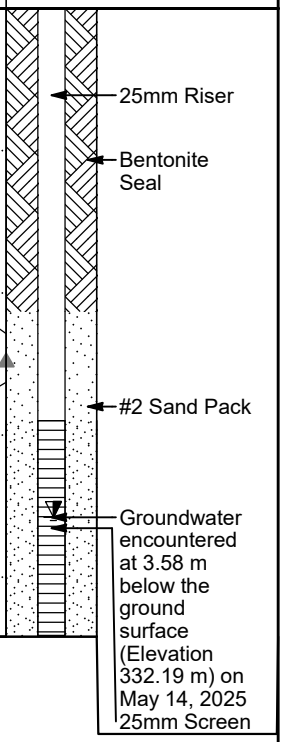
BOREHOLE NUMBER BH20

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 335.77 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (225 mm)	0.00, 335.77			
	SILTY SAND: Very loose, dark brown, silty sand, some organics, trace gravel, moist	0.23, 335.55	SPT 1	41	1-1-2-1 (3)
1	becoming compact, no organics, very moist	0.76, 335.01	SPT 2	92	5-5-6-7 (11)
	becoming very moist	1.52, 334.25			
	SILT AND SAND: Dense, brown, silt and sand, trace clay, moist	1.73, 334.04	SPT 3	84	18-12-13-21 (25)
2	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	1.98, 333.79			
	becoming dense	2.29, 333.48	SPT 4	92	25-32-26-22 (58)
3	**SILTY SAND AND GRAVEL:** Compact, brown, silty sand and gravel, wet	3.05, 332.72	SPT 5	87	16-13-6-8 (19)
	SILTY SAND: Compact, brown, silty sand, wet	3.25, 332.52			
4			SPT 6	100	12-13-15-15 (28)

Bottom of borehole at 4.42 m, Elevation 331.35 m.





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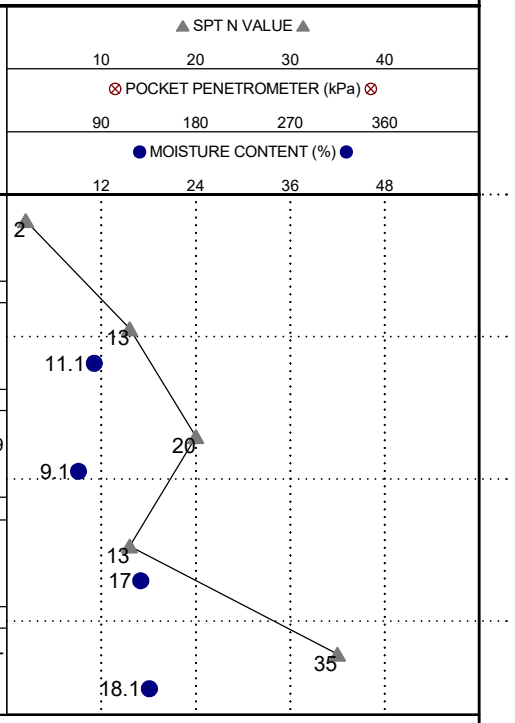
BOREHOLE NUMBER BH21

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 334.58 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Very loose, dark brown, silty organic topsoil, moist (450 mm)	0.00, 334.58	SPT 1	59	1-1-1-1 (2)
	SILTY SAND: Very loose, brown, silty sand, trace gravel, moist	0.45, 334.13			
1	becoming compact, very moist	0.76, 333.82	SPT 2	59	4-5-8-8 (13)
	SILTY SAND AND GRAVEL: Compact, brown, silty sand and gravel, moist	1.52, 333.06			
2	**SILTY SAND:** Compact, brown, silty sand, moist	1.60, 332.98	SPT 3	100	5-8-12-19 (20)
	becoming very moist	2.29, 332.29	SPT 4	100	16-11-2-28 (13)
3					
	SILT AND SAND: Compact, brown, silt and sand, trace clay, saturated	3.23, 331.35	SPT 5	100	18-19-16-15 (35)
	SILTY SAND: Compact, brown, silty sand, moist	3.35, 331.23			
	SILT AND SAND: Compact, brown, silt and sand, trace clay, saturated	3.40, 331.18			
	SILTY SAND: Compact, brown, silty sand, wet	3.56, 331.02			



Caving in the borehole was encountered at a depth of approximately 3.35 m (El. 331.23 m) below ground surface.

Bottom of borehole at 3.66 m, Elevation 330.92 m.

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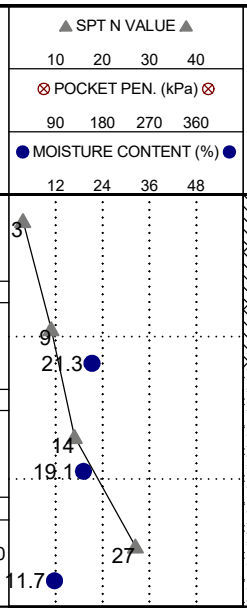
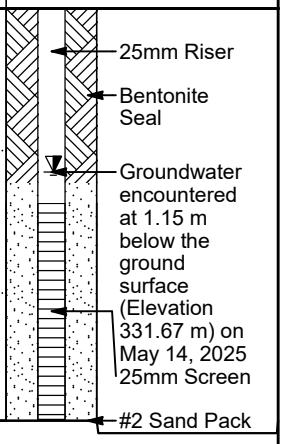
BOREHOLE NUMBER BH22

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 332.82 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (450 mm)	0.00, 332.82	SPT 1	75	1-2-1-2 (3)
	SILTY SAND: Very loose, brown, silty sand, moist	0.45, 332.37			
1	becoming loose	0.76, 332.06	SPT 2	70	1-4-5-5 (9)
	COARSE SAND: Compact, brown, coarse sand, saturated	0.84, 331.98			
	SILTY SAND: Compact, brown, silty sand, wet	0.97, 331.85	SPT 3	70	6-6-8-7 (14)
2			SPT 4	54	4-7-20-20 (27)

Bottom of borehole at 2.90 m, Elevation 329.92 m.





BOREHOLE LOG WITH WELL2 25-111.GPJ CMT_TEMPLATE_2020-05-15.GDT 25-5-27

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BOREHOLE NUMBER BH23

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 331.35 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (300 mm)	0.00, 331.35	SPT 1	75	1-2-2-2 (4)
	SILTY SAND AND GRAVEL: Loose, brown, silty sand and gravel, wet	0.30, 331.05			
1	becoming compact	0.76, 330.59	SPT 2	33	10-8-7-12 (15)
	SILTY SAND: Compact, brown, silty sand, trace gravel, wet	1.52, 329.83	SPT 3	75	8-8-11-10 (19)
2					
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, wet	2.29, 329.06	SPT 4	100	10-13-8-19 (21)
	SILT: Compact, brown, silt, some clay and sand, trace gravel, saturated	2.44, 328.91			
3					

SPT N VALUE: 10 20 30 40
POCKET PEN. (kPa): 90 180 270 360
MOISTURE CONTENT (%): 12 24 36 48

WELL DIAGRAM: 25mm Riser; Bentonite Seal; Groundwater encountered at 0.85 m below the ground surface (Elevation 330.50 m) on May 14, 2025; 25mm Screen; #2 Sand Pack

Bottom of borehole at 3.05 m, Elevation 328.30 m.

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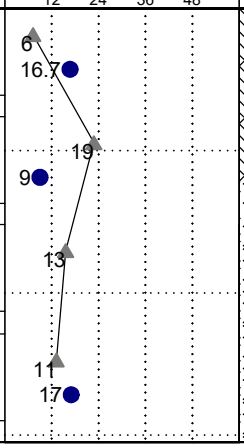
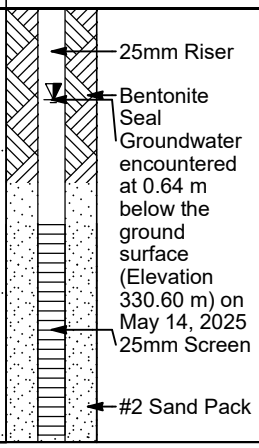
BOREHOLE NUMBER BH24

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 331.24 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (175 mm)	0.00, 331.24			
	SILTY SAND: Loose, brown/grey, silty sand, trace gravel, wet	0.18, 331.07	SPT 1	100	0-2-4-5 (6)
1	becoming compact, very moist	0.76, 330.48	SPT 2	25	13-9-10-13 (19)
2	becoming wet	1.52, 329.72	SPT 3	0	6-6-7-6 (13)
3	**SILT:** Compact, grey/brown, silt, some clay and sand, trace gravel, wet	2.29, 328.95	SPT 4	100	2-4-7-8 (11)

Bottom of borehole at 3.05 m, Elevation 328.19 m.





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BOREHOLE NUMBER BH33 SWMP

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 339.28 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (125 mm)	0.00, 339.28				
	SILTY SAND: Very loose, brown, silty sand, moist	0.13, 339.16	SPT 1	49	1-2-1-1 (3)	3
1	**SILT AND SAND:** Loose, brown, silt and sand, trace clay, moist	0.76, 338.52	SPT 2	100	5-3-4-4 (7)	7, 4.3
2	**COARSE SAND:** Loose, brown, coarse sand, dry	1.52, 337.76	SPT 3	75	4-4-5-5 (9)	9, 1.6
3	**SILT AND SAND:** Loose, brown, silt and sand, trace clay, dry	2.29, 336.99	SPT 4	100	6-5-4-4 (9)	9, 6.3
			SPT 5	100	4-3-3-5 (6)	6, 0.9
4			SPT 6	100	4-4-4-6 (8)	8, 1.5
	becoming compact, moist	4.57, 334.71	SPT 7	100	6-8-10-10 (18)	18, 3.4
5						

Bottom of borehole at 5.18 m, Elevation 334.10 m.

WELL DIAGRAM: 25mm Riser; Bentonite Seal; No groundwater encountered on May 14, 2025; 25mm Screen; #2 Sand Pack

CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BH101

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-24
GROUND ELEVATION: 339.88 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
0	**TOPSOIL:** Loose, dark brown, silty organic topsoil, moist (175 mm)	0.00, 339.88	SPT 1	84	1-1-1-2 (2)	2	25mm Riser
		0.18, 339.71				15.3	Bentonite Seal
	SILTY SAND: Very loose, dark brown, silty sand, some organics, moist	0.41, 339.47					
1	becoming very moist, no organics	0.76, 339.12	SPT 2	84	0-1-3-3 (4)	4	
	becoming loose	1.02, 338.86				16.2	
	becoming brown						
			SPT 3	87	2-3-4-6 (7)	7	
2	**SILT AND SAND:** Loose, brown, silt and sand, trace clay, wet	1.85, 338.03				15.4	Groundwater encountered at 2.07 m below the ground surface (Elevation 337.81 m) on May 14, 2025
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, saturated	2.29, 337.59	SPT 4	46	8-2-3-2 (5)	5	
3						11.9	
	SILT: Compact, greenish brown, silt, some clay and sand, trace gravel, wet	3.05, 336.83	SPT 5	75	5-7-15-15 (22)	22	
	becoming reddish brown	3.20, 336.68				18.3	25mm Screen
	SILT AND SAND: Compact, brown, silt and sand, trace clay, saturated	3.33, 336.55					
4			MC5 6	0			
	CLAYEY SILT TILL: Very dense, brown, clayey silt till, trace sand and gravel, moist	4.57, 335.31	SPT 7	161	31-26-50/0.08	>>	#2 Sand Pack
5						12.3	

Bottom of borehole at 5.18 m, Elevation 334.70 m.

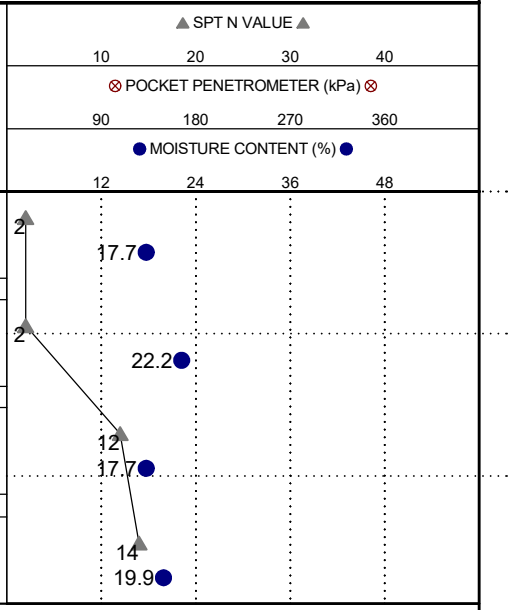
CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHA

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 332.56 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (250 mm)	0.00, 332.56	SPT 1	67	1-1-1-1 (2)
	SILTY SAND: Very loose, dark brown, silty sand, trace organics, moist	0.25, 332.31			
1	**SILT AND SAND:** Very loose, brown, silt and sand, trace clay, saturated	0.76, 331.80	SPT 2	100	1-1-1-1 (2)
2	**SILTY SAND:** Compact, brown, silty sand, saturated	1.52, 331.04	SPT 3	100	5-5-7-7 (12)
	becoming very moist	2.59, 329.97	SPT 4	100	9-6-8-8 (14)

Bottom of borehole at 2.90 m, Elevation 329.66 m.

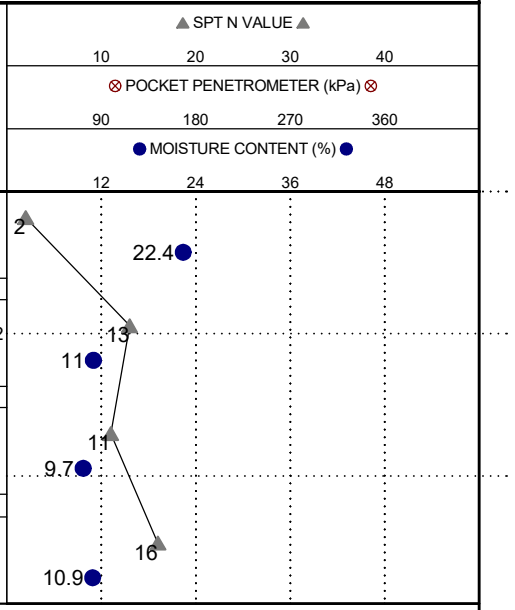


CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHB

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-16
GROUND ELEVATION: 332.62 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (250 mm)	0.00, 332.62	SPT 1	59	1-1-1-1 (2)
		0.25, 332.37			
	SILTY SAND: Very loose, brown, silty sand, some organics, moist				
1	becoming compact, wet	0.76, 331.86	SPT 2	54	3-2-11-22 (13)
			SPT 3	16	4-7-4-5 (11)
2			SPT 4	49	6-8-8-11 (16)



Caving in the borehole was encountered at a depth of approximately 2.44 m (El. 330.18 m) below ground surface.

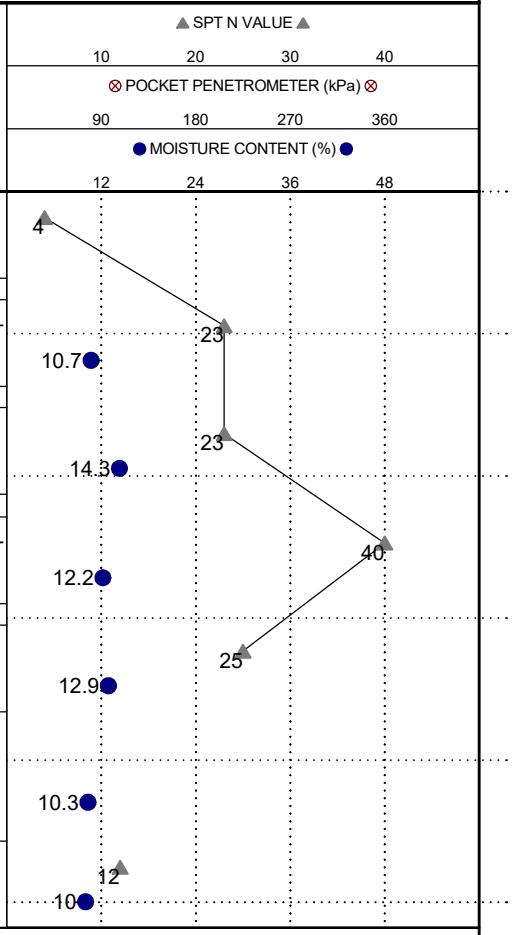
Bottom of borehole at 2.90 m, Elevation 329.72 m.

CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHC

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 337.41 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (275 mm)	0.00, 337.41	SPT 1	49	1-2-2-1 (4)
	SILTY SAND: Loose, brown, silty sand, some organics, moist	0.28, 337.14			
1	becoming compact, no organics	0.76, 336.65	SPT 2	54	12-12-11-15 (23)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	0.81, 336.60			
	SILT: Compact, brown, silt, some clay and sand, trace gravel, moist	0.94, 336.47	SPT 3	100	7-11-12-14 (23)
2					
	CLAYEY SILT TILL: Dense, brown, clayey silt till, trace sand and gravel, moist	2.29, 335.12	SPT 4	100	17-19-21-21 (40)
3	becoming compact	3.05, 334.36	SPT 5	84	9-14-11-12 (25)
	SILT AND SAND: Compact, brown, silt and sand, trace clay, saturated	3.43, 333.98			
	SILTY SAND: Compact, brown, silty sand, some gravel, wet	3.66, 333.75	MC5 6	100	
4	becoming grey, saturated	4.57, 332.84	SPT 7	100	3-5-7-7 (12)
5					



Caving in the borehole was encountered at a depth of approximately 4.11 m (El. 333.30 m) below ground surface.

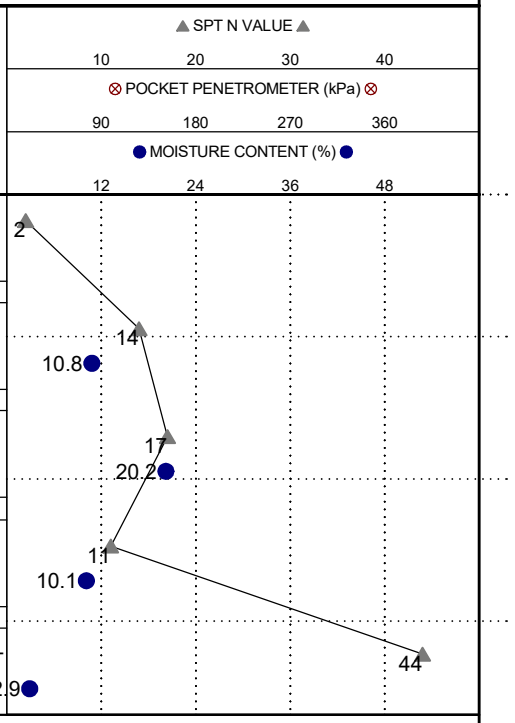
Bottom of borehole at 5.18 m, Elevation 332.23 m.

CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHD

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 336.61 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Very loose, dark brown, silty organic topsoil, moist (175 mm)	0.00, 336.61			
		0.18, 336.44	SPT 1	38	1-1-1-1 (2)
	SILTY SAND: Very loose, brown, silty sand, moist				
1	becoming compact	0.76, 335.85			
		0.84, 335.77	SPT 2	100	5-7-7-6 (14)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	0.89, 335.72			
	SILTY SAND: Compact, brown, silty sand, very moist				
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	1.70, 334.91	SPT 3	100	7-8-9-10 (17)
2		1.96, 334.65			
	SILT: Compact, brown, silt, some clay and sand, trace gravel, wet	2.29, 334.32			
	SILTY SAND: Compact, brown, silty sand, moist		SPT 4	84	5-4-7-18 (11)
	SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	2.74, 333.87			
3	becoming very desne	3.05, 333.56	SPT 5	100	31-26-18-14 (44)



Caving in the borehole was encountered at a depth of approximately 3.05 m (El. 333.56 m) below ground surface.

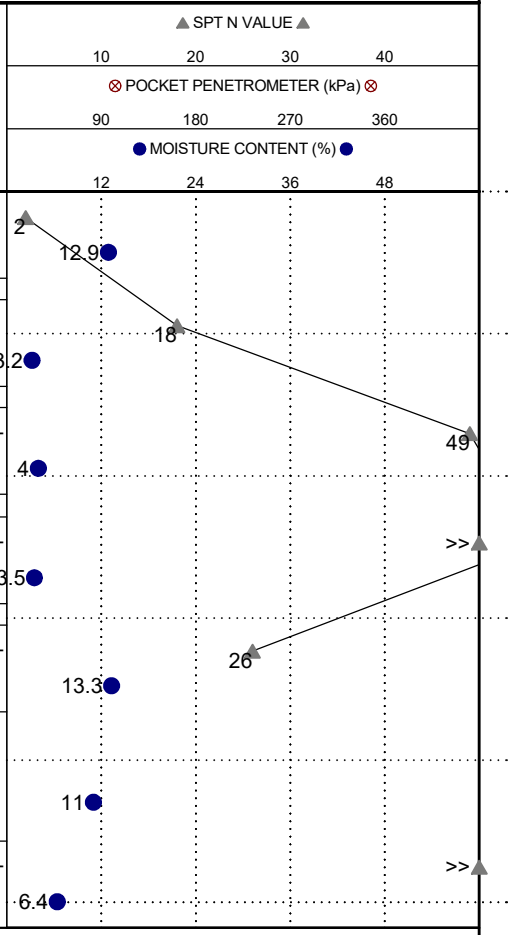
Bottom of borehole at 3.66 m, Elevation 332.95 m.

CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHE

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 338.81 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (275 mm)	0.00, 338.81	SPT 1	59	1-1-1-1 (2)
	SILTY SAND: Very loose, brown, silty sand, moist	0.28, 338.54			
1	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	0.76, 338.05	SPT 2	49	2-9-9-9 (18)
	becoming dense	1.52, 337.29	SPT 3	46	11-12-37-40 (49)
2	becoming very dense	2.29, 336.52	SPT 4	67	31-28-28-26 (56)
3	**SILT AND SAND:** Compact, brown, silt and sand, trace clay, moist	3.05, 335.76	SPT 5	100	18-14-12-16 (26)
4	**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	3.91, 334.90	MC5 6	76	
	becoming very dense	4.57, 334.24	SPT 7	54	35-33-33-34 (66)
5					



Caving in the borehole was encountered at a depth of approximately 2.44 m (El. 336.37 m) below ground surface.

Bottom of borehole at 5.18 m, Elevation 333.63 m.

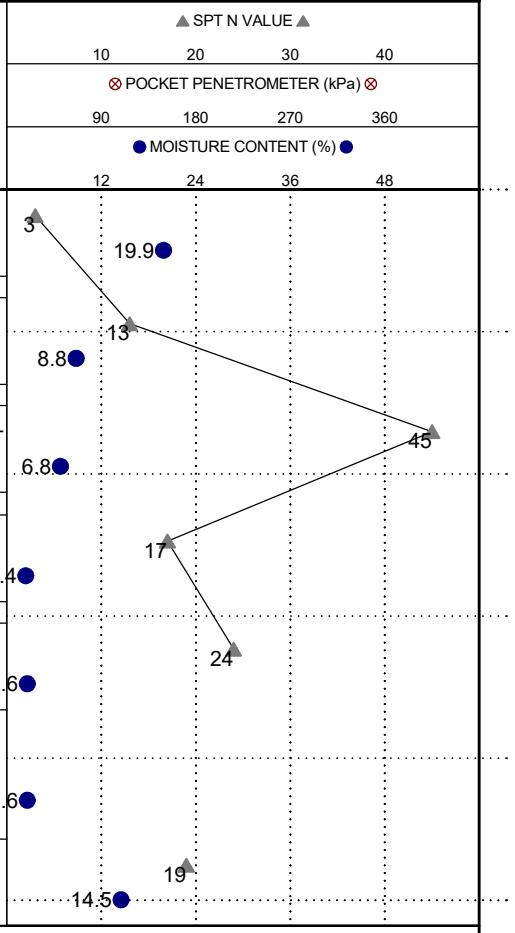
CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHF

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-23
GROUND ELEVATION: 339.82 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
		TOPSOIL: Loose, dark brown, silty organic topsoil, moist (275 mm)	0.00, 339.82	SPT 1	67	1-2-1-1 (3)
		SILTY SAND: Very loose, dark brown, silty sand, some organics, moist	0.33, 339.50			
1		becoming compact, brown, no organics	0.76, 339.06	SPT 2	59	4-6-7-6 (13)
		SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	1.65, 338.17	SPT 3	75	14-27-18-14 (45)
2		**SILTY SAND:** Dense, brown, silty sand, trace gravel, moist	1.88, 337.94			
		becoming compact	2.29, 337.53	SPT 4	84	11-10-7-10 (17)
3		**COARSE SAND:** Compact, brown, coarse sand, trace gravel, moist	2.46, 337.36			
		SAND AND GRAVEL: Compact, brown, sand and gravel, some silt, trace clay, moist	3.05, 336.77	SPT 5	100	9-11-13-15 (24)
4				MC5 6	100	
		SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	4.57, 335.25	SPT 7	100	13-8-11-12 (19)
5						

Bottom of borehole at 5.18 m, Elevation 334.64 m.

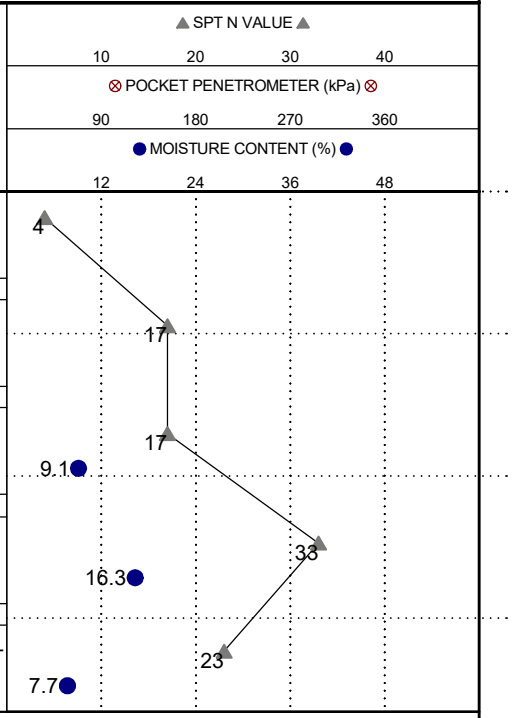


CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHG

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-17
GROUND ELEVATION: 338.58 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
		TOPSOIL: Loose, dark brown, silty organic topsoil, moist (350 mm)	0.00, 338.58	SPT 1	67	1-2-2-3 (4)
		SILTY SAND: Loose, dark brown, silty sand, with organics, moist	0.35, 338.23			
1		**SAND AND GRAVEL:** Compact, brown, sand and gravel, some silt, trace clay, moist	0.76, 337.82	SPT 2	0	7-8-9-13 (17)
2		**SILTY SAND:** Compact, brown, silty sand, very moist	1.52, 337.06	SPT 3	100	6-9-8-15 (17)
		SILT AND SAND: Dense, brown, silt and sand, trace clay, wet	2.29, 336.29	SPT 4	67	3-13-20-20 (33)
3		**SAND AND GRAVEL:** Dense, brown, sand and gravel, some silt, trace clay, moist	2.64, 335.94			
		becoming compact	3.05, 335.53	SPT 5	100	14-11-12-16 (23)
		SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	3.20, 335.38			



Caving in the borehole was encountered at a depth of approximately 3.05 m (El. 335.53 m) below ground surface.

Bottom of borehole at 3.66 m, Elevation 334.92 m.

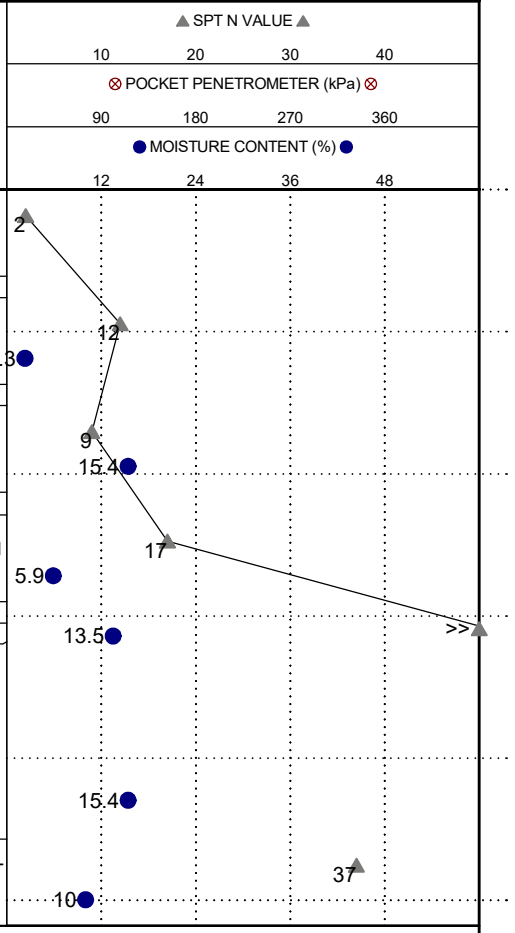
CMT Engineering Inc.
1011 Industrial Crescent, Unit 1
St. Clements, ON, N0B 2M0
Telephone: 519-699-5775

BOREHOLE NUMBER BHH

PROJECT: Audrey Meadows Phase 2
PROJECT ADDRESS: Victoria Street South
PROJECT NUMBER: 25-111
PROJECT LOCATION: Puslinch, ON
DRILLING DATE: 25-4-22
GROUND ELEVATION: 341.51 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: BRF
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT/MC5

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	TOPSOIL: Loose, dark brown, silty organic topsoil, moist (400 mm)	0.00, 341.51	SPT 1	75	1-1-1-1 (2)
	SILT AND SAND: Very loose, brown, silt and sand, trace clay, moist	0.40, 341.11			
1	becoming compact	0.76, 340.75	SPT 2	100	6-7-5-7 (12)
	becoming fine	1.29, 340.22			
	becoming loose, wet	1.52, 339.99	SPT 3	87	4-4-5-6 (9)
2	**SAND AND GRAVEL:** Loose, brown, sand and gravel, some silt, trace clay, moist	1.85, 339.66			
	SILT AND SAND: Compact, brown, silt and sand, trace clay, moist	2.29, 339.22	SPT 4	100	7-6-11-11 (17)
3	becoming very dense, wet	3.05, 338.46	SPT 5	62	50/0.13
	SAND AND GRAVEL: Very dense, brown, sand and gravel, some silt, trace clay, moist	3.66, 337.85			
4		3.84, 337.67	MC5 6	100	
	SILT AND SAND: Very dense, brown, silt and sand, trace clay, moist	4.22, 337.29			
	becoming wet	4.24, 337.27			
	becoming moist	4.57, 336.94	SPT 7	46	11-17-20-27 (37)
5	becoming dense				

Bottom of borehole at 5.18 m, Elevation 336.33 m.



Appendix B
Water Well Record Information

08-17

Ontario Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. (Plate Number) Tag#: A 215378

A215378

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	GEORGE R. GOOD CONSTRUCTION		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
P.O. BOX 1805	GUELPH	ON	N1H7A1	5198369680

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
9 OLD RUBY LANE	PUSLINCH	18-19	8

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLINGTON	PUSLINCH	Ontario	N0B2J0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	569199	4815967	SUBLOT 1	

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY	SAND		0	10
GREY	CLAY	STONES		10	30
BROWN	SAND	GRAVEL		30	76
BROWN	ROCK		FRACTURED	76	79
			TOTAL DEPTH	79FT	

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify AIR ROTARY

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼	STEEL	.188	+2	79

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: ☒ Fresh ☐ Untested ☐ Other, specify
79FT	☐	
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
	☐	
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10"
20	79	6¼"

Results of Well Yield Testing

After test of well yield, water was: ☒ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 30FT

Pumping rate (l/min / GPM): 15GPM

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 6FT

If flowing give rate (l/min / GPM):

Recommended pump depth (m/ft): 30FT

Recommended pump rate (l/min / GPM): 15 GPM

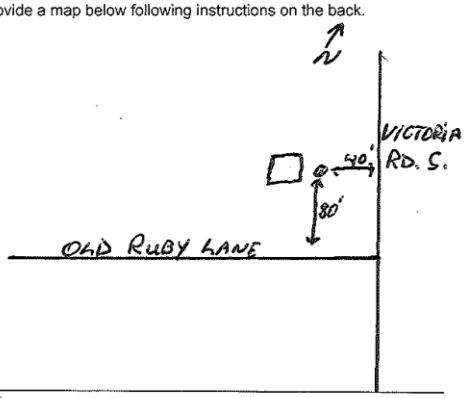
Well production (l/min / GPM): 15+ GPM

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	5'		
1	6	1	5
2	6	2	5
3	6	3	5
4	6	4	5
5	6	5	5
10	6	10	5
15	6	15	5
20	6	20	5
25	6	25	5
30	6	30	5
40	6	40	5
50	6	50	5
60	6	60	5.

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
JIM WILSON WELL DRILLING LTD	7385

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
551 EBYCREST RD.	WATERLOO	ON.	N2T1G8	

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
5196482412	WILSON JAMES	3467	Jim Wilson	2017033 1

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	20170320	20170320

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Audit No. Z251728

Received APR 24 2017

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Ontario Ministry of the Environment, Conservation and Parks

Well Tag#:A409199

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

Page ____ of ____

Well Owner's Information

First Name | Last Name/Organization: CHARLESTON HOMES LTD | E-mail Address | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): P.O. Box 760 | Municipality: ROCKWOOD | Province: ON | Postal Code: N0B 2K0 | Telephone No. (inc. area code): 519 856 9054

Well Location

Address of Well Location (Street Number/Name): 71 OLD RUBY LANE | Township: PUSLINCH | Lot: 18-19 | Concession: 8

County/District/Municipality: WELLINGTON | City/Town/Village: PUSLINCH | Province: Ontario | Postal Code: N0B 2J0

UTM Coordinates: Zone | Easting | Northing: NAD 8 3 | 17 | 561616 | 4815434 | Municipal Plan and Sublot Number: SUB LOT 23 | 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	STONES - SAND GRAVEL		0	30
GREY	CLAY			30	48
			FRACTURED	48	50

TOTAL DEPTH 50 FT

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify: AIR ROTARY

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6¼	STEEL	.188	+2	49
6⅛	OPEN HOLE		49	50

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth	Kind of Water	
50 FT (m/ft)	☒ Fresh ☐ Untested ☐ Gas ☐ Other, specify	
(m/ft)	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	
(m/ft)	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10"
20	50	6⅛

Well Contractor and Well Technician Information

Business Name of Well Contractor: JIM WILSON WELL DRILLING LTD | Well Contractor's Licence No: 7385

Business Address (Street Number/Name): 551 EBY CREST RD | Municipality: WATERLOO

Province: ON | Postal Code: N2J 4G8 | Business E-mail Address:

Bus. Telephone No. (inc. area code): 519 648 2412 | Name of Well Technician (Last Name, First Name): WILSON JIM

Well Technician's Licence No.: T1924 | Signature of Technician and/or Contractor | Date Submitted: 2024 08 30

Results of Well Yield Testing

After test of well yield, water was: ☒ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 30 FT

Pumping rate (l/min / GPM): 12 GPM

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 14 FT

If flowing give rate (l/min/GPM):

Recommended pump depth (m/ft): 30 FT

Recommended pump rate (l/min/GPM): 12 GPM

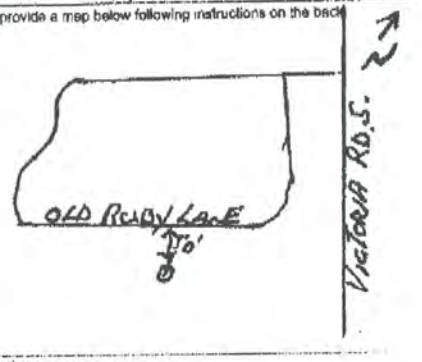
Well production (l/min/GPM): 12+ GPM

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	12		
1	13	1	13
2	14	2	12
3	14	3	12
4	14	4	12
5	14	5	12
10	14	10	12
15	14	15	12
20	14	20	12
25	14	25	12
30	14	30	12
40	14	40	12
50	14	50	12
60	14	60	12

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: 2024 08 14

Date Work Completed: 2024 08 14

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Audit No. Z 432543

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Ontario — Ministry of the Environment, Conservation and Parks

14-25
Measurements recorded in: ☐ Metric ☒ Imperial

Wel Tag#:A429779 (nt Below)
A429779

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
	AUDREY MEADOWS LTD		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
32 TODDS RD	SEGUIN	ON	P2A2W8	7053784577

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
RR#1 PUSLINCH	PUSLINCH	18-19	8

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLINGTON	PUSLINCH	Ontario	N0B2T0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	568983	4815917	SUB LOT 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/ft) From	Depth (m/ft) To
BROWN	CLAY	STONES		0	15
BROWN	CLAY	SAND - GRAVEL		15	18
GREY	CLAY	&		18	34
GREY	CLAY	SAND - GRAVEL		34	88
LT BROWN	LIMESTONE		FRACTURED	88	90
			TOTAL DEPTH	90 FT	

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, specify AIR ROTARY

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼"	STEEL	.188	+2	89
6⅛"	OPEN HOLE		89	90

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
90 FT	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10"
20	90	6¼"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Jim Wilson Well Drilling Ltd	7385

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
551 EBYCREST RD.	WATERLOO	ON	N2J4G8	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5196482412	Wilson Jim

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
TL7124		2025/06/30

Results of Well Yield Testing

After test of well yield, water was:
☒ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 30 FT

Pumping rate (l/min / GPM): 15 GPM

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 16 FT

If flowing give rate (l/min/GPM)

Recommended pump depth (m/ft): 30 FT

Recommended pump rate (l/min/GPM): 15 GPM

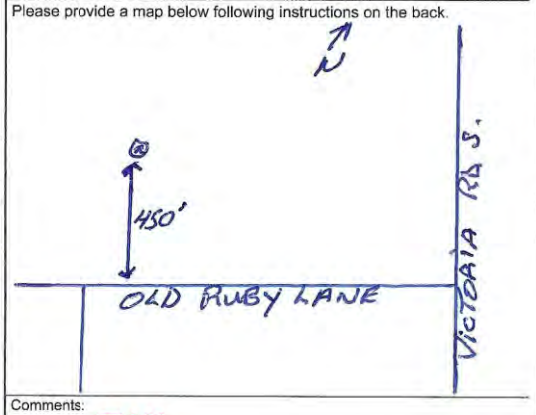
Well production (l/min/GPM): 15+ GPM

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		16 FT		
1			1	16 FT
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: TW1

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2025/06/18	2025/06/18

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16-25

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag#: A429780 (Below) — A429780

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
	AUDREY MEADOWS LTD		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
32 TODDS RD.	SEGUIN	ON	P2A2W8	7053784577

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
RR#1 PUSLINCH	PUSLINCH	18-19	8

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLINGTON	PUSLINCH	Ontario	N0B2J0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD	8	17 5689 11	48 16 192	SUB LOT 18	

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY	STONES		0	25
GREY	CLAY			25	45
GREY	CLAY	SAND-GRAVEL		45	90
LT BROWN	LIMESTONE		FRACTURED	90	100
			TOTAL DEPTH	100FT	
		6" DRIVE SHOE.			

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify AIR ROTARY

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼"	STEEL	.188	+2	98
6⅛	OPEN HOLE		98	100

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
100FT	☐	☒ Fresh ☐ Untested ☐ Other, specify	0	20	10"
	☐	☐ Fresh ☐ Untested ☐ Other, specify	20	100	6⅛"
	☐	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

After test of well yield, water was: ☒ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 50FT

Pumping rate (l/min / GPM): 15GPM.

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 33'

If flowing give rate (l/min/GPM):

Recommended pump depth (m/ft): 50FT

Recommended pump rate (l/min/GPM): 15 GPM

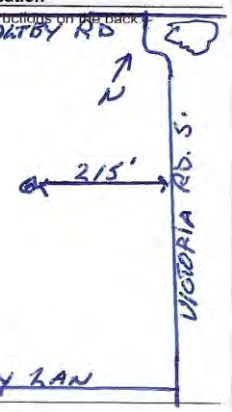
Well production (l/min/GPM): 15+GPM

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		33FT		
1			1	33FT
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: TW2

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
TIM WILSON WELL DRILLING LTD	7385

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
551 EBYCREST RD	WATERLOO	ON	N2J4G8	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5196482412	WILSON TIM

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
7924		20250630

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	20250624	20250624

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Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☒ Imperial 17-25

Well Tag (Yellow) Tag#:A429781 A429781

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
	AUDREY MEADOWS LTD		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
32 TODDS RD.	SEGUIN	ON	P2A2W8	7053784577

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
RR#1 PUSLINCH	PUSLINCH	18-19	8

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLINGTON	PUSLINCH	Ontario	N0B2J0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	568774	4816022	SUB LOT 12	

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY	STONES		0	30
GREY	CLAY			30	55
GREY	CLAY	SAND - GRAVEL		55	95
LT BROWN	LIMESTONE		FRACTURED	95	112
MED BROWN	ROCK			112	117
			TOTAL DEPTH	117	FT
		6" DRIVE SHOE.			

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify AIR ROTARY

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼	STEEL	.188	+2	112
6⅛	OPEN HOLE		112	117

Construction Record - Screen

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

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10"
20	117	6⅛"

Results of Well Yield Testing

After test of well yield, water was: ☒ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 50 FT

Pumping rate (l/min / GPM): 15 GPM

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 30 FT

If flowing give rate (l/min/GPM):

Recommended pump depth (m/ft): 50 FT

Recommended pump rate (l/min/GPM): 15 GPM

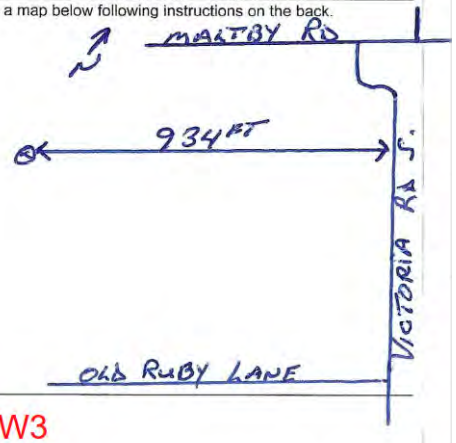
Well production (l/min/GPM): 15+GPM

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		30 FT		
1			1	30 FT
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: TW3

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
JIM WILSON WELL DRILLING LTD	7385

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
551 EBYCREST RD.	WATERLOO	ON	N2J4G8	

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
5196482412	WILSON JIM.	T19214		20250630

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2025/06/D D	2025/06/D D

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Audit No. Z450572

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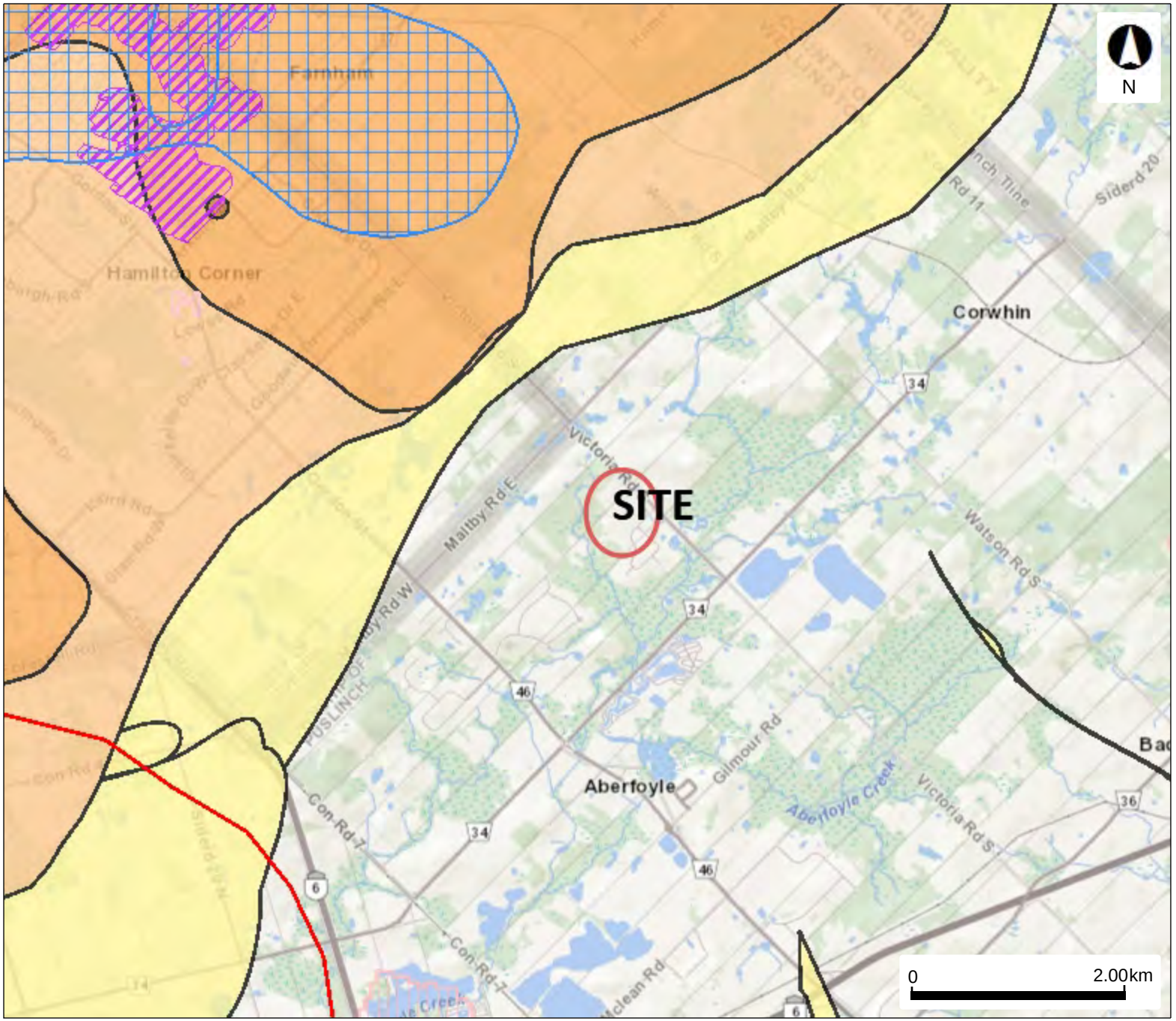
Appendix C
Source Protection Information

Audrey Meadows WHPA Mapping



Legend

- Intake Protection Zone Q
- Wellhead Protection Area Q1
- Wellhead Protection Area Q2
- Issue Contributing Areas
- Highly Vulnerable Aquifers
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

Map Created: 8/1/2025
Map Center: 43.49312 N, -80.15139 W

Audrey Meadows Significant Groundwater Recharge Area

Legend

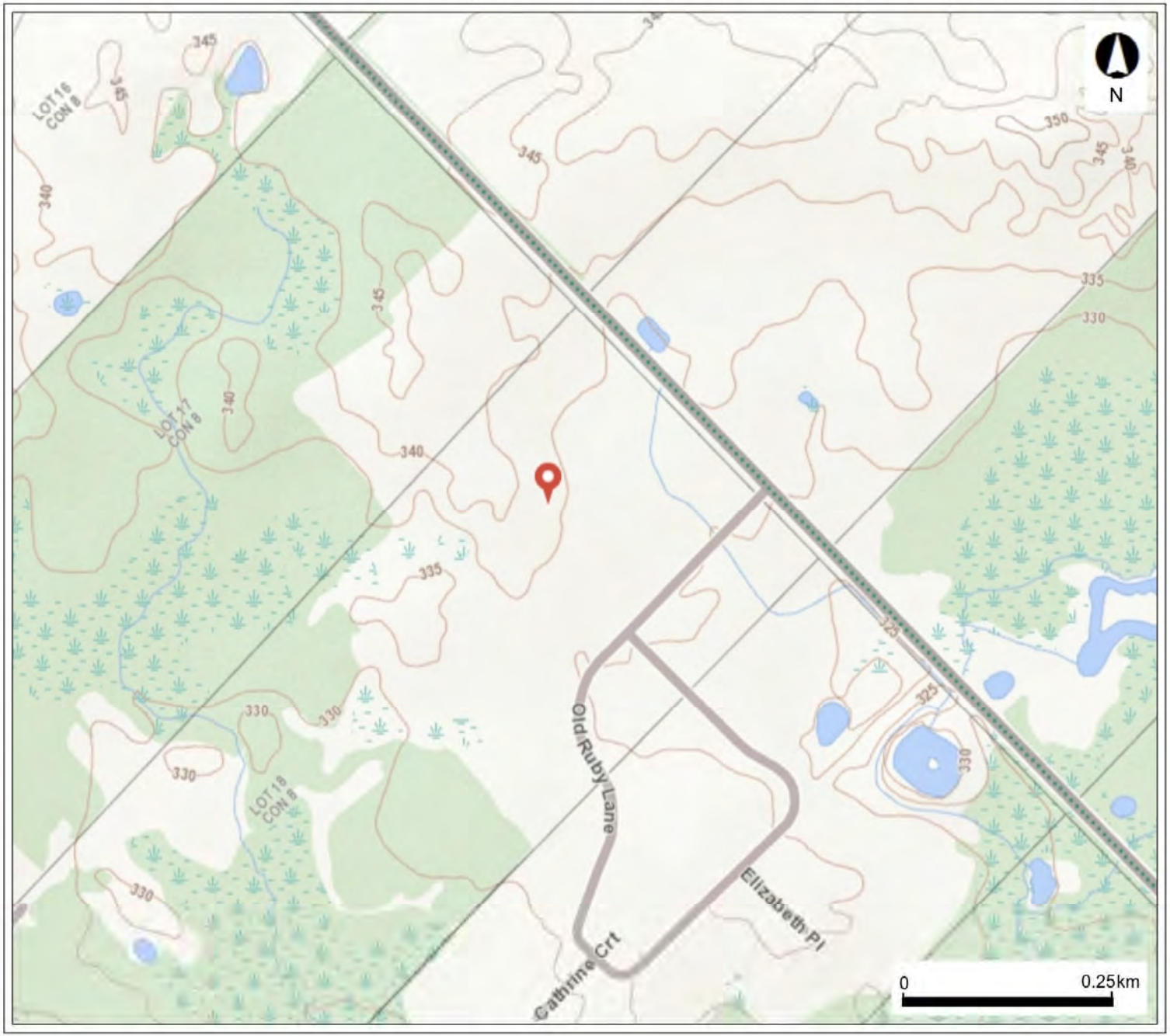
- Intake Protection Zone Q
- Wellhead Protection Area Q1
- Wellhead Protection Area Q2
- Significant Groundwater Recharge Area
  - N/A
  - 0
  - 2
  - 4
  - 6
- Intake Protection Zone 2

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

Map Created: 8/1/2025
Map Center: 43.49312 N, -80.15139 W

Audrey Meadows Source Protection Summary



Legend

Location Information

Zoom in to confirm your location and results

Latitude: **43.49311** Longitude: **-80.14681**
UTM Zone: **17**
Easting: **568983.74** Northing: **4815929.22**
Upper Tier Municipality: **COUNTY OF WELLINGTON**
Lower Tier Municipality: **TOWNSHIP OF PUSLINCH**
Township Concession and Lot: **PUSLINCH LOT 18 CON 8**
Assessment Parcel Address: **27 Old Ruby Lane**
Assessment Roll #: **23010000060220100000**
MECP District: **Guelph**
MECP Region: **West Central Region**

Source Protection Details for Location

Source Protection Area: **Grand River**
View Source Protection Plan
Wellhead Protection Area: **No**
Wellhead Protection Area (WHPA-E): **No**
Issue Contributing Area: **No**
Significant Groundwater Recharge Area: **Yes** ; score is **N/A**
Highly Vulnerable Aquifer: **No**
Event Based Area: **No**
Wellhead Protection Area Q1: **No**
Wellhead Protection Area Q2: **No**
Intake Protection Zone Q: **No**
Information is current as of: **June 16, 2025**

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

Map Created: 8/1/2025
Map Center: 43.493 N, -80.14627 W

Appendix D
Study Scope Information

Re: Audrey Meadows - Water Supply Assessment

From: Stan Denhoed (sdenhoed@hardenv.com)

To: robstoveljr@outlook.com

Cc: jbrotherston@puslinch.ca; apentney@rogers.com; audreymeadowsltd@hotmail.com; dgood@oakbridge.net; stovel.associates@outlook.com; pziegler@tritoneng.on.ca; choytfox@puslinch.ca

Date: Thursday, June 12, 2025 at 07:30 a.m. EDT

I will have to review our previous comments regarding nitrate study but the well testing approach is sound. Thank you.

Get Outlook for iOS

From: Rob Stovel Jr. <robstoveljr@outlook.com>
Sent: Tuesday, June 10, 2025 4:05:50 PM
To: Stan Denhoed <sdenhoed@hardenv.com>
Cc: jbrotherston@puslinch.ca <jbrotherston@puslinch.ca>; Andrew Pentney <apentney@rogers.com>; George. R. Good <audreymeadowsltd@hotmail.com>; Derek Good <dgood@oakbridge.net>; Rob Stovel <stovel.associates@outlook.com>; Paul Ziegler <pziegler@tritoneng.on.ca>; choytfox@puslinch.ca <choytfox@puslinch.ca>
Subject: Audrey Meadows - Water Supply Assessment

Good afternoon Stan,

We are providing a work plan to complete a water supply assessment, in accordance with MECP Procedure D-5-5, at the proposed northern expansion of the Audrey Meadows Subdivision. We note that the Nitrate Impact Analysis and Water Supply Assessment previously provided for the expansion area (December 2021) addressed water supply at the site by referencing wells within the existing subdivision, however we understand further testing is required.

As the site is less than 15 hectares, drilling and testing a total of 3 wells would be are needed to satisfy Procedure D-5-5. It is our understanding that Audrey Meadows Ltd. would arrange for 3 wells to be installed, developed and then pump tested (6 hours each) according to the applicable regulations.

The first step would be to consult with the Township (likely including Harden Environmental) to determine expectations. This step would refine the study scope of work and well construction requirements.

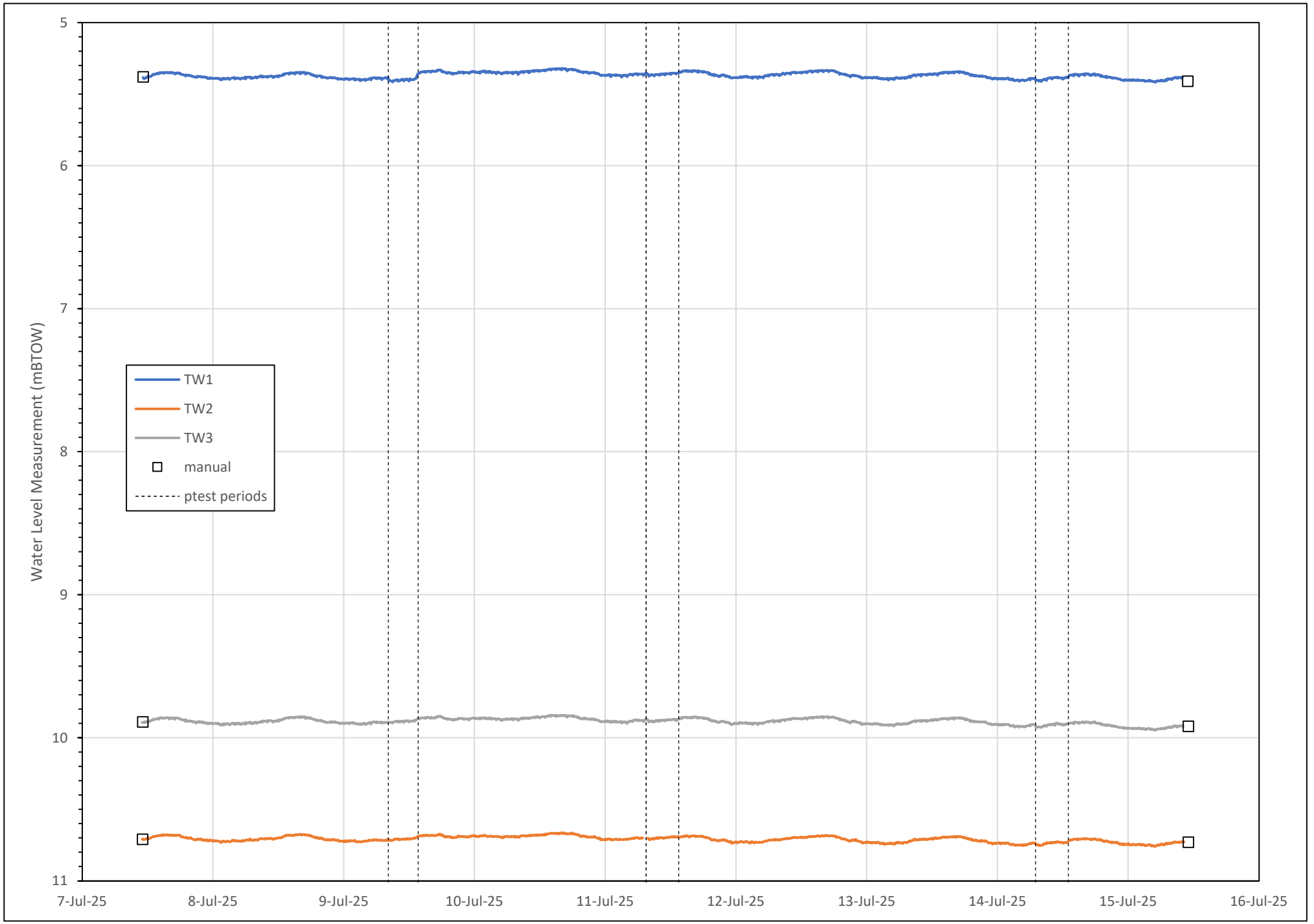
- Review water well records and water supply status;
- Pre to post-test water level monitoring for selected observation wells at the site;
- Pump test supervision and monitoring at each of the newly constructed wells;
- Water quality sampling at each of the newly constructed wells at the end of each test;
- Data compilation and reporting as per Procedure D-5-5 requirements.

Please let me know if you have any questions or concerns (please copy Andrew as well).

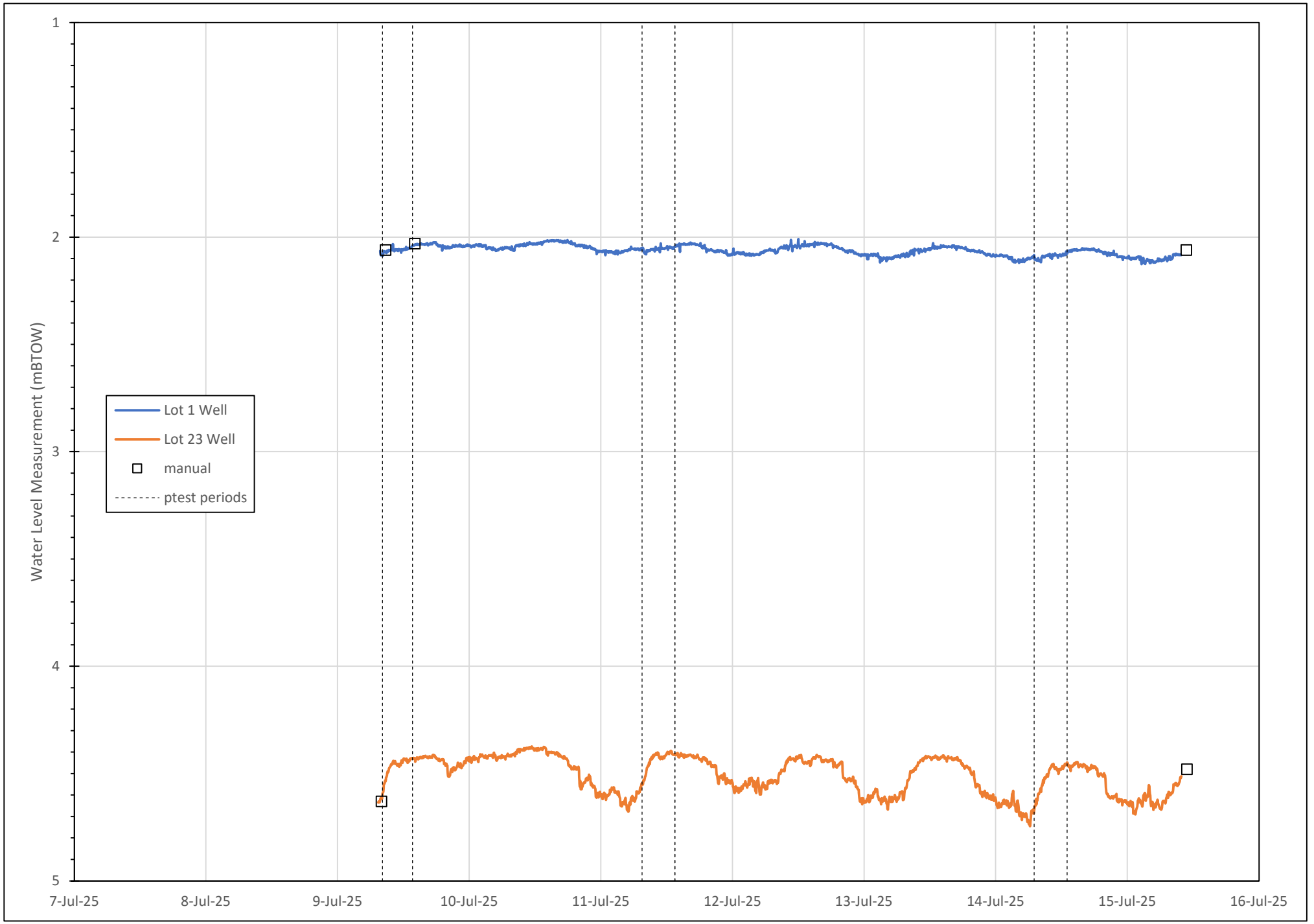
Thank you,

Rob Stovel Jr.
Planner
519-949-0269
Stovel and Associates Inc.
SAI
PLANNING. AGROLOGY. ENVIRONMENTAL.

Appendix E
Water Level
Monitoring Summary



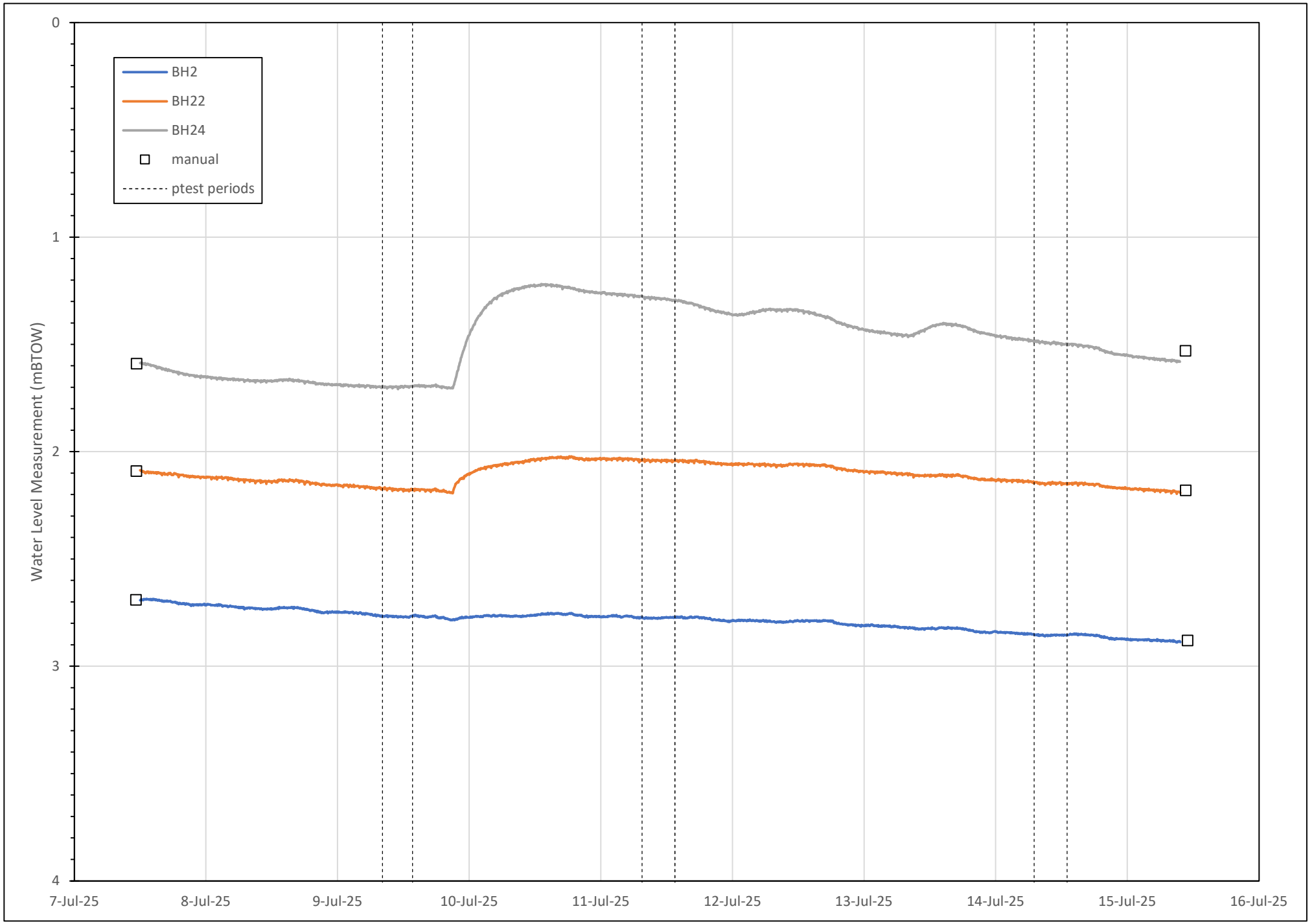
Audrey Meadows Test Well Hydrograph Pump Test Results



Audrey Meadows

Private Well Hydrograph

Pump Test Results



Audrey Meadows Observation Well Hydrographs Pump Test Results

Appendix F
Test Well Water Quality Sampling Results

		Ontario Drinking Water Regulation (JAN, 2020) - ONDWS				AUDREY MEADOWS		
Sample Name		Schedule 1 (Microbiological) and 2 (Chemical) Standards (JAN,2020)		Aesthetic Objective/Operational Guideline (2006)		WELL 4 (TW1)	WELL 18 (TW2)	WELL 12 (TW3)
Sampling Date		Pass Limits	Warning Limits	Pass Limits	Warning Limits	09-07-2025	11-07-2025	14-07-2025
Anions and Nutrients	**Min. LOR**	**Lower Upper**	**Lower Upper**	**Lower Upper**	**Lower Upper**			
Ammonia, total (as N) mg/L	0.0050					0.0438	<0.0050	<0.0050
Chloride mg/L	0.50			<=250		32.3	30.2	33.1
Fluoride mg/L	0.020	<=1.5				0.070	0.077	0.065
Nitrate (as N) mg/L	0.020	<=10				1.04	0.883	1.20
Nitrite (as N) mg/L	0.010	<=1				<0.010	<0.010	<0.010
Sulfate (as SO4) mg/L	0.30			<=500		19.9	25.0	20.0
Microbiological Tests								
Coliforms, Escherichia coli [E. coli] MPN/100mL	1	<1				1	<1	<1
Coliforms, total MPN/100mL	1	<1				165	3	6
Physical Tests								
Alkalinity, total (as CaCO3) mg/L	1.0			>=30 <=500		297	308	302
Colour, true CU	2.0			<=5		<2.0	<2.0	<2.0
Hardness (as CaCO3), from total Ca/Mg mg CaCO3/	0.50			>=80 <=100		349	349	365
pH pH units	0.10			>=6.5 <=8.5		7.56	8.29	7.94
Solids, total dissolved [TDS] mg/L	20			<=500		389	360	396
Turbidity NTU	0.10			<=5		1.03	1.41	1.54
Total Metals								
Aluminum, total µg/L	10			<=100		<10	<10	<10
Antimony, total µg/L	0.60	<=6				<0.60	<0.60	<0.60
Arsenic, total µg/L	1.0	<=10				<1.0	<1.0	<1.0
Barium, total µg/L	10	<=1000				72	77	64
Beryllium, total µg/L	1.0					<1.0	<1.0	<1.0
Bismuth, total µg/L	1.0					<1.0	<1.0	<1.0
Boron, total µg/L	50	<=5000				<50	<50	<50
Cadmium, total µg/L	0.10	<=5				0.14	<0.10	0.11
Calcium, total mg/L	0.50					84.4	84.4	89.3
Cesium, total µg/L	0.10					<0.10	<0.10	<0.10
Chromium, total µg/L	1.0	<=50				<1.0	<1.0	<1.0
Cobalt, total µg/L	0.50					<0.50	<0.50	<0.50
Copper, total µg/L	1.0			<=1000		4.2	1.6	1.2
Iron, total µg/L	50			<=300		74	124	179
Lead, total µg/L	1.0	<=10				<1.0	<1.0	<1.0
Lithium, total µg/L	100					<100	<100	<100
Magnesium, total mg/L	0.50					33.6	33.6	34.5
Manganese, total µg/L	1.0			<=50		4.7	5.2	2.7
Molybdenum, total µg/L	1.0					<1.0	<1.0	<1.0
Nickel, total µg/L	2.0					<2.0	<2.0	<2.0
Phosphorus, total mg/L	0.050					<0.050	<0.050	<0.050
Potassium, total mg/L	1.0					1.6	1.3	1.4
Rubidium, total µg/L	2					<2	<2	<2
Selenium, total µg/L	1.0	<=50				<1.0	<1.0	<1.0
Silicon, total µg/L	1000					5800	6200	5700
Silver, total µg/L	0.10					<0.10	<0.10	<0.10
Sodium, total mg/L	0.50	<=20		<=200		18.0	16.6	19.1
Strontium, total µg/L	1.0					107	106	104
Sulfur, total µg/L	500					8110	9010	7980
Tellurium, total µg/L	1.0					<1.0	<1.0	<1.0
Thallium, total µg/L	0.30					<0.30	<0.30	<0.30
Thorium, total µg/L	1.0					<1.0	<1.0	<1.0
Tin, total µg/L	1.0					3.0	<1.0	<1.0
Titanium, total µg/L	2.0					<2.0	<2.0	<2.0
Tungsten, total µg/L	10					<10	<10	<10
Uranium, total µg/L	2.0	<=20				<2.0	<2.0	<2.0
Vanadium, total µg/L	1.0					<1.0	<1.0	<1.0
Zinc, total µg/L	3.0			<=5000		153	109	139
Zirconium, total µg/L	4.0					<4.0	<4.0	<4.0

Evaluations

Within Limit

Within Warning Limit

Exceeds Limit

Disclaimers

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2518238**			
Client	:	**Groundwater Science Corp.**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Andrew Pentney	Account Manager	:	Costas Farassoglou
Address	:	465 Kingscourt Drive Unit 2 Waterloo Ontario Canada N2K 3R5	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 746 6916	E-mail	:	costas.farassoglou@alsglobal.com
Project	:	AUDREY MEADOWS	Telephone	:	613 225 8279
PO	:	----	Date Samples Received	:	09-Jul-2025 15:20
C-O-C number	:	----	Date Analysis Commenced	:	10-Jul-2025
Sampler	:	Dave Nahrgang	Issue Date	:	15-Jul-2025 16:54
Site	:	----			
Quote number	:	SOA 2025 - WT21-GWSC100-001			
No. of samples received	:	1			
No. of samples analysed	:	1			

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Melissa Freeman		Metals, Waterloo, Ontario
Nik Perkio		Inorganics, Waterloo, Ontario
Nik Perkio		Metals, Waterloo, Ontario
Ruby Sujeepan		Microbiology, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
CU	colour units (1 cu = 1 mg/l pt)
mg CaCO□/L	milligrams of CaCO□ per litre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results

Sub-Matrix: Drinking Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 4 ----	----	----	----	----
					Client sampling date / time	09-Jul-2025 14:30	----	----	----	----
						WT2518238-001	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L		297	----	----	----	----
Colour, true	----	E329-L/WT	2.0	CU		<2.0	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg CaCO□/L		349	----	----	----	----
pH	----	E108/WT	0.10	pH units		7.56	----	----	----	----
Solids, total dissolved [TDS]	----	E162/WT	10	mg/L		389 DLDS	----	----	----	----
Turbidity	----	E121/WT	0.10	NTU		1.03	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L		0.0438	----	----	----	----
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L		32.3	----	----	----	----
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L		0.070	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L		1.04	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L		<0.010	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L		19.9	----	----	----	----
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010/WT	1	MPN/100 mL		1	----	----	----	----
Coliforms, total	----	E010/WT	1	MPN/100 mL		165	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E432/WT	10	µg/L		<10	----	----	----	----
Antimony, total	7440-36-0	E432/WT	0.60	µg/L		<0.60	----	----	----	----
Arsenic, total	7440-38-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Barium, total	7440-39-3	E432/WT	10	µg/L		72	----	----	----	----

Analytical Results

Sub-Matrix: Drinking Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 4 ----	----	----	----	----
					Client sampling date / time	09-Jul-2025 14:30	----	----	----	----
						WT2518238-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Beryllium, total	7440-41-7	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Bismuth, total	7440-69-9	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Boron, total	7440-42-8	E432/WT	50	µg/L		<50	----	----	----	----
Cadmium, total	7440-43-9	E432/WT	0.10	µg/L		0.14	----	----	----	----
Calcium, total	7440-70-2	E432/WT	0.50	mg/L		84.4	----	----	----	----
Cesium, total	7440-46-2	E432/WT	0.10	µg/L		<0.10	----	----	----	----
Chromium, total	7440-47-3	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Cobalt, total	7440-48-4	E432/WT	0.50	µg/L		<0.50	----	----	----	----
Copper, total	7440-50-8	E432/WT	1.0	µg/L		4.2	----	----	----	----
Iron, total	7439-89-6	E432/WT	50	µg/L		74	----	----	----	----
Lead, total	7439-92-1	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Lithium, total	7439-93-2	E432/WT	100	µg/L		<100	----	----	----	----
Magnesium, total	7439-95-4	E432/WT	0.50	mg/L		33.6	----	----	----	----
Manganese, total	7439-96-5	E432/WT	1.0	µg/L		4.7	----	----	----	----
Molybdenum, total	7439-98-7	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Nickel, total	7440-02-0	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Phosphorus, total	7723-14-0	E432/WT	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E432/WT	1.0	mg/L		1.6	----	----	----	----
Rubidium, total	7440-17-7	E432/WT	2	µg/L		<2	----	----	----	----
Selenium, total	7782-49-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Silicon, total	7440-21-3	E432/WT	1000	µg/L		5800	----	----	----	----

Analytical Results

Sub-Matrix: Drinking Water
(Matrix: Water)

					Client sample ID	WELL 4 ----	----	----	----	----
					Client sampling date / time	09-Jul-2025 14:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WT2518238-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Silver, total	7440-22-4	E432/WT	0.10	µg/L		<0.10	----	----	----	----
Sodium, total	7440-23-5	E432/WT	0.50	mg/L		18.0	----	----	----	----
Strontium, total	7440-24-6	E432/WT	1.0	µg/L		107	----	----	----	----
Sulfur, total	7704-34-9	E432/WT	500	µg/L		8110	----	----	----	----
Tellurium, total	13494-80-9	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Thallium, total	7440-28-0	E432/WT	0.30	µg/L		<0.30	----	----	----	----
Thorium, total	7440-29-1	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Tin, total	7440-31-5	E432/WT	1.0	µg/L		3.0	----	----	----	----
Titanium, total	7440-32-6	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Tungsten, total	7440-33-7	E432/WT	10	µg/L		<10	----	----	----	----
Uranium, total	7440-61-1	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Vanadium, total	7440-62-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Zinc, total	7440-66-6	E432/WT	3.0	µg/L		153	----	----	----	----
Zirconium, total	7440-67-7	E432/WT	4.0	µg/L		<4.0	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2518521**		
Client	:	**Groundwater Science Corp.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Andrew Pentney	Account Manager	: Costas Farassoglou
Address	:	465 Kingscourt Drive Unit 2 Waterloo Ontario Canada N2K 3R5	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 746 6916	E-mail	: costas.farassoglou@alsglobal.com
Project	:	AUDREY MEADOWS	Telephone	: 613 225 8279
PO	:	----	Date Samples Received	: 11-Jul-2025 13:30
C-O-C number	:	----	Date Analysis Commenced	: 11-Jul-2025
Sampler	:	Dave Nahrgang	Issue Date	: 18-Jul-2025 14:14
Site	:	----		
Quote number	:	SOA 2025 - WT21-GWSC100-001		
No. of samples received	:	1		
No. of samples analysed	:	1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Jeminikumari Patel		Microbiology, Waterloo, Ontario
Melissa Freeman		Metals, Waterloo, Ontario
Walt Kippenhuck		Metals, Waterloo, Ontario
Walt Kippenhuck		Inorganics, Waterloo, Ontario

General Comments

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Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
CU	colour units (1 cu = 1 mg/l pt)
mg CaCO□/L	milligrams of CaCO□ per litre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 18 ----	----	----	----	----
					Client sampling date / time	11-Jul-2025 13:00	----	----	----	----
						WT2518521-001	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L		308	----	----	----	----
Colour, true	----	E329-L/WT	2.0	CU		<2.0	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg CaCO□/L		349	----	----	----	----
pH	----	E108/WT	0.10	pH units		8.29	----	----	----	----
Solids, total dissolved [TDS]	----	E162/WT	10	mg/L		360 DLDS	----	----	----	----
Turbidity	----	E121/WT	0.10	NTU		1.41	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L		<0.0050	----	----	----	----
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L		30.2	----	----	----	----
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L		0.077	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L		0.883	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L		<0.010	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L		25.0	----	----	----	----
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010/WT	1	MPN/100 mL		Not Detected	----	----	----	----
Coliforms, total	----	E010/WT	1	MPN/100 mL		3	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E432/WT	10	µg/L		<10	----	----	----	----
Antimony, total	7440-36-0	E432/WT	0.60	µg/L		<0.60	----	----	----	----
Arsenic, total	7440-38-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Barium, total	7440-39-3	E432/WT	10	µg/L		77	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 18 ----	----	----	----	----
					Client sampling date / time	11-Jul-2025 13:00	----	----	----	----
					WT2518521-001	----	----	----	----	----
					Result	----	----	----	----	----
Total Metals										
Beryllium, total	7440-41-7	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Bismuth, total	7440-69-9	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Boron, total	7440-42-8	E432/WT	50	µg/L	<50	----	----	----	----	
Cadmium, total	7440-43-9	E432/WT	0.10	µg/L	<0.10	----	----	----	----	
Calcium, total	7440-70-2	E432/WT	0.50	mg/L	84.4	----	----	----	----	
Cesium, total	7440-46-2	E432/WT	0.10	µg/L	<0.10	----	----	----	----	
Chromium, total	7440-47-3	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Cobalt, total	7440-48-4	E432/WT	0.50	µg/L	<0.50	----	----	----	----	
Copper, total	7440-50-8	E432/WT	1.0	µg/L	1.6	----	----	----	----	
Iron, total	7439-89-6	E432/WT	50	µg/L	124	----	----	----	----	
Lead, total	7439-92-1	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Lithium, total	7439-93-2	E432/WT	100	µg/L	<100	----	----	----	----	
Magnesium, total	7439-95-4	E432/WT	0.50	mg/L	33.6	----	----	----	----	
Manganese, total	7439-96-5	E432/WT	1.0	µg/L	5.2	----	----	----	----	
Molybdenum, total	7439-98-7	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Nickel, total	7440-02-0	E432/WT	2.0	µg/L	<2.0	----	----	----	----	
Phosphorus, total	7723-14-0	E432/WT	0.050	mg/L	<0.050	----	----	----	----	
Potassium, total	7440-09-7	E432/WT	1.0	mg/L	1.3	----	----	----	----	
Rubidium, total	7440-17-7	E432/WT	2	µg/L	<2	----	----	----	----	
Selenium, total	7782-49-2	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Silicon, total	7440-21-3	E432/WT	1000	µg/L	6200	----	----	----	----	

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 18 ----	----	----	----	----
					Client sampling date / time	11-Jul-2025 13:00	----	----	----	----
					WT2518521-001	----	----	----	----	
					Result	----	----	----	----	
Total Metals										
Silver, total	7440-22-4	E432/WT	0.10	µg/L	<0.10	----	----	----	----	
Sodium, total	7440-23-5	E432/WT	0.50	mg/L	16.6	----	----	----	----	
Strontium, total	7440-24-6	E432/WT	1.0	µg/L	106	----	----	----	----	
Sulfur, total	7704-34-9	E432/WT	500	µg/L	9010	----	----	----	----	
Tellurium, total	13494-80-9	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Thallium, total	7440-28-0	E432/WT	0.30	µg/L	<0.30	----	----	----	----	
Thorium, total	7440-29-1	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Tin, total	7440-31-5	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Titanium, total	7440-32-6	E432/WT	2.0	µg/L	<2.0	----	----	----	----	
Tungsten, total	7440-33-7	E432/WT	10	µg/L	<10	----	----	----	----	
Uranium, total	7440-61-1	E432/WT	2.0	µg/L	<2.0	----	----	----	----	
Vanadium, total	7440-62-2	E432/WT	1.0	µg/L	<1.0	----	----	----	----	
Zinc, total	7440-66-6	E432/WT	3.0	µg/L	109	----	----	----	----	
Zirconium, total	7440-67-7	E432/WT	4.0	µg/L	<4.0	----	----	----	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2518691**		
Client	:	**Groundwater Science Corp.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Andrew Pentney	Account Manager	: Costas Farassoglou
Address	:	465 Kingscourt Drive Unit 2 Waterloo Ontario Canada N2K 3R5	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 746 6916	E-mail	: costas.farassoglou@alsglobal.com
Project	:	AUDREY MEADOWS	Telephone	: 613 225 8279
PO	:	----	Date Samples Received	: 14-Jul-2025 12:50
C-O-C number	:	----	Date Analysis Commenced	: 14-Jul-2025
Sampler	:	----	Issue Date	: 18-Jul-2025 16:32
Site	:	----		
Quote number	:	SOA 2025 - WT21-GWSC100-001		
No. of samples received	:	1		
No. of samples analysed	:	1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Melissa Freeman		Metals, Waterloo, Ontario
Ruby Sujeepan		Microbiology, Waterloo, Ontario
Walt Kippenhuck		Metals, Waterloo, Ontario
Walt Kippenhuck		Inorganics, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
CU	colour units (1 cu = 1 mg/l pt)
mg CaCO□/L	milligrams of CaCO□ per litre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 12 ----	----	----	----	----
					Client sampling date / time	14-Jul-2025 12:00	----	----	----	----
						WT2518691-001	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L		302	----	----	----	----
Colour, true	----	E329-L/WT	2.0	CU		<2.0	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg CaCO□/L		365	----	----	----	----
pH	----	E108/WT	0.10	pH units		7.94	----	----	----	----
Solids, total dissolved [TDS]	----	E162/WT	10	mg/L		396 DLDS	----	----	----	----
Turbidity	----	E121/WT	0.10	NTU		1.54	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L		<0.0050	----	----	----	----
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L		33.1	----	----	----	----
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L		0.065	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L		1.20	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L		<0.010	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L		20.0	----	----	----	----
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010/WT	1	MPN/100 mL		Not Detected	----	----	----	----
Coliforms, total	----	E010/WT	1	MPN/100 mL		6	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E432/WT	10	µg/L		<10	----	----	----	----
Antimony, total	7440-36-0	E432/WT	0.60	µg/L		<0.60	----	----	----	----
Arsenic, total	7440-38-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Barium, total	7440-39-3	E432/WT	10	µg/L		64	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 12 ----	----	----	----	----
					Client sampling date / time	14-Jul-2025 12:00	----	----	----	----
						WT2518691-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Beryllium, total	7440-41-7	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Bismuth, total	7440-69-9	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Boron, total	7440-42-8	E432/WT	50	µg/L		<50	----	----	----	----
Cadmium, total	7440-43-9	E432/WT	0.10	µg/L		0.11	----	----	----	----
Calcium, total	7440-70-2	E432/WT	0.50	mg/L		89.3	----	----	----	----
Cesium, total	7440-46-2	E432/WT	0.10	µg/L		<0.10	----	----	----	----
Chromium, total	7440-47-3	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Cobalt, total	7440-48-4	E432/WT	0.50	µg/L		<0.50	----	----	----	----
Copper, total	7440-50-8	E432/WT	1.0	µg/L		1.2	----	----	----	----
Iron, total	7439-89-6	E432/WT	50	µg/L		179	----	----	----	----
Lead, total	7439-92-1	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Lithium, total	7439-93-2	E432/WT	100	µg/L		<100	----	----	----	----
Magnesium, total	7439-95-4	E432/WT	0.50	mg/L		34.5	----	----	----	----
Manganese, total	7439-96-5	E432/WT	1.0	µg/L		2.7	----	----	----	----
Molybdenum, total	7439-98-7	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Nickel, total	7440-02-0	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Phosphorus, total	7723-14-0	E432/WT	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E432/WT	1.0	mg/L		1.4	----	----	----	----
Rubidium, total	7440-17-7	E432/WT	2	µg/L		<2	----	----	----	----
Selenium, total	7782-49-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Silicon, total	7440-21-3	E432/WT	1000	µg/L		5700	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WELL 12 ----	----	----	----	----
					Client sampling date / time	14-Jul-2025 12:00	----	----	----	----
						WT2518691-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Silver, total	7440-22-4	E432/WT	0.10	µg/L		<0.10	----	----	----	----
Sodium, total	7440-23-5	E432/WT	0.50	mg/L		19.1	----	----	----	----
Strontium, total	7440-24-6	E432/WT	1.0	µg/L		104	----	----	----	----
Sulfur, total	7704-34-9	E432/WT	500	µg/L		7980	----	----	----	----
Tellurium, total	13494-80-9	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Thallium, total	7440-28-0	E432/WT	0.30	µg/L		<0.30	----	----	----	----
Thorium, total	7440-29-1	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Tin, total	7440-31-5	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Titanium, total	7440-32-6	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Tungsten, total	7440-33-7	E432/WT	10	µg/L		<10	----	----	----	----
Uranium, total	7440-61-1	E432/WT	2.0	µg/L		<2.0	----	----	----	----
Vanadium, total	7440-62-2	E432/WT	1.0	µg/L		<1.0	----	----	----	----
Zinc, total	7440-66-6	E432/WT	3.0	µg/L		139	----	----	----	----
Zirconium, total	7440-67-7	E432/WT	4.0	µg/L		<4.0	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.