



Hydrogeological Assessment
661 County Road 10,
Prince Edward County, ON

Prepared for:

Mr. Drew Harrison
661 County Road 10,
Prince Edward County, ON
K0K 1W0

Prepared by:

ASC Environmental Inc.
1305 Princess St,
Kingston, ON K7M 3E3

File: ASC-1028 101r

January 22, 2026

TABLE OF CONTENTS

1.0 Introduction	1
1.1 Initiation and Objective	1
1.2 Scope of Work	1
2.0 Background.....	2
2.1 Site Information	2
2.2 Surficial Soil Conditions.....	2
2.3 Background Geology.....	2
2.4 Local Hydrogeology.....	2
2.5 Test Well 'TW1'	3
3.0 Well Construction.....	4
4.0 Water Quantity	5
4.1 Background	5
4.2 Test Well TW2.....	5
5.0 Interference.....	7
5.1 Test Well TW1	7
5.2 Discussion of Results	7
6.0 Water Quality	8
6.1 Test Well TW2.....	8
7.0 Sewage System Services	10
8.0 Conclusions and Recommendations	12
9.0 Limitations.....	14
Appendix A Drawing No. 1 – 3	
Appendix B Test Well Record	
Appendix C MECP Water Well Summary Records	
Appendix D Test Well Drawdown and Recovery Data	
Appendix E Laboratory Analytical Certificates	
Appendix F Precipitation Data	
Appendix G Water Quality Letter	



1.0 INTRODUCTION

1.1 Initiation and Objective

ASC Environmental Inc. (ASC) was retained by *Mr. Drew Harrison* (Client) to conduct a hydrogeological assessment in support of a land severance application in accordance with The County of Prince Edward provision for consent. The subject property encompasses approximately 35.2 hectares located along the east side of County Road 10, Prince Edward County, Ontario. The proposed severed lot encompasses approximately 1.3 hectares with 79.5 metres of road frontage along the east side of County Road 10. A site location plan is shown on Drawing No. 1 in Appendix A.

The purpose of the hydrogeological study was to assess the viability of one (1) dug well (TW2) to support the proposed severance. The study evaluated whether groundwater quality and quantity are sufficient to support the residential development without adversely impacting upon existing neighbouring wells.

One (1) recently dug well (MECP Tag #A344653) was advanced October 24, 2025, on the proposed severed parcel of the subject property by Q-Logic Water Ltd. (Well Contractor's Licence # 7717).

1.2 Scope of Work

The agreed scope of work included the following efforts:

- Reviewing available Ministry of Environment, Conservation and Parks (MECP) well water records and historical data for the local area.
- Undertake one (1) six-hour pumping test (with recovery) on the recently dug well located on the proposed severed parcel.
- Monitor water levels in available neighbouring adjacent wells during pumping.
- Collect a well water sample following zero chlorine residual and in the final hour of the pumping test (approximate 5.5-hour mark).
- Submit well water samples to a certified laboratory for the required suite of parameters, as indicated in the MECP D-5-5 Procedure.
- Prepare a hydrogeological assessment, in reference with the MECP D-5-5 Guideline and The County of Prince Edward's Comprehensive Zoning By-law, as amended, including assessment of water quality, water quantity, potential well interference, and evaluation of nutrient attenuation in support of the proposed severance.



2.0 BACKGROUND

2.1 Site Information

The subject property is an approximate 35.2 hectare parcel of land with approximately 872 metres of frontage along the east side of County Road 10 and 261.9 metres of frontage along the south side of Mowbray Road in Prince Edward County. The proposed severed lot encompasses approximately 1.3 hectares with 79.5 metres of road frontage along the east side of County Road 10; the retained parcel will encompass the remaining 33.9 hectares with road frontage along the east side of County Road 10 and the south side of Mowbray Road. The property is located approximately 3.0 kilometres south of the Town of Picton. A site layout plan may be found in Drawing No. 2 in Appendix A.

Ground cover generally consists of agricultural fields with a section of forested lands. Surrounding land use within a 500-metre radius consists primarily of rural residential, agricultural, and vacant forested areas; Slake Brewery (commercial land use) is located approximately 500 metres east of the subject property. Existing agricultural use on the subject property is largely comprised of arable agricultural fields. The northern limit of the subject property lies at an approximate elevation of 110 masl, sloping gradually from north to south to an elevation of approximately 90 metres at the southern limit of the subject property.

2.2 Surficial Soil Conditions

The physiographic area is described as Bevelled Till Plains. The surficial geology generally consists of shallow soil cover overlying Paleozoic bedrock. ^[1]

Review of local well records showed an overburden thickness of 0.9 to 10.4 m, overlying limestone bedrock. Records reported the local overburden consisted of predominantly sands and clays.

2.3 Background Geology

Bedrock geology in the study area consists of a stratigraphic sequence of Paleozoic bedrock comprised of limestone, dolostone, shale, arkose, sandstone from the Ottawa Group; Simcoe group and Shadow Lake Formations. ^[2]

2.4 Local Hydrogeology

According to the Government of Ontario Watershed Boundaries (OWS) map, the Study Area is located along the northern slope of the East Lake – Outlet River watershed. Shallow groundwater is typically affected by topography and believed to flow south towards a series of unnamed creeks and wetlands which flow into East Lake. Picton Bay is present approximately 4 kilometres north of the subject property. East Lake is located approximately 3.5 kilometres south of the subject property.

^[1] Chapman, L.J. and Putnam, D.F. 1972. Physiography of Southern Ontario. Map 2227.

^[2] Ontario Geological Survey. 1991: Bedrock Geology of Ontario, Southern Sheet. Map. 2544.



Five (5) water well summary records of local wells (within a 500-metre radius of the subject property) were available for review from the MECP online database (see Appendix B). Review of the well records indicated that three (3) records were associated with drinking water wells, one (1) record was associated with a dry borehole, and one (1) record was associated with a flow test on an existing well.

The three (3) identified drinking water well records were reported as being advanced for domestic use. The three (3) records were associated with drilled wells. Drinking water wells were advanced to depths of approximately 10.4 to 48.8 metres below ground surface (mbgs) and screened within the limestone bedrock. Water was encountered at depths ranging from 7.6 and 32.0 mbgs. Copies of the well records identified in the MECP database can be seen in Appendix C.

Groundwater flow is typical through pores in the overburden tills and through fractures and joints within the limestone bedrock. In general, the upper 10 m to 30 m of the limestone bedrock is considered to be regionally unconfined as a result of fracturing near the surface. Water is typically encountered in fractures and bedding planes in the bedrock formation.

2.5 Test Well 'TW1'

ASC understands test well 'TW1' was historically utilized for the purposes of potable water supply to the existing dwelling on the severed property. ASC completed a preliminary assessment of the existing well in July 2025. No well record was identified for TW1.

Preliminary assessment identified that TW1 was a drilled well advanced to approximately 24.02 mbgs. Visual observations indicated that the well was not maintained in compliance with Ontario's Revised Regulation (RRO) 903, Wells. Preliminary flow testing indicated a sustained well yield of approximately 6 litres per minute.

ASC understands that, considering the required repair items to bring the well into compliance with RRO 903 and the low well yield, the Client elected to construct a new dug well (test well TW2) to support the proposed severance. ASC understands that moving forward, test well TW2 will be the primary source of potable water for the existing residential dwelling.

At the time of this report, TW1 is still present at the subject property. TW1 may be suitable for the purposes of surplus water supply to the proposed severed parcel or may be decommissioned in accordance with RRO 903. If TW1 is intended to be utilized for the purposes of surplus potable water supply, ASC recommends the well be upgraded in compliance with the requirements of RRO 903.

TW1 was utilized as an observation well for the TW2 pumping test for the purposes of this hydrogeological assessment.



3.0 WELL CONSTRUCTION

Q-Logic Water Ltd. (Well Contractor's Licence # 7717) advanced TW2 on October 24, 2025. Note that the well record indicates a work completed date of December 24, 2025. ASC understands, based on correspondence with the Client, that this was the package submission date, and that October 24, 2025, is the correct well construction date. The well was dug for the purpose of domestic water supply in support of the proposed land severance. The well location is shown in Drawing No. 2 in Appendix A and the well record is included in Appendix B.

The well record for TW2 indicated that the annular space between the concrete casing and native materials was sealed with non-toxic caulking to a depth of approximately 3.0 m below ground surface. The well record for TW2 shows that the concrete casing extends to a depth of approximately 5.3 m. The well casing extends above ground surface to a height greater than 0.40 m in accordance with RRO 903.

The well record for TW2 indicated topsoil from surface to 0.6 m, underlain by sand and clay to a depth of 2.4 m, overlying limestone bedrock. The record further indicated TW2 was completed in the limestone bedrock at a depth of 5.3 mbgs. Water was reportedly encountered at a depth of approximately 2.4 m, 3.0 m, and 3.7 m in the limestone bedrock. The well record is included in Appendix B.

Visual observations during field work indicated that the well was constructed and maintained to prevent surface water and other foreign materials from entering the well. The height of the casing above grade meets Ontario's Revised Regulation (RRO) 903, Wells, amended to Ontario Regulation (O Reg) 372/07, under the *Ontario Water Resources Act*. The test well location is shown on Drawing No. 2 in Appendix A.

No sources of potential contamination were evident during the site work on the subject property.

We understand that water will be supplied using submersible pump. Pump installation shall be undertaken in accordance with RRO 903 (Section 17).

Copy of the test well record is attached in Appendix B.



4.0 WATER QUANTITY

4.1 Background

The quantity of groundwater available for the test well was investigated through one (1) scheduled 6-hour pumping test in reference with MECP Procedure D-5-5 and The County of Prince Edward's Comprehensive Zoning By-law, as amended. The pumping test for TW2 was conducted on October 30, 2025, and was undertaken for a total period of approximately 6-hours (361 minutes) to assess long term well yield.

Referencing Government of Canada precipitation data (Point Petre weather station), in the fourteen (14) days in October leading up to the pumping test, the area received approximately 69.8 mm of rainfall. Additionally, it should be noted that the pumping test was undertaken during drought conditions as the area was issued a Level 3 Low Water Condition by Quinte Conservation on September 5, 2025, that was still in effect at the time of pumping. On this basis, the pumping test was undertaken during a period of precipitation; however, considering the drought conditions in effect at the time of pumping and the significantly depleted groundwater table, the precipitation was not considered to contribute to high groundwater recharge conditions. Precipitation data can be found in Appendix F.

Referencing MECP D-5-5 guidelines, the minimum pumping rate per person based on peak demand is 3.75 L/min. Therefore, considering a 5-bedroom home (5 + 1), the minimum pumping rate required would be 22.5 L/min (3.75 L/min * 6). On this basis, the test well could be pumped at a rate of 22.5 L/min for purposes of assessing peak demand and long term well yield.

Bedrock hydrogeological values of transmissivity were calculated from the pumping data by the Jacob method, which assumes the heterogeneous limestone bedrock aquifer is analogous to a homogeneous, confined, porous media aquifer of infinite horizontal extent. Recognizing that the limestone bedrock water bearing unit is likely unconfined, the Jacob method sufficiently estimates the aquifer parameters to assess well hydrogeological conditions.

4.2 Test Well TW2

Test well TW2 is approximately 6.0 metres deep (from top of casing). Prior to the initiation of pumping the static water level was measured to be approximately 1.95 metres from the top of the casing. The water in the well was pumped at a rate of 22.5 litres/min for a total of 361 minutes, yielding approximately 8,122 litres of water. Maximum drawdown was manually measured at approximately 1.36 metres over the duration of the test. At the completion of the pumping test, approximately 56% of the total well supply was remaining. Specific capacity calculated over the final 61 minutes of the pumping test was found to be approximately 268 litres/minute/metre. A plot of drawdown versus time shows a logarithmic relationship (see Figure 1 in Appendix D).



Section 4.3.1 of the Ministry of Environment, Conservation and Parks (MECP) (*previously known as the Ministry of Environment*) D-5-5 Procedure, Technical Guideline for Private Wells: Water Supply Assessment requires that water level recovery must be monitored in the test well for the lesser of 95% recovery or 24 hours. Total drawdown over the period of pumping was measured at approximately 1.36 m. Ninety-three (93%) recovering was reached approximately 24 hours following pump shutdown; ninety-five (95%) recovery was reached approximately 25 hours following pump shutdown. Considering the construction of the test well (dug well) and the demonstrated recovery, ASC is of the opinion that the test well TW2 is sufficiently able to meet peak usage periods, recover and meet the daily requirement for the proposed severance with a low potential for aquifer mining.

The transmissivity (T) after approximately 100 minutes of pumping was calculated to be $6.47 \times 10^{-5} \text{ m}^2/\text{s}$. Hydraulic Conductivity ($K = T/b$), where $b = 3.08 \text{ m}$ (represents approximate aquifer thickness at time of pumping), was determined to be $K = 2.10 \times 10^{-5} \text{ m/s}$. The test well recovery and transmissivity data may be found in Appendix D.

As indicated above and based on the considered number of bedrooms expected (5 + 1), a minimum pumping rate of 22.5 L/min is required with a resulting water requirement of 2700 litres/day during peak demand. Peak demand (at pumping rate of 22.5 L/min) was reached approximately 120 minutes into the pumping test, with a measured drawdown of approximately 0.85 m. Additional drawdown recorded over the remainder of the pumping test was 0.51 m. This indicates that the well sufficiently met “peak demand” conditions.

Based on the observations from the drawdown versus time relationship, it is concluded that the long-term yield of TW2 is sufficient to meet normal domestic requirements in reference with the MECP Procedure D-5-5 and The County of Prince Edward's Comprehensive Zoning By-law, as amended.

Drawdown and recovery measurements obtained during the pumping test are presented in Appendix D.



5.0 INTERFERENCE

The effects of interference were monitored during pumping of test well TW2. Neighbouring observation wells were utilized during pumping to assess potential interference. Observation well locations are shown on Drawing No. 2.

5.1 Test Well TW1

One (1) observation well, located on-site (TW1) was utilized to assess potential interference during the TW2 pumping test. The observation well was located approximately 40 metres horizontal distance from the subject test well. Note that ASC made three (3) attempts to contact the neighbour at 664 County Road 10 for permission to monitor their well during the pumping test; at the time of the test no response had been received. See Table 1 below, for observation well information.

Water levels measured in the observation wells during the TW2 pumping test did not show a positive response during pumping of the test well TW2 on October 30, 2025.

Table 1. Test Well – TW1 Neighbouring wells involved in hydrogeological assessment at the subject property.

Observation Well ID	Well type	Observation Well Address	Distance from Test Well (m)
TW1	Drilled	On-site (661 County Road 10)	40

5.2 Discussion of Results

No positive response was observed in TW1, located approximately 40 metres horizontal distance from the test well. On this basis, potential water quantity problems resulting from mutual well interference are not expected for the test well TW1.

On this basis, ASC is of the opinion that the associated measured drawdown is an appropriate estimation of the influence. Based on the observation well measurements during pumping, the adjacent domestic water supply wells will not be significantly influenced by the proposed land severance. Copies of the residential water level measurements recorded during the pumping test are presented in Appendix D.



6.0 WATER QUALITY

A well water sample was collected from the test well on October 30, 2025, during the final hour of the pumping test and stored in a cooler with ice and transported to a Canadian Association of Laboratory Accreditation (CALA) certified laboratory in Kingston, Ontario. Chemical and bacteriological parameter analyses were undertaken in accordance with the MECP Procedure D-5-5 and compared to the Ontario Drinking Water Quality Objectives (ODWO).

Results of analyses for the test well (TW2) are presented in the following section.

6.1 Test Well TW2

Bacteriological parameter analyses met the MECP Procedure D-5-5 and ODWO for Total Fecal Coliform (0 cfu/100ml), E. Coli (0 cfu/100ml), and Total Coliform (0 cfu/100ml) in the sample collected on October 30, 2025.

Elevated health parameter sodium was detected in the groundwater samples collected on October 30 and December 2, 2025. The health-related limit for sodium is 20 mg/L and the aesthetic objective is 200 mg/L. The sample result for TW2 showed a sodium concentration of 307 mg/L and 292 mg/L, respectively. The health-related limit for sodium is a “warning level” and where this level is exceeded the local Medical Health Officer shall be notified in order to alert individuals with relevant medical conditions. ASC understands, based on correspondence with Professional Pumps and Water Treatment (professional water quality specialists), that the identified sodium concentrations in TW2 may be readily treated using an appropriately sized reverse osmosis system to a dedicated drinking water tap. A letter of opinion from Professional Pumps and Water Treatment may be found in Appendix G.

The health-related limit for Nitrate is 10 mg/L and the sample results from the sample collected on October 30, 2025, showed a Nitrate concentration of 10.4 mg/L. ASC personnel completed subsequent well development and collected a subsequent sample from the test well on December 2, 2025, which showed a Nitrate concentration meeting the ODWO (4.81 mg/L). ASC is of the opinion that initially elevated nitrates were associated with well construction, and that Nitrate concentrations will continue to improve with supplemental well development.

The health-related limit for Turbidity is 1 NTU (Nephelometric Turbidity Unit) and the ODWO level is 5 NTU. The laboratory sample result collected on October 30, 2025, showed 2.2 NTU. Field turbidity results returned to 0 NTU prior to the collection of the sample. We are of the opinion that the laboratory result may have been subject to precipitate in the sample water during transport or handling to/by the laboratory, and the field result is likely representative of expected well water conditions with future development.



Remaining health related parameters (nitrite) met the MECP Procedure D-5-5 and ODWO.

The operational guideline for hardness is 80-100 mg/L and the ODWO level is 500 mg/L. Sample analyses for TW2 identified hardness of 232 mg/L. The ODWO level for Total Dissolved Solids (TDS) is 500 mg/L. The level for TDS was measured at 1030/1160 mg/L. Hardness and TDS in water usually occur when elevated concentrations of calcium, magnesium, and chlorides are present in water. Elevated concentrations of hardness and TDS may result in scale build-up and mineral deposits on hot water heaters and plumbing fixtures, corrosion or encrustation of metal fixtures or appliances. Hard water can be readily treated through ion exchange water softening.

To ensure safe drinking water is provided to future residents, we recommend contracting a professional water quality specialist to confirm health related and aesthetic treatment options. At a minimum, we recommend disinfection (i.e. UV light) of the water source to ensure bacteriological free groundwater for consumption purposes.

Results of laboratory sample analyses are presented in Appendix E.



7.0 SEWAGE SYSTEM SERVICES

ASC understands the purpose of the severance is a surplus dwelling severance, and on this basis the existing dwelling on the severed lands is proposed to remain in its current configuration. On this basis, the lands before and after the severance are to consist of one (1) 5-bedroom rural residential dwelling with associated private well and septic service.

At the time of this assessment, ASC understands the existing dwelling is serviced by an existing sewage disposal system present on the proposed severed lands. At the time of this assessment, the construction of the existing sewage disposal system is unknown, but ASC understands based on correspondence with the Client that the system is adequately servicing the existing residential dwelling. Furthermore, no changes to the building and by extension the design daily sewage flow are proposed at this time.

On this basis, the proposed severed lands have sufficient space to accommodate a viable septic system. To ensure the most optimal septic design is undertaken at the subject property, we recommend contracting a professional septic design specialist to confirm servicing options for the subject property.

Groundwater samples were collected from the on-site dug test well (TW2). Well water chemistry results from test well TW2 showed Nitrate (4.81 mg/L) and Nitrite (<0.05 mg/l) concentrations, below MECP health related parameters. As part of the assessment for the residential development a Nitrate Assessment was undertaken in reference with The County of Prince Edward's Comprehensive Zoning By-law (Servicing Report), as amended, and with reference to the MECP Procedure *D-5-4 Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment* guidelines.

In the case of Nitrate, the Ontario Drinking Water Standard of 10 mg/L of Nitrate-Nitrogen is used as an indicator of groundwater impact potential. Nitrate attenuation at the down gradient boundary would be calculated as follows



Nitrate Attenuation

A_p – Pervious Area of attenuation zone, m.

Note there are no impervious areas on the attenuation zone, ASC understands structures will shed water to the ground surface with subsequent infiltration.

i – infiltration, m/year

I – Available infiltration, L/day

C – Concentration of Nitrate at the Downgradient Receptor

C_{BK} – Background Concentration of Nitrate = 4.81 mg/L (TW2)

N_L = Additional Nitrate Loading, g

$$I = \frac{(A_p)(i) \left(1000 \frac{L}{m^3}\right)}{365 \frac{days}{year}}$$

$$I = \frac{(13000)(0.25) \left(1000 \frac{L}{m^3}\right)}{365 \frac{days}{year}}$$

$$I = 8904.11$$

$$C = C_{BK} + \frac{40g_L}{1000L + I}$$

$$C = 4.81mg/L + \frac{40}{1000L + 8904.11}$$

$$C = 4.81 mg/L + 4.04 mg/L$$

$$C = 8.85 mg/L$$

Based on the above assessment a Nitrate concentration at the down gradient receptor has been calculated to be less than 10 mg/L. Therefore, on this basis the Nitrate loading will be sufficiently attenuated at the down gradient receptor, meeting the requirement of D-5-4 and Section 3.0 of the PEC Servicing Report Guideline.

8.0 CONCLUSIONS AND RECOMMENDATIONS

- Based on the considered number of bedrooms expected (5 + 1), a minimum pumping rate of 22.5 L/min is required with a resulting water requirement of 2,700 litres/day during peak demand. Peak demand (22.5 L/min) was reached approximately 120 minutes into the pumping test, with a measured drawdown of approximately 0.85 m. Additional drawdown recorded over the remainder of the pumping test was 0.51 m. This indicates that the well sufficiently met “peak demand” conditions.
- The water in the well was pumped at a rate of 22.5 litres/min for a total of 361 minutes, yielding approximately 8,122 litres of water. Maximum drawdown was manually measured at approximately 1.36 metres over the duration of the test. At the completion of the pumping test, approximately 56% of the total well supply was remaining indicating the well is sufficiently able to supply peak usage periods and meet the daily requirement for the proposed severance.
- Bacteriological parameter analyses met the MECP Procedure D-5-5 and ODWO for Total Fecal Coliform (0 cfu/100ml), E. Coli (0 cfu/100ml), and Total Coliform (0 cfu/100ml) in the sample collected on October 30, 2025.
- Elevated health parameter sodium was detected in the groundwater samples collected on October 30 and December 2, 2025. The health-related limit for sodium is 20 mg/L and the aesthetic objective is 200 mg/L. The sample result for TW2 showed a sodium concentration of 307 mg/L and 292 mg/L, respectively. The health-related limit for sodium is a “warning level” and where this level is exceeded the local Medical Health Officer shall be notified in order to alert individuals with relevant medical conditions. ASC understands, based on correspondence with Professional Pumps and Water Treatment (professional water quality specialists), that the identified sodium concentrations in TW2 may be readily treated using an appropriately sized reverse osmosis system to a dedicated drinking water tap.
- The health-related limit for Turbidity is 1 NTU (Nephelometric Turbidity Unit) and the ODWO level is 5 NTU. The laboratory sample result collected on October 30, 2025, showed 2.2 NTU. Field turbidity results returned to 0 NTU prior to the collection of the sample. We are of the opinion that the laboratory result may have been subject to precipitate in the sample water during transport or handling to/by the laboratory, and the field result is likely representative of expected well water conditions with future development.
- Results of the groundwater identified elevated aesthetic parameters hardness and TDS in the test well. Parameter concentrations are considered reasonably treatable.
- To ensure safe drinking water is provided to future residents, we recommend contracting a professional water quality specialist to confirm health related and



aesthetic treatment options. At a minimum, we recommend disinfection (i.e. UV light) of the water source to ensure bacteriological free groundwater for consumption purposes.

- Based on results of the pumping tests and monitoring results of neighbouring residential well water supplies, water quantity problems resulting from mutual well interference is not expected.
- Based on field observation and visual inspection by ASC personnel, TW2 appears to meet the present requirements of O. Reg 903 in order to ensure continued good quality groundwater for consumption purposes.
- Based on the nutrient assessment, a Nitrate concentration at the down gradient receptor has been calculated to be less than 10 mg/L. Therefore, on this basis the Nitrate loading will be sufficiently attenuated at the down gradient receptor, meeting the requirement of D-5-4 and Section 3.0 of the PEC Servicing Report Guideline.
- Reviewing the existing site and local lithology, and taking local hydrogeological characteristics into account, well construction details and the results from groundwater chemistry; the limestone bedrock groundwater resource has not been significantly impacted from surface infiltration sources. Results indicate that sufficient long-term water supply to support the proposed severance.



9.0 LIMITATIONS

ASC Environmental (ASC) was retained by *Mr. Drew Harrison* (Client) to undertake a Hydrogeological Assessment in support of a proposed land severance at the subject property, located at 661 County Road 10, Prince Edward County, Ontario.

The scope of work for this assessment included:

- Undertaking a minimum six-hour pumping test, with recovery on the test well.
- Monitoring adjacent residential wells during pumping, to assess potential interference.
- Collection of well water samples, following field confirmation of zero residual chlorine and within the last hour of the pumping test.
- Submission of samples to a certified laboratory for the required suite of parameters.
- Additional well development and associated water sampling for health-related parameters.
- Preparation of a hydrogeological assessment report, addressing well construction, water quality and quantity, and potential interference.

The findings reported in this document are based on the tasks completed by ASC under the mutually agreed upon scope of work. Professional judgement, experience with similar investigations, and available data collected within the scope of work form the basis for this report. ASC has prepared this report using information understood to be factual and correct and shall not be responsible for conditions arising from information or facts that were inaccurate, concealed, or not fully disclosed at the time of investigation.

ASC Environmental Inc. makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

The nature of the investigation makes it possible that contrary conditions may be identified due to seasonal or meteorological changes that are beyond the control of ASC. Groundwater sampling results are current at the time of sampling only, seasonal conditions and future changes to the property may influence groundwater quality. The passage of time affects the information provided in the report. Environmental conditions of a Site can change. Opinions relating to the Site conditions are based upon information that existed at the time that the conclusions were formulated. ASC does not certify or warrant the future environmental/hydrogeological status of the property.

This document has been prepared by ASC Environmental Inc. for the sole use of *Mr. Drew Harrison* and *assignees* to assess hydrogeological conditions related to the subject property. Unauthorized reuse of this document for other purposes, or by any other party,



or any reliance on or decisions to be made based on it, are the responsibility of the third parties. If additional parties require reliance on this report, written authorization from ASC Environmental Inc. will be required. Such reliance will only be provided by ASC Environmental Inc. following written authorization from the Client. ASC Environmental Inc. disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed.

ASC Environmental Inc. will not be responsible for any consequential or indirect damages. ASC Environmental Inc. will only be liable for damages resulting from negligence of ASC Environmental Inc. ASC Environmental Inc. will not be liable for any losses or damage if the Client has failed, within a period of two years following the date upon which the claim is discovered (Claim Period), to commence legal proceedings against ASC Environmental Inc. to recover such losses or damage unless the laws of the jurisdiction which govern the Claim Period which is applicable to such claim provides that the application Claim Period is greater than two years and cannot be abridged by the contract between the Client and ASC Environmental Inc., in which case the Claim Period shall be deemed to be extended by the shortest additional period which results in this provision being legally enforceable.

Yours truly,
ASC Environmental Inc.



Thomas Asma, B.ASc., P. Eng. QP_{ESA}
Project Engineer

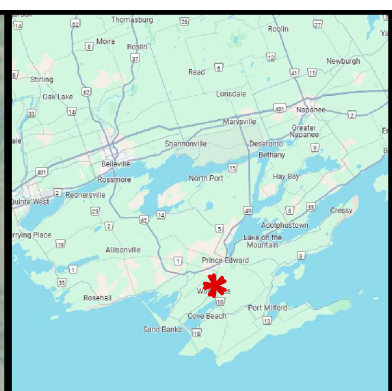


ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596


APPENDIX A
Drawing No. 1 - 3




ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596



LEGEND

 SUBJECT PROPERTY LOCATION

 APPROXIMATE SUBJECT PROPERTY BOUNDARY

DRAWING TITLE
Site Location Plan

FIGURE NO.
01

DRAWN BY
T. Asma

PROJECT
Hydrogeological Assessment

CLIENT
Drew Harrison

LOCATION
661 County Road 10, PEC, ON

PROJECT NO.
ASC-1028

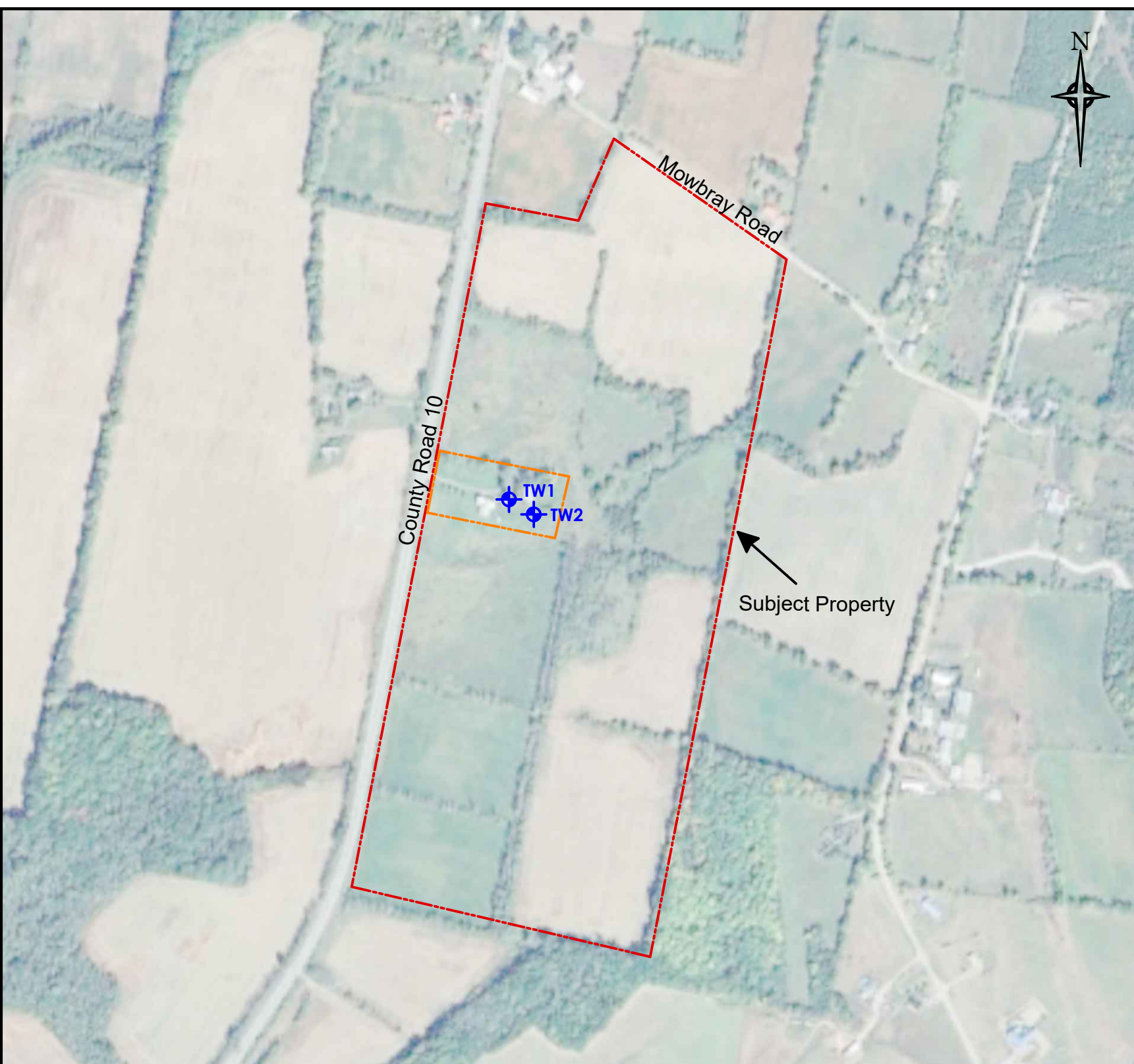
SCALE:
0 METRES 1330

DATE
22-Jan-2026



1305 Princess St
Kingston, ON, K7M 3E3

(613)634-5596
www.ascenvironmental.ca



LEGEND

- - - APPROXIMATE SUBJECT PROPERTY BOUNDARY
- - - APPROXIMATE SEVERANCE PROPERTY BOUNDARY
- ⊕ **TW2** APPROXIMATE LOCATION OF TEST WELL

DRAWING TITLE
Site Layout Plan

FIGURE NO. 02	DRAWN BY T. Asma
-------------------------	----------------------------

PROJECT
Hydrogeological Assessment

CLIENT
Drew Harrison

LOCATION
661 County Rd 10, PEC, ON

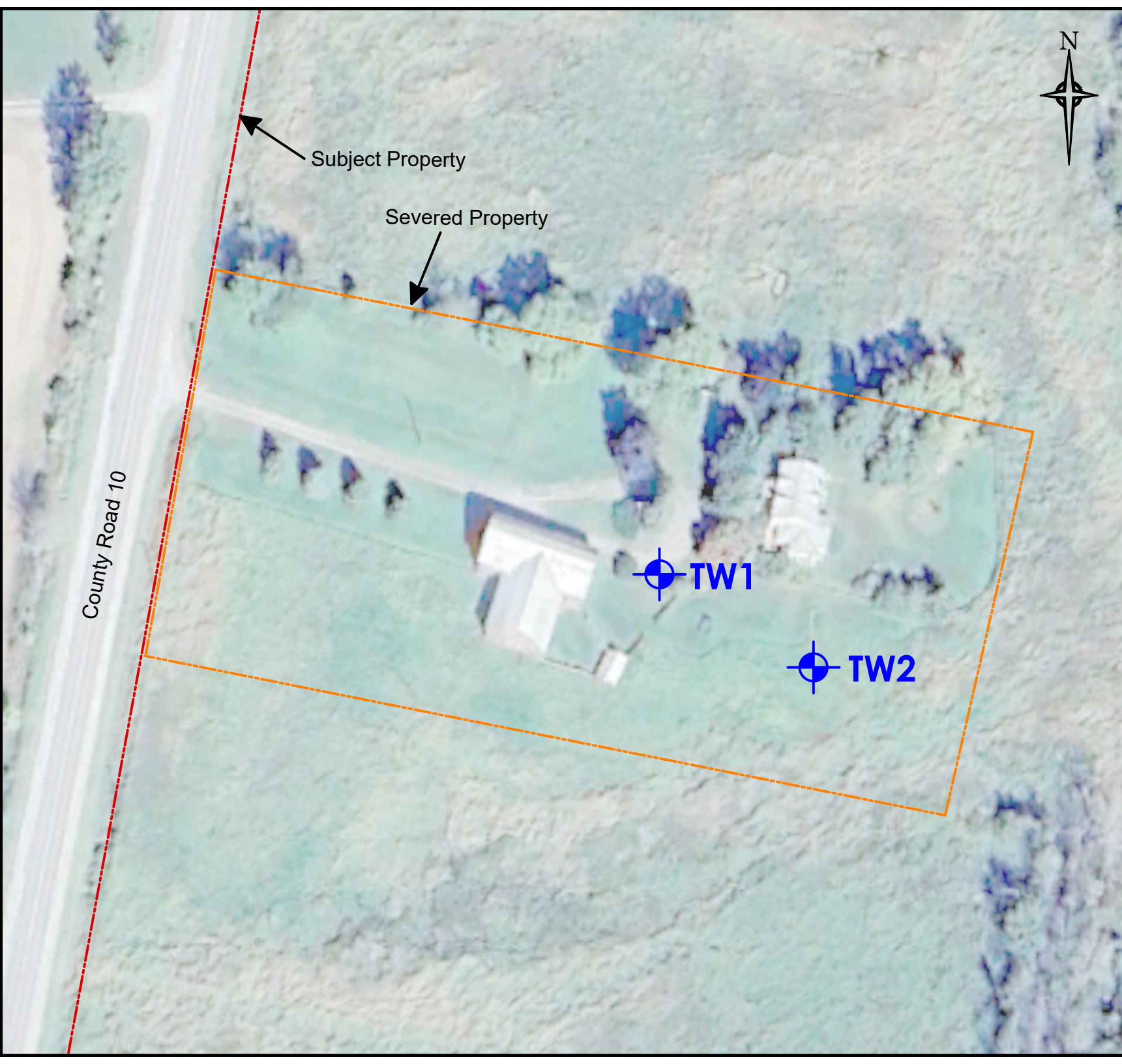
PROJECT NO. ASC-1028	SCALE: 0 METRES 132
--------------------------------	-------------------------------

DATE
22-Jan-2026



1305 Princess St
Kingston, ON, K7M 3E3

(613)634-5596
www.ascenvironmental.ca



LEGEND

- - - APPROXIMATE SUBJECT PROPERTY BOUNDARY
- - - APPROXIMATE SEVERANCE PROPERTY BOUNDARY
- ⊕ **TW2** APPROXIMATE LOCATION OF TEST WELL

DRAWING TITLE
Severed Property Layout Plan

FIGURE NO. 03	DRAWN BY T. Asma
-------------------------	----------------------------


PROJECT
Hydrogeological Assessment

CLIENT
Drew Harrison

LOCATION
661 County Rd 10, PEC, ON

PROJECT NO. ASC-1028	SCALE: 0 METRES 21
--------------------------------	------------------------------

DATE 22-Jan-2026	
----------------------------	--



ASC ENVIRONMENTAL

1305 Princess St
Kingston, ON, K7M 3E3

(613)634-5596
www.ascenvironmental.ca

APPENDIX B
Test Well Record



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596

Measurements recorded in: Metric Imperial

A344653

Page ___ of ___

Well Owner's Information

First Name: Last Name/Organization: **DREW HARRISON FARMS INC.** E-mail Address: Well Constructed by Well Owner

Mailing Address (Street Number/Name): **612 CRESSY BAYSIDE RD** Municipality: **P.E.C** Province: **K.O.K.2.T.O** Postal Code: **6134767448** Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name): **661 CTY RD 10** Township: Concession:

County/District/Municipality: **PRINCE EDWARD COUNTY** City/Town/Village: **PICTON** Province: **Ontario** Postal Code: **K0K2T0**

UTM Coordinates: Zone: **18** Easting: **326815** Northing: **4871379** Municipal Plan and Sublot Number: Other:

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
				From To
BROWN	TOPSOIL			0 2
BROWN	SAND/CLAY			2 8
GREY	LIMESTONE			8 17.5

Annular Space

Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
From To		
0 10	NON TOXIC CAULKING	JOINTS

Method of Construction: Cable Tool Rotary (Conventional) Rotary (Reverse) Boring Air percussion Other, specify

Well Use: Domestic Livestock 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)	Status of Well
			From To	
36	CONCRETE	4	+2.5 -17.5	<input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify <input type="checkbox"/> Other, specify

Construction Record - Screen

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

Water Details

Water found at Depth (m/ft)	Kind of Water: <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	Hole Diameter
		Depth (m/ft) From To Diameter (cm/in)
8	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	
10	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	
12	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	

Well Contractor and Well Technician Information

Business Name of Well Contractor: **Q-LOGIC WATER LTD** Well Contractor's Licence No.: **77117**

Business Address (Street Number/Name): **352 MARSH RD** Municipality: **BELLEVILLE**

Province: **ONT** Postal Code: **K8M4Z7** Business E-mail Address: **quigleyinspects@gmail.com**

Bus. Telephone No. (inc. area code): **6138858696** Name of Well Technician (Last Name, First Name): **QUIGLEY, JAMIE**

Well Technician's Licence No.: **319113** Signature of Technician and/or Contractor: *[Signature]* Date Submitted: **2025/12/24**

Measurements taken from top of the lid

Results of Well Yield Testing

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

If pumping discontinued, give reason: **TEST COMPLETE**

Time (min)	Draw Down		Recovery	
	Water Level (m/ft)	Time (min)	Water Level (m/ft)	Time (min)
Static Level	3		16.5	
1		1		
2				
3				
4				
5				
10				
15				
20				
25				
30				
40				
50				
60				

Pumping rate (l/min / GPM): **50**

Duration of pumping: **1 hrs + 0 min**

Final water level end of pumping (m/ft): **20**

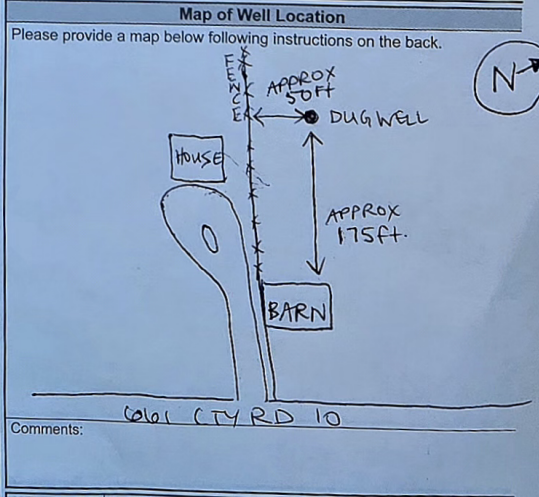
If flowing give rate (l/min/GPM): **20**

Recommended pump depth (m/ft): **19**

Recommended pump rate (l/min/GPM): **10 GPM PUMP**

Well production (l/min/GPM): **20+**

Disinfected? Yes No



Well owner's information package delivered: Yes No

Date Package Delivered: **2025/12/24**

Date Work Completed: **2025/12/24**

Ministry Use Only

Audit No.: **2422298**

Received: _____

APPENDIX C
MECP Water Well Summary Records



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596

WATER WELL RECORD

5305302 MUNICIPAL 53003 COM. MT. 02

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

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: HALLWELL CON. BLOCK, TRACT, SURVEY ETC: CON 2 LOT: 22
DATE COMPLETED: 03 MO 03 YR 90
3 PICTON ONT KOK 270

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
		FLOW RATE ON PREVIOUS 2 DUG WELL 12' DEEP			

31 32

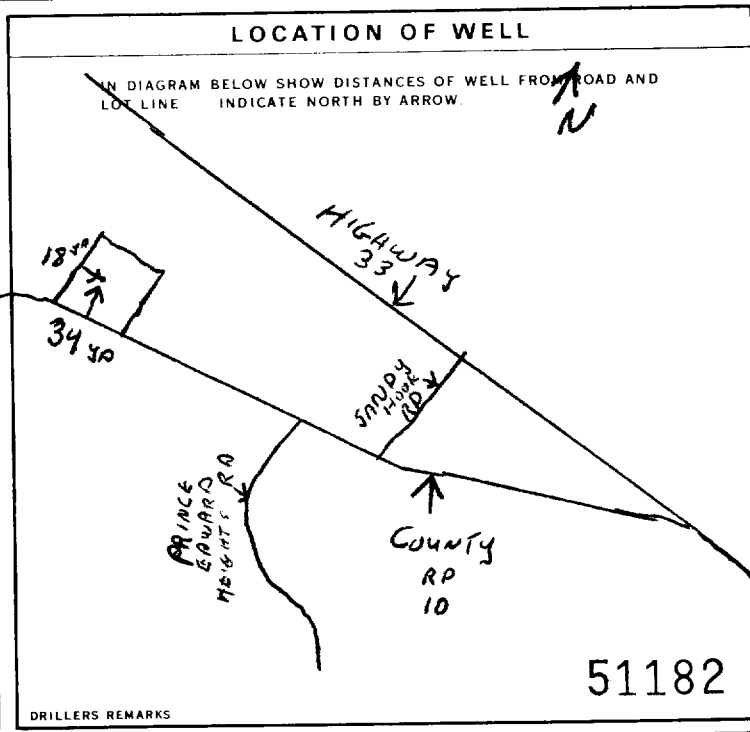
41 WATER RECORD			
WATER FOUND AT - FEET	KIND OF WATER		
10-13	1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS	14
15-18	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS	19
20-23	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS	24
25-28	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS	29
30-33	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS	34

51 CASING & OPEN HOLE RECORD				
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
40"	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input checked="" type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	2 1/2"	12	0
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC			20-23
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC			27-30

SCREEN	SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
		INCHES	FEET

61 PLUGGING & SEALING RECORD			
DEPTH SET AT - FEET		MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)	
FROM	TO		
10-13	14-17		
18-21	22-25		
26-29	30-33		

71 PUMPING TEST	PUMPING TEST METHOD		PUMPING RATE	DURATION OF PUMPING		
	1 <input checked="" type="checkbox"/> PUMP	2 <input type="checkbox"/> BAILER	6 GPM	15-16 HOURS	17-18 MIN.	
	STATIC LEVEL		WATER LEVELS DURING		1 <input checked="" type="checkbox"/> PUMPING	
	END OF PUMPING				2 <input type="checkbox"/> RECOVERY	
	28' FEET	19' FEET	7 FEET	9 FEET	10 FEET	11 FEET
IF FLOWING, GIVE RATE		PUMP INTAKE SET AT		WATER AT END OF TEST		
		11 1/2 FEET		1 <input checked="" type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY		
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		RECOMMENDED PUMPING RATE		
<input checked="" type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP		11 1/2 FEET		5 GPM		



FINAL STATUS OF WELL	1 <input checked="" type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
	2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED, POOR QUALITY
	3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
WATER USE	1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
	2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
	3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
METHOD OF CONSTRUCTION	1 <input type="checkbox"/> CABLE TOOL	6 <input type="checkbox"/> BORING
	2 <input type="checkbox"/> ROTARY (CONVENTIONAL)	7 <input type="checkbox"/> DIAMOND
	3 <input type="checkbox"/> ROTARY (REVERSE)	8 <input type="checkbox"/> JETTING

CONTRACTOR: PRINCE EDWARD WELL DRILLERS 6005
ADDRESS: BOX 3 MILFORD ONT. KOK 270
WELL CONTRACTOR'S LICENCE NUMBER: 6005
WELL TECHNICIAN'S LICENCE NUMBER: 621
SIGNATURE OF TECHNICIAN/CONTRACTOR: Ross Branson
SUBMISSION DATE: 03 MO 03 YR 90

OFFICE USE ONLY
DATA SOURCE: 6005 CONTRACTOR: 6005 DATE RECEIVED: MAR 27 1990
DATE OF INSPECTION: INSPECTOR:
REMARKS: CSSECS

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

11

5305397

MUNICIPALITY 53003

COM. MT

02

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: [REDACTED] CON. BLOCK TRACT SURVEY ETC: CON 2 M.T. LOT 25-27: 22
 WELL: [REDACTED] DATE COMPLETED: DAY 18 MO 08 YR 90
 BOX 131 KOK 2TO PICTON ONT.

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	SAND	STONES	SOFT	0	6
BROWN	GRAVEL	SAND	DENSE	6	19
GREY	LIMESTONE		HARD	19	50

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13 34	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
15-18 44	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
8	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		0	21
6 1/4	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0	21
6 3/8	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		21	50

SCREEN

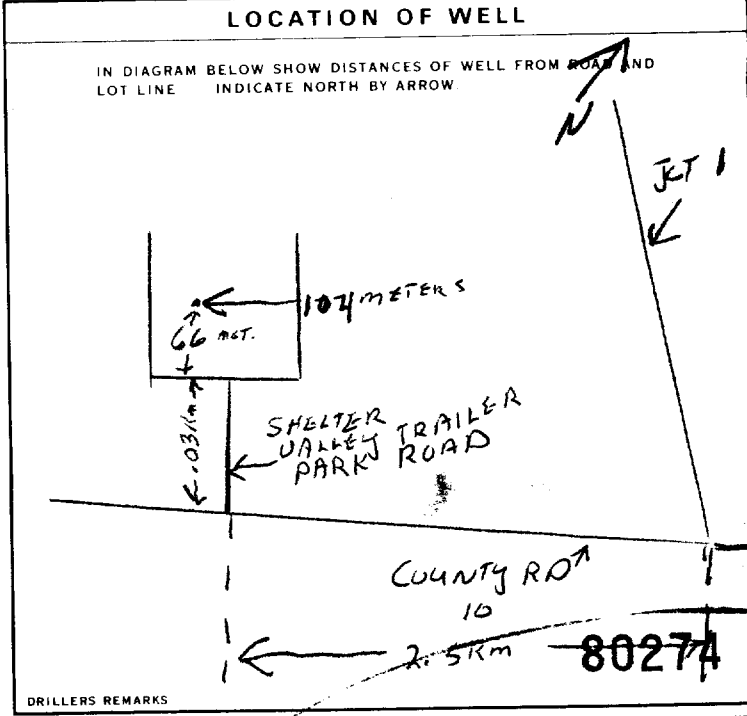
SIZE (S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER ETC.
21-13 16	CEMENT GROUT	
16-21 0	OVERBURDEN MAT.	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER	6 GPM	1 15-16 HOURS 15 17-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
10 FEET	44' FEET	15 MINUTES 20 FEET 30 MINUTES 44 FEET 45 MINUTES 44 FEET 60 MINUTES 44 FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
	45 GPM	4 FEET
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	45 FEET	15 GPM



FINAL STATUS OF WELL

1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY
 2 OBSERVATION WELL 6 ABANDONED POOR QUALITY
 3 TEST HOLE 7 UNFINISHED
 4 RECHARGE WELL 8 DEWATERING

WATER USE

1 DOMESTIC 5 COMMERCIAL
 2 STOCK 6 MUNICIPAL
 3 IRRIGATION 7 PUBLIC SUPPLY
 4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING
 9 NOT USED

METHOD OF CONSTRUCTION

1 CABLE TOOL 6 BORING
 2 ROTARY (CONVENTIONAL) 7 DIAMOND
 3 ROTARY (REVERSE) 8 JETTING
 4 ROTARY (AIR) 9 DRIVING
 5 AIR PERCUSSION 10 DIGGING 11 OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Wendon McKee WELL CONTRACTOR'S LICENCE NUMBER: 6005
 ADDRESS: Box 3 MILFORD ONT. KOK 21PO
 NAME OF WELL TECHNICIAN: Ross Branson WELL TECHNICIAN'S LICENCE NUMBER: 621
 SIGNATURE OF TECHNICIAN/CONTRACTOR: Ross Branson SUBMISSION DATE: DAY 24 MO 08 YR 90

OFFICE USE ONLY

DATA SOURCE: 58 CONTRACTOR: 6005 DATE RECEIVED: SEP 19 1990 63-68 80
 DATE OF INSPECTION: INSPECTOR:
 REMARKS:

APPENDIX D
Test Well Drawdown and Recovery Data



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596

Table 1. Water Quality Field Measurements.



		Field Water Quality Analysis			Test Well:	TW2		
		Project No.:	ASC-1028		Date:	30-Oct-25		
		Client:	Drew Harrison			Recorded By:	T.A.	
		Location:	661 County Road 10, Prince Edward County, Ontario					
Started pumping 22.5 L/min at 8:45am								
Pumping Test Elapsed Time (min)	Odour	Temperature (°C)	pH	Conductivity (µS)	Total Dissolved Solids (ppm)	Turbidity NTU	Chlorine (Total) (mg/L)	
10	Chlorine	9.8	8.43	1444	707	6	150	
90	Chlorine	9.9	8.27	1726	654	2	100	
150	Chlorine	9.9	8.13	1717	839	0	25	
180	Sl. Chlorine	9.6	8.10	1712	841	0	<25	
210	Sl. Chlorine	9.5	8.08	1709	845	0	<25	
240	Sl. Chlorine	9.3	8.06	1701	850	0	0.20	
270	None	9.2	8.04	1699	851	0	0.06	
300	None	9.2	8.04	1699	852	0	0.00	
330	None	-	-	-	-	0	0.00	
361	None	PUMP OFF						
Notes	1. Test well water circulated at 150ppm chlorine residual for 60 minutes prior to pumping 2. Water was primarily clear with no odour							
Field Analysis Equipment								
Chlorine :		Hach DR 900 Colorimeter						
Temp./pH/Cond./TDS :		Hanna HI98129						
Turbidity :		Hach DR 900 Colorimeter						

Table 2. Test Well drawdown during pumping test.

	Pumping Test - Drawdown			Test Well: TW2	
	Project No.:	ASC-1028		Date:	30-Oct-2025
	Client:	Drew Harrison		Recorded By:	T.A.
	Location:	661 County Road 10, Prince Edward County, Ontario			
Pumping Rate (Q) (L/min)	Elapsed Time (ET) (min)	Well Level (WL) (m)	Drawdown (DD) (m)		
22.5	0	1.95	0.00		
22.5	1	1.97	0.01		
22.5	2	2.00	0.04		
22.5	3	2.01	0.06		
22.5	4	2.03	0.08		
22.5	5	2.05	0.10		
22.5	6	2.07	0.12		
22.5	7	2.08	0.13		
22.5	8	2.10	0.15		
22.5	9	2.11	0.16		
22.5	10	2.13	0.18		
22.5	12	2.16	0.21		
22.5	14	2.18	0.23		
22.5	16	2.21	0.26		
22.5	18	2.24	0.29		
22.5	20	2.26	0.31		
22.5	25	2.31	0.36		
22.5	30	2.36	0.41		
22.5	35	2.40	0.45		
22.5	40	2.44	0.49		
22.5	45	2.47	0.52		
22.5	50	2.49	0.54		
22.5	60	2.54	0.59		
22.5	70	2.59	0.64		
22.5	80	2.63	0.68		
22.5	90	2.68	0.73		
22.5	100	2.72	0.77		
22.5	125	2.81	0.86		
22.5	150	2.90	0.95		
22.5	175	2.96	1.01		
22.5	200	3.02	1.07		
22.5	225	3.08	1.13		
22.5	250	3.16	1.21		
22.5	300	3.22	1.27		
22.5	350	3.26	1.31		
22.5	361	3.31	1.36		
TW1	(m)		L/min	m ³ /day	
Δs_{0-1min}	0.01		Q_{0-1min}	22.50	32.4
$\Delta s_{1-10min}$	0.16		$Q_{1-10min}$	22.50	32.4
$\Delta s_{10-100min}$	0.52		$Q_{10-100min}$	22.50	32.4
$\Delta s_{100-1000min}$	1.06		$Q_{100-1000min}$	22.50	32.4
	m ² /day		m ² /s		
T_{0-1min}	423.51		4.90E-03		
$T_{1-10min}$	36.68		4.25E-04		
$T_{10-100min}$	11.39		1.32E-04		
$T_{100-1000min}$	5.59		6.47E-05		
Notes					
1			Δs	Drawdown over one Log Cycle based on Trend Line	
Q	Volumetric Flow Rate		L/min	Litres per Minute	
T	Coefficient of Transmissivity		gpm	Gallon per Minute	

ASC Environmental Inc.
ASC-1028, Drew Harrison,
661 County Road 10, Prince Edward County, ON
Figure 1. TW2 Pumping Test Drawdown

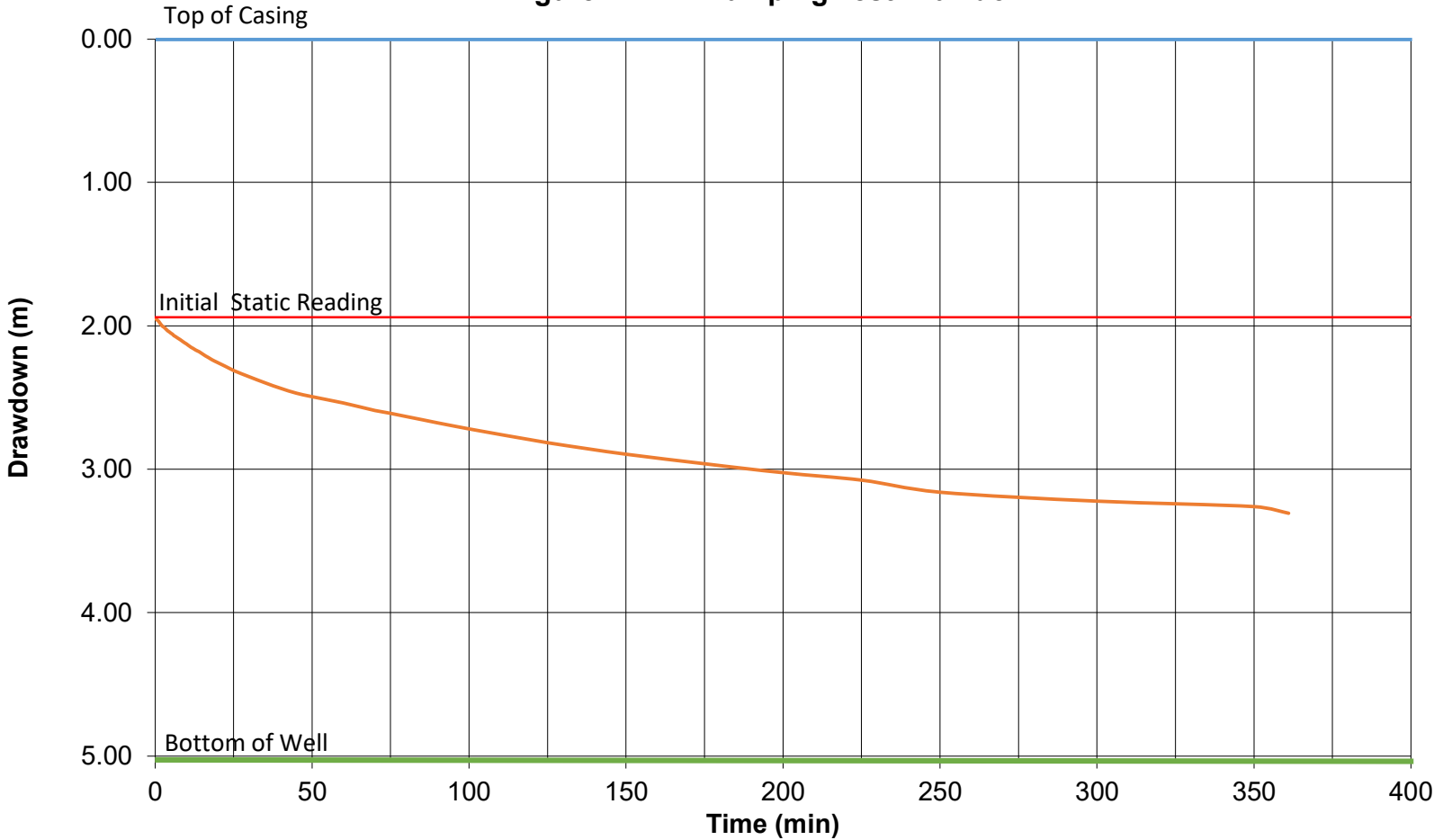



Table 3. Observation well drawdown during pumping test.							
		Pumping Test - Drawdown			Test Well:	TW2	
		Project No.:	ASC-1028		Date:	30-Oct-2025	
		Client:	Drew Harrison			Pumping start time	
		Location:	661 County Road 10, Prince Edward County,			8:45	AM
On-Site (TW1)				Distance to Observation Wells (metres)			
WL (ft)	WL (m)	DD (m)	Time H:Min	ET (min)	On-Site (TW1)		
7.283	2.220	0.000	8:25	0	40		
7.283	2.220	0.000	9:48	63			
7.283	2.220	0.000	10:49	124			
7.283	2.220	0.000	11:49	184			
7.283	2.220	0.000	12:45	240			
7.283	2.220	0.000	13:56	311			
7.283	2.220	0.000	16:35	470			

ASC Environmental Inc.
ASC-1028, Drew Harrison,
661 County Road 10, Prince Edward County, ON
Figure 2. Pumping Test Influence on Neighbouring Wells
TW2 Pumping Test Zone of Influence

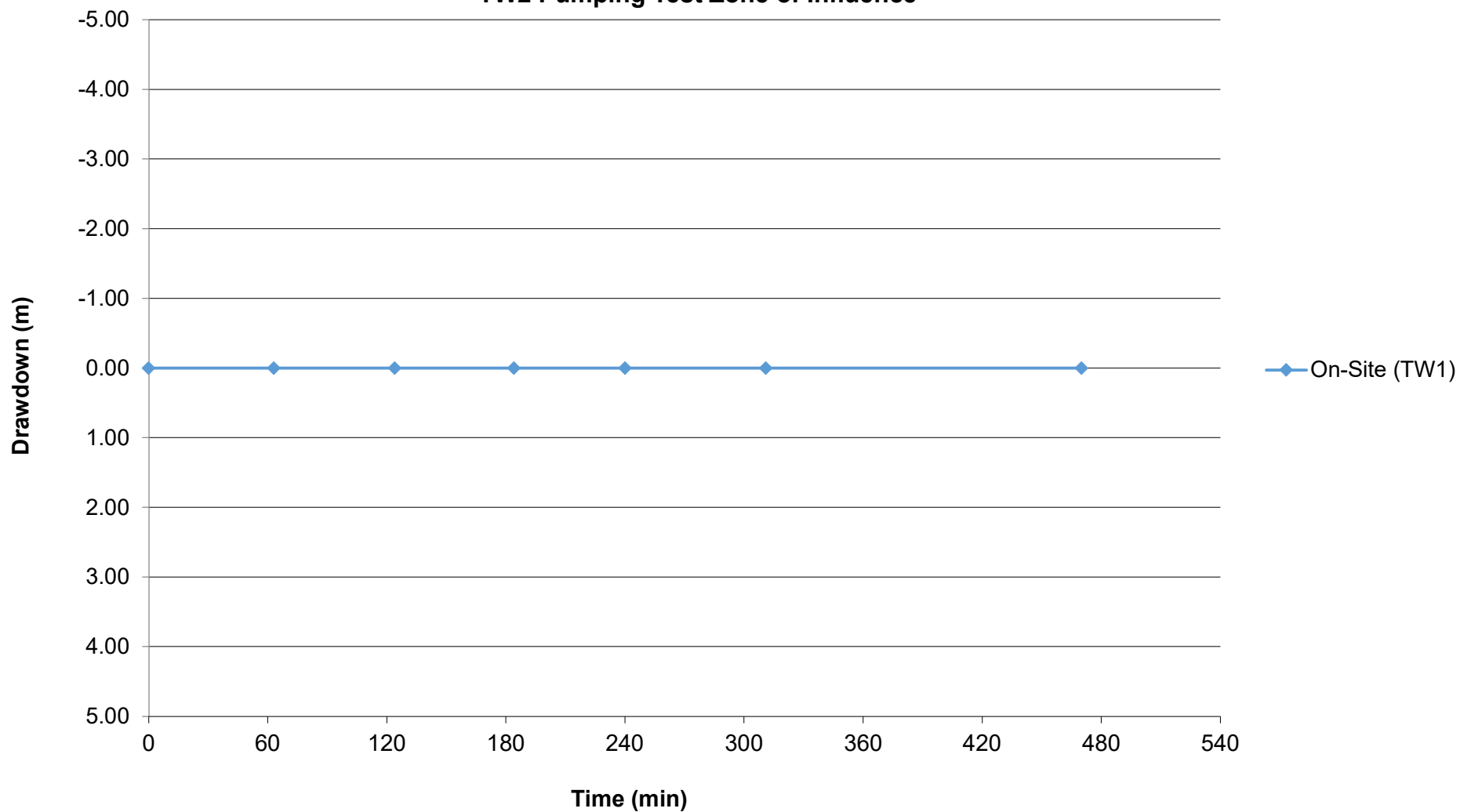

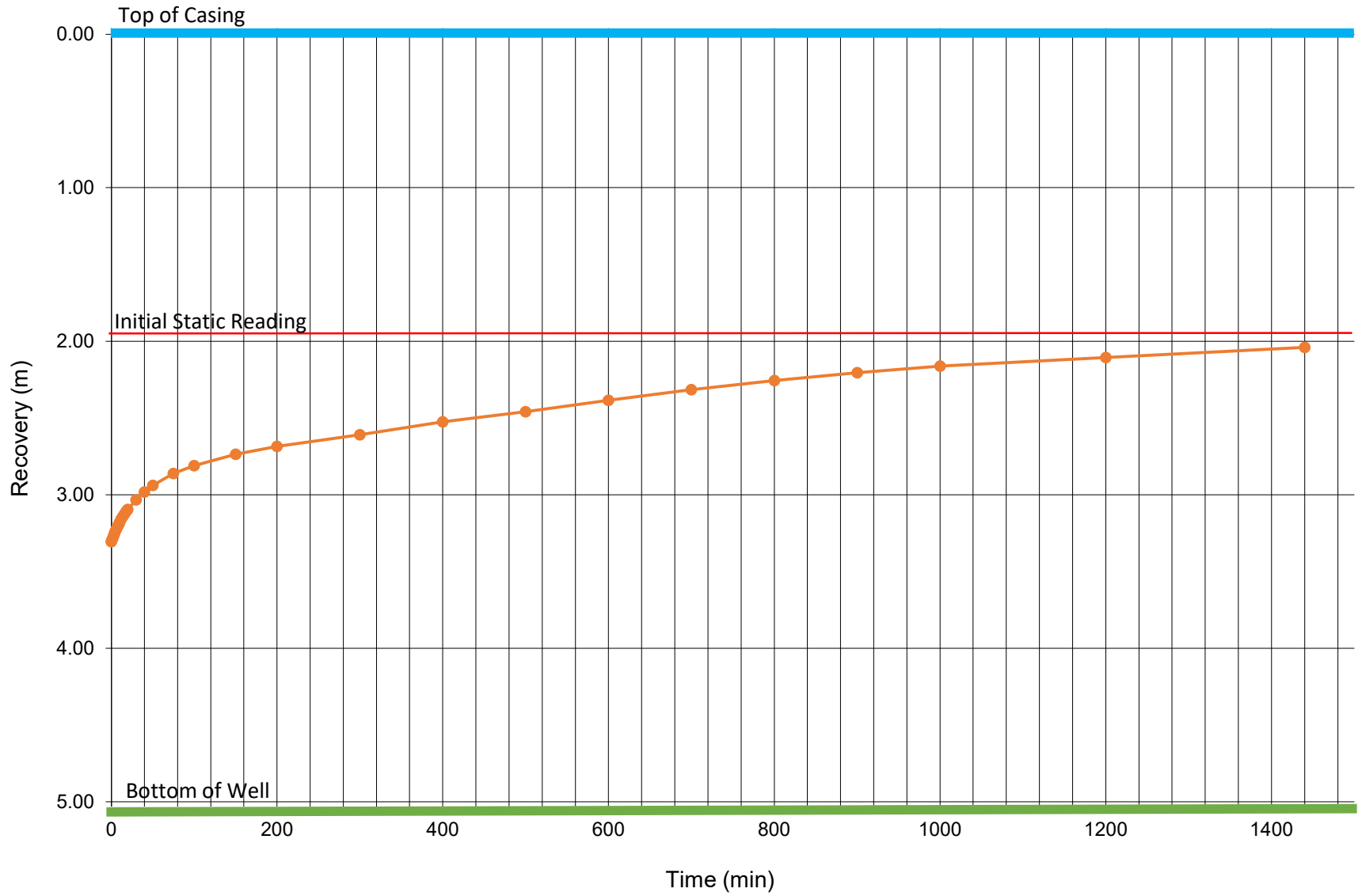


Table 4. Test well recovery after pumping test.

		Pumping Test - Recovery		Test Well:	TW2
		Project No.:	ASC-1028	Date:	30-Oct-25
		Client:	Drew Harrison	Recorded By: T.A.	
		Location:	661 County Road 10, Prince Edward County, Ontario		
		Test Well			
Pumping	Elapsed Time (min)	Well Level (WL) (m)	Drawdown (m)		
0	0	3.31	1.36		
0	1	3.29	1.34		
0	2	3.28	1.33		
0	3	3.26	1.31		
0	4	3.25	1.30		
0	5	3.24	1.29		
0	6	3.23	1.28		
0	7	3.21	1.26		
0	8	3.20	1.25		
0	9	3.19	1.24		
0	10	3.18	1.23		
0	12	3.16	1.21		
0	14	3.14	1.19		
0	16	3.13	1.18		
0	18	3.11	1.16		
0	20	3.10	1.15		
0	30	3.03	1.08		
0	40	2.98	1.03		
0	50	2.94	0.99		
0	75	2.86	0.91		
0	100	2.81	0.86		
0	150	2.74	0.79		
0	200	2.69	0.74		
0	300	2.61	0.66		
0	400	2.53	0.58		
0	500	2.46	0.51		
0	600	2.39	0.43		
0	700	2.32	0.37		
0	800	2.26	0.31		
0	900	2.21	0.25		
0	1000	2.16	0.21		
0	1200	2.11	0.16		
0	1440	2.04	0.09		
WL at 95% Recovery =		2.02 m			

ASC Environmental Inc.
ASC-1028, Drew Harrison,
661 County Road 10, Prince Edward County, ON
Figure 3. TW2 Recovery



APPENDIX E
Laboratory Analytical Certificates



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596

C.O.C.: G135779

REPORT No: 25-033727 - Rev. 0

Report To:
 ASC Environmental
 1305 Princess St.
 Kingston, ON K7M 3E3

CADUCEON Environmental Laboratories
 285 Dalton Ave
 Kingston, ON K7K 6Z1

Attention: Josh Bell

DATE RECEIVED: 2025-Oct-30
 DATE REPORTED: 2025-Nov-04
 SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: ASC-1028
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Oct-31	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2025-Nov-04	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Oct-31	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2025-Oct-31	ECTC-001	MECP E3407
DOC (Liquid)	1	OTTAWA	MMACMILLAN	2025-Oct-31	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2025-Oct-31	FC-001	SM 9222D
HPC MF (Liquid)	1	KINGSTON	BBURTCH	2025-Oct-31	HPC-001	SM 9215D
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	NSAUNDERS	2025-Nov-03	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Oct-31	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Nov-03	PHEN-01	MECP E3179
Sulphide (Liquid)	1	KINGSTON	MWILSON	2025-Oct-31	H2S-001	SM 4500-S2
Tannins (Liquid)	1	KINGSTON	MWILSON	2025-Oct-31	TAN-001	SM 5550
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Nov-04	TPTKN-001	MECP E3516.2
Turbidity (Liquid)	1	OTTAWA	ABAILEY	2025-Oct-31	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-033727 - Rev. 0

Parameter	Units	R.L.	Client I.D.
			TW1
			Sample I.D.
			25-033727-1
			Date Collected
			2025-10-30
Total Coliform (DC Media)	CFU/100mL	1	0
E coli (DC Media)	CFU/100mL	1	0
Background (DC Media)	CFU/100mL	1	0
Heterotrophic Plate Count	CFU/1mL	10	30
Fecal Coliform	CFU/100mL	1	0
Alkalinity(CaCO3) to pH4.5	mg/L	5	270
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1030
Conductivity @25°C	uS/cm	1	1880
pH @25°C	pH units	-	8.22
Colour	TCU	2	<2
Turbidity	NTU	0.1	2.2
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	294
Nitrate (N)	mg/L	0.05	10.4
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	247
Phosphorus (Total)	mg/L	0.01	0.02
Total Kjeldahl Nitrogen	mg/L	0.1	0.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.38
Dissolved Organic Carbon	mg/L	0.8	2.7
Tannin & Lignin	mg/L	0.5	<0.5



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Parameter	Units	R.L.	Client I.D.
			TW1
			Sample I.D.
			25-033727-1
			Date Collected
			2025-10-30
Parameter	Units	R.L.	
Sulphide	mg/L	0.01	<0.01
Phenolics	mg/L	0.001	<0.001
Hardness (as CaCO3)	mg/L as CaCO3	0.02	232
Calcium	mg/L	0.02	55.3
Iron	mg/L	0.005	0.013
Magnesium	mg/L	0.02	22.8
Manganese	mg/L	0.001	0.001
Potassium	mg/L	0.1	26.8
Sodium	mg/L	0.2	307
Anion Sum (Calculated)	meq/L	-	19.6
Cation Sum (Calculated)	meq/L	-	18.7
% Difference (Calculated)	%	-	2.26
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1160
Conductivity Calc	µmho/cm	-	1890



Michelle Dubien
Data Specialist

C.O.C.: G135856

REPORT No: 25-037101 - Rev. 0

Report To:

ASC Environmental
 1305 Princess St.
 Kingston, ON K7M 3E3

CADUCEON Environmental Laboratories

285 Dalton Ave
 Kingston, ON K7K 6Z1

Attention: Tanner Cook

DATE RECEIVED: 2025-Dec-03
 DATE REPORTED: 2025-Dec-05
 SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: ASC-1028
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Dec-04	A-IC-01	SM 4110B
ICP/OES (Liquid)	1	OTTAWA	NSAUNDERS	2025-Dec-04	D-ICP-01	SM 3120B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

Parameter	Units	R.L.	Client I.D.
			TW2-3
			Sample I.D.
			25-037101-1
			Date Collected
			2025-12-02
			-
Nitrate (N)	mg/L	0.05	4.81
Sodium	mg/L	0.2	292



Michelle Dubien
Data Specialist

APPENDIX F
Precipitation Data



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596



Daily Data Report for October 2025

POINT PETRE (AUT)
ONTARIO
Current Station Operator: ECCC - MSC

Latitude:	43:50'00.000" N	Longitude:	77:09'00.000" W	Elevation:	78.60 m
Climate ID:	6156559	WMO ID:	71430	IC ID:	WQP

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
01	17.8	7.6	12.7	5.3	0.0			0.0		3	33
02	17.9	9.8	13.8	4.2	0.0			0.0		11	34
03	22.1	14.7	18.4	0.0	0.4			0.0		23	39
04	23.3	13.6	18.4	0.0	0.4			0.0		M	M
05	23.6	12.5	18.0	0.0	0.0			0.0			
06	24.1	15.0	19.6	0.0	1.6			0.0		20	34
07	20.2	12.6	16.4	1.6	0.0			28.1		23	56
08	16.1	3.8	10.0	8.0	0.0			0.0		33	40
09	12.6	0.4	6.5	11.5	0.0			0.0			
10	17.2	10.8	14.0	4.0	0.0			0.0		18	56
11	15.8	9.3	12.6	5.4	0.0			0.8		20	46
12	20.5	13.4	17.0	1.0	0.0			0.0		8	39
13	19.5	10.5	15.0	3.0	0.0			0.0		5	41
14	18.0	11.2	14.6	3.4	0.0			0.0		29	38
15	14.8	5.2	10.0	8.0	0.0			0.0		2	34
16	14.3	2.8	8.5	9.5	0.0			0.0		33	35
17	13.9	2.1	8.0	10.0	0.0			0.0			
18	17.0	13.1	15.1	2.9	0.0			0.0		16	44
19	19.6	14.7	17.2	0.8	0.0			6.7		17	74
20	15.1	8.4	11.7	6.3	0.0			9.6		30	53
21	M	M	M	M	M			M		M	M
22	12.9	7.9	10.4	7.6	0.0			2.5		23	65
23	13.2	6.8	10.0	8.0	0.0			38.5		24	50
24	11.2	5.5	8.4	9.6	0.0			0.2		28	39
25	12.2	0.7	6.4	11.6	0.0			0.0			
26	10.9	0.4	5.7	12.3	0.0			0.0			
27	9.8	1.4	5.6	12.4	0.0			0.0		8	36
28	12.5	5.2	8.8	9.2	0.0			0.0		7	46
29	11.0	3.1	7.0	11.0	0.0			0.0		12	32
30	10.4	6.5	8.5	9.5	0.0			31.1		7	57
31	7.8	4.5	6.2	11.8	0.0			8.1	0	30	88
Sum				187.9	2.4			125.6			
Avg	15.8	7.8	11.8								
Xtrm	24.1	0.4				M	M	38.5		30	88

Summary, average and extreme values are based on the data above.

Legend

- A = Accumulated
- C = Precipitation occurred, amount uncertain
- E = Estimated
- F = Accumulated and estimated
- I = Precipitation may or may not have occurred
- M = Missing
- N = Temperature missing but known to be > 0
- S = More than one occurrence
- T = Trace
- Y = Temperature missing but known to be < 0
- [Empty] = Indicates an unobserved value
- ^ = The value displayed is based on incomplete data
- ! = Data that is not subject to review by the National Climate Archives

Date modified:
2025-10-15

APPENDIX G
Water Quality Letter



ASC Environmental Inc.
1305 Princess Street,
Kingston, ON K7M 3E3
Tel: (613) 634-5596

PROFESSIONAL PUMPS & water TREATMENT

800 Larchwood Crescent, Kingston ON
613-561-7867 ppwtsales@gmail.com
www.ppwt.ca

Attn: Thomas Asma
ASC Environmental Inc.
1305 Princess Street
Kingston, ON K7M 3E3

December 19, 2025

Subject: Hydrogeological Assessment
661 County Road 10, Prince Edward County, ON

Regarding the sodium concentration for the subject test well TW2 (dug well).

For TW2, analyzed sodium concentrations are readily treated using an appropriately sized reverse osmosis system to a dedicated drinking water tap.

I have installed several systems with similar sodium concentrations and the systems have tested to be well within acceptable parameters (health related limit of 20 mg/L) for sodium concentration, post filtration.

We trust this information is satisfactory for your requirements. If you have questions regarding our study, please contact the undersigned.

Yours truly,
John Jeffrey, Owner/Operator

Well Contractor #7275

Professional Pumps and Water Treatment does not assume any liability for changes in quality or quantity from the date of this report forward.
