

210 Prescott Street, Unit 1 P.O. Box 189 Kemptville, Ontario K0G 1J0 Civil • Geotechnical •

Structural • Environmental •

Hydrogeology •

(613) 860-0923

FAX: (613) 258-0475

REPORT ON

Committee of Adjustment Received | Recu le

2025-04-03

City of Ottawa | Ville d'Ottawa
Comité de dérogation

HYDROGEOLOGICAL STUDY PROPOSED COACH HOUSE 130 BURKE STREET RIDEAU JOCK WARD RICHMOND, ONTARIO

Submitted to:

Scott Cummings 130 Burke Street Richmond, Ontario K0A 2Z0

DATE July 19, 2024

DISTRIBUTION

1 digital copy Scott Cummings

1 digital copy Kollaard Associates Inc.

240502



Kemptville, Ontario K0G 1J0

Civil • Geotechnical •

Structural • Environmental •

Hydrogeology •

(613) 860-0923

FAX: (613) 258-0475

July 19, 2024 240502

Scott Cummings 130 Burke Street Richmond, Ontario K0A 2Z0

RE: HYDROGEOLOGICAL STUDY

PROPOSED COACH HOUSE

130 BURKE STREET RIDEAU JOCK WARD RICHMOND, ONTARIO

Kollaard Associates Inc. was retained by Scott Cummings to undertake a hydrogeological study for proposed coach house with frontage on Burke Street in Richmond, Ontario (Key Plan, Figure 1).

It is understood that a coach house has been constructed on the existing 0.14 hectare (\sim 0.35) property. It is the intention of the owner that the existing well is to be shared between the coach house and the existing dwelling. It is understood the existing dwelling and the proposed coach house will be connected to municipal sanitary sewer. It is understood that the coach house is located south of the existing dwelling.

Kollaard Associates Inc. carried out a six hour pumping test on the existing well at the site and obtained a water samples that were tested for the subdivision list of parameters to confirm that water quantity and quality are acceptable to service the existing and proposed residential development. Water levels in the well on the neighbouring property (128 Burke Street) were observed to measure interference.

This report consists of an evaluation of the water quality and quantity of the existing well at the subject site, and an assessment of the sewage system impact, to ensure that the water quality and quantity of the existing well is acceptable using the following documents; Ministry of the Environment, Conservation and Parks (MECP) Guideline D-5-5 and the Ontario Drinking Water Standards, Objectives and Guidelines (ODWSOG). The scope of work carried out for this assessment was prepared in consideration of the City of Ottawa document "Terms of Reference Scoped Hydrogeological Study for Coach Houses".



HYDROGEOLOGICAL STUDY

<u>Background</u>

A bedrock geology map for the site area indicates the bedrock at the site consists of bedded, very fine- to medium-grained dolostone; with local thin glauconitic shale beds, and interbeds of quartz sandstone and shaly dolostone of the Beekmantown Group.

The surficial geology map indicates that the subject property is located within an area of clay and silt associated with offshore marine deposits. The well records for area wells indicate that the soil thickness overlying bedrock ranges from 2.7 to 10.4 metres, consisting of clay, and/or sand and gravel.

A review of topographical information from the City of Ottawa online mapping indicates that the general topography for the area slopes from the north-northwest to the south-southeast generally towards the Jock River. The shallow groundwater flow direction is expected to closely follow topography.

The well that was used for this assessment is an existing drilled well on the property. At the time of the field investigation, the well was observed to consist of a 6 inch drilled, cased well and the wellhead was observed to be above grade. Based on these observations, the existing well is considered to be in compliance with Ontario Well Regulation 903. The well record is provided for the well on subject property in Attachment A. The well record indicates that there are about 3.4 metres of sandy clay overburden. The well depth is 61.0 metres, consisting of limestone bedrock. The well casing length is 6.1 metres. The well yield test indicated that the well testing rate was 75.7 litres per minute. The water level drawdown was 3.9 metres in response to that rate after 1 hour of pumping. The specific capacity of the well from this test is 19.4 litres per minute per metre of drawdown. Based on the well record, the recommended pumping rate was indicated to be 75.7 litres per minute.

The well record for the test well and the area well records and locations map are provided herein as Attachment A.

Area Well Records

A review of sixteen area well records was carried out. Most of the wells encountered water at a depth of about 10 to 30 metres, encountering limestone. Three deeper wells encountered water in limestone and sandstone at depths of 38, 45, and 55 metres. The well records indicate clay and sand and/or gravel with an overburden thickness of 2.7 to 10.4 metres with an average soil thickness of 4.5 metres overlying bedrock. The area wells are indicated to have between 3.7 to 10.4 metres of casing.

The well depths for the sixteen area wells are indicated to be between 10 and 61 metres, encountering limestone in all wells.

				Available	Available Yield Test		
	Soil Depth	Well Depth	Drawdown (m)	Available Drawdown	Test rate	Spec. Cap.	
Well No.	(m)	(m)		(m)	(L/min)	(m²/day)	
1509117	1.53	14.64	1.22	-	15.8	18.6	
1509207	3.66	13.42	0.00	-	18.9	-	
1509726	2.14	18.61	3.05	5.19	37.9	17.9	

-3-

			•			•
1509984	1.53	18.30	3.97	9.76	37.9	13.7
1510285	2.00	18.61	3.97	6.10	37.9	13.7
1513381	1.37	14.64	6.10	7.63	18.9	4.5
1514852	2.44	22.88	7.32	7.32	15.1	3.0
1515512	1.03	22.27	7.93	10.98	56.8	10.3
1515513	0.89	29.89	3.05	7.63	37.9	17.9
1517707	0.76	10.68	6.41	4.88	34.1	7.7
1517895	0.62	16.17	12.81	8.24	15.1	1.7
A207744	0.34	30.50	3.26	21.75	75.7	33.4
A305145	0.20	61.00	3.90	38.40	75.7	27.9

Based on the information from area well records, the specific capacities for area wells are in the range of 1.7 to 39.7 m^2/day for wells drilled between 10.7 and 61 metres deep. Transmissivity values are classified based on the amount of yield for water supply users. One classification (Kransy, Vol. 31, No. 2 – 1993 Ground Water) classifies specific capacity ranges between 1 and 100 m^2/day as low to intermediate transmissivity, which is sufficient for groundwater supply for private consumption and local water supply

The pumping rates used for most of the existing wells were between 15.1 and 151.4 litres per minute. The well record provided for the well at 130 Burke Street indicates it was drilled in 2020. The specific capacity of that well based on a one hour yield test is 19.4 litres per minute per metre, at a flow rate of 75.7 litres per minute. The well for the subject site is similar depth to the area wells receiving from the limestone. As well, it has a similar production rate as the existing area wells.

Available drawdown in the offsite wells, using their recommended pump depths and the static water level reported on the well records, indicates that available drawdown in the area wells is between 4.9 and 38.4 metres. There is sufficient available drawdown in existing wells, such that the addition of a coach house is not expected to affect water supply in offsite wells.

Water Quantity

A pumping test was carried out on May 30, 2024, at the existing well that services the dwelling at 130 Burke Street.

The testing consisted of a 6 hour duration pumping test. During the pumping test, water level measurements were made on a regular basis to monitor the drawdown of the water level in the well in response to pumping and water levels were monitored at one minute intervals using a pressure transducer (water level logger). Hourly field water quality readings were recorded for the water temperature, pH, total dissolved solids (conductivity). Turbidity was not measured in the field due to an equipment malfunction. After the pump was shut off, the recovery of the water level in the well was measured until about 95% recovery of static water level had been achieved or for 24 hours.

The well was pumped for about 360 minutes at a pumping rate of about 35 litres per minute. Over the course of the pumping test, the water level in the well dropped some 1.13 metres in response to that rate. The manual measurements indicated that the water level recovered about 83% of initial water level in some 20 minutes.



The pumping test drawdown and recovery data and plots for TW1 are provided as Attachment B. The drawdown and recovery data provided were measured with reference to the top of the well casing at the test well location.

The pumping test data for the test well was analyzed using the method of Cooper and Jacob (1946). Although the assumptions on which these equations are based are not strictly met, this method provides a reasonable estimate of the aquifer transmissivity.

Transmissivity was calculated using the following relationship:

$$T = \frac{2.3Q}{4\pi ds}$$

where Q is the pump rate, m³/day

ds is the change in drawdown over one time log cycle, m

T is the transmissivity, m²/day

Based on the pumping test drawdown data, the transmissivity of the aquifer is estimated to be about 57.4 m²/day. Based on the recovery data, the transmissivity of the aquifer is estimated to be about 114.8 m²/day. The aquifer parameters, such as transmissivity, can be determined more accurately by using a higher flow rate and a longer duration to establish hydraulic boundaries for the aquifer. The pumping rate and duration that were used were sufficient to confirm that the well yield is sufficient for the proposed use.

Based on the data obtained during the six hour pumping test, it can be concluded that the well is capable of sustaining a short term yield of at least 35 litres per minute. During the course of the six hour pumping period about 3 percent of the available drawdown in the test well was utilized, based on the recommended pump depth of 42.7 metres, and the static water level recorded the day of the pumping test. The specific capacity of the well based on the pumping rate used is 29.7 litres per minute per metre of drawdown.

The expected water demand for the site was calculated using the total expected residential occupancy. It is understood that the main (existing) house has four bedrooms and that the coach house contains two bedrooms. It is presumed that the occupancy will consist of five people in the main house and up to three people in the coach house (assuming number of bedrooms plus one for each dwelling). The peak water demand (obtained from MECP D-5-5) is taken as 3.75 litres per person per minute, equivalent to 30 litres per minute. This peak demand rate is assumed to occur for a period of two hours each day. The pump rate used for the test was above this minimum test rate.

The typical residential peak demand rate is 30 litres per minute for an eight person household (3 coach house, 5 single family dwelling). It is considered that the pumping rate used was sufficient to meet peak residential demands.

Based on the above noted assessment of the test well and what is known about the aquifer from adjacent wells, it is considered the test well will provide sufficient water for domestic use for a residential dwelling and coach house.

Observation Well – 128 Burke St

During the 6 hour pumping test, water level measurements were made on a regular basis to monitor the drawdown of the water level in an observation well located at 128 Burke Street in response to the pump test. The observation well is located some 25 metres northeast of the test well and water

-5-

levels were monitored at five minute intervals using a pressure transducer (water level logger). Over the course of the pumping test, the water level in the observation well dropped some 0.04 metres. Transmissivity of the aquifer using the observation data from 128 Burke Street was calculated to be $114.8 \, \text{m}^2/\text{day}$. The observation well drawdown and recovery data and plots are provided as Attachment C.

The owner indicated that they have a water softener, and have not tested the water for a number of years for bacteria. They indicated that they use the water when cooking. They have lived at the property for ten years and have not had any water shortages. The property is also serviced by municipal sanitary system.

Water Quality

During the pumping test, hourly field readings of pH, temperature and total dissolved solids (conductivity) were recorded. Turbidity and chlorine residuals were not measured in the field due to an equipment malfunction. However, as the well is in regular use and no chlorine was administered to the well ahead of the field work, it is considered that free chlorine was absent prior to the pumping test. Despite no field turbidity readings, the laboratory results indicate that turbidity was between 1.6 and 2.25 NTU (less than 5 NTU).

The results of the chemical, physical and bacteriological analyses of the water samples obtained from the test well are provided in Attachment D. A summary of the water quality measured in the field are provided as Table I, Water Quality Measurements for Test Well.

Groundwater samples were prepared/preserved in the field using appropriate techniques. The water samples were submitted to Eurofins Environmental Laboratory in Ottawa, Ontario, for the chemical, physical and bacteriological analyses listed in the MECP guideline entitled Procedure D-5-5, Technical Guideline for Private Wells: Water Supply Assessment, August 1996 and trace metals identified in the City of Ottawa Hydrogeological and Terrain Analysis Guidelines. The samples that were submitted for metals testing were field filtered using 0.45 micron filter prior to placement in preserved sample bottles.

The water quality as determined from the results of the analyses is favourable. The water meets all the Ontario Drinking Water Standards, Objectives and Guidelines (ODWSOG) health and aesthetic parameters tested for at the test well except for hardness and TDS. Sodium is above the 20 mg/L medical advisory level for those on sodium restricted diets but is well within the aesthetic objective of 200 mg/L. The untreated sodium level of the test well is 74 mg/L.

Hardness

The water is considered to be somewhat hard by water treatment standards. Water with hardness above 80 to 100 milligrams per litre as CaC0₃ is often softened for domestic use. The hardness at the well is 371 to 376 milligrams per litre. Hardness level above 200 mg/L is considered poor but tolerable. Treatment using ion exchange water softeners is effective to reduce hardness.

Water softening by conventional sodium ion exchange may introduce relatively high concentrations of sodium into the drinking water, which may contribute a significant percentage to the daily sodium intake for a consumer on a sodium restricted diet. Where ion exchange water softeners are used, a separate unsoftened water supply could be used for drinking and culinary purposes.



Total Dissolved Solids

The Total dissolved solids (TDS) have an aesthetic objective (AO) of 500 mg/L. The TDS levels encountered at the test well are about 624 mg/L after three and six hours, respectively. The MOE D-5-5 Guideline comments that corrosion or encrustation of metal fixtures or appliances; taste; turbidity are all possible effects of TDS. Where TDS levels exceed 500 mg/L, written rationale that corrosion, encrustation or taste problems will not occur should be provided.

The Technical Support Document for the Ontario Drinking Water Standards, Objectives and Guidelines (ODWSOG) states the following with regards to TDS:

The term total dissolved solids (TDS) refers mainly to the inorganic substances dissolved in water. The principal constituents of TDS are chloride, sulphates, calcium, magnesium and bicarbonates. The effects of TDS on drinking water depend on the levels of the individual components. Excessive hardness, taste, mineral deposition or corrosion are common properties of highly mineralized water. The palatability of drinking water with a TDS level less than 500 mg/L is generally considered to be good.

Depending on which parameters are elevated, TDS exceedances can include hardness, taste, mineral deposition or corrosion. In this case, the water samples had high hardness and alkalinity. Sodium, chloride, and sulphates (all of which are known to affect taste) are all present at very low levels and are unlikely to significantly affect the taste of the water. The Ryznar Stability Index (RSI) and Langelier Saturation Index (LSI) were calculated for both water samples. The RSI values for the water samples were 6.43 and 6.44 for the three and six hour samples, respectively. The LSI values for the water samples were 0.72 and 0.70 for the three and six hour samples, respectively. RSI values less than 6 indicate that the scale potential increases and values greater than 7 indicate that a calcium carbonate formation does not lead to a protective corrosion inhibiting film. In this case, the water has borderline scale forming and is not corrosive. Positive values for LSI indicate that scale can form and calcium carbonate precipitation may occur, while values close to zero indicate borderline scale potential. In this case, the LSI values are positive but also close to zero, indicating borderline scale potential. Combined with the RSI values, it is likely that the water is not corrosive and may be slightly scale forming. Hardness generally increases the mineral deposition. Based on the above noted information, it is considered that treatment to reduce hardness will reduce the potential for scale forming as it affects TDS. As the TDS levels are due to elevated hardness, rather than from other parameters which are known to contribute to taste (sulphates, sodium, chlorides), the palatability of drinking water is considered to be good. Provided that treatment to reduce hardness is provided, encrustation problems will not occur.

Sodium

The sodium level in the untreated water at the test well ranges between 73 to 74 mg/L which is above the medical advisory level for those on sodium restricted diets of 20 mg/L. Where sodium exceeds 20 mg/L, the MOE has historically indicated that the local Medical Officer of Health be informed so that patients on restricted diets may be informed.

Trace Metals

All trace metals were detected within the MAC or IMAC.



Bacteriological Quality

The total coliforms, E.coli were absent from both water samples (0 counts/100mL).

CONCLUSIONS AND RECOMMENDATIONS

The following water treatment is recommended for the proposed coach house:

- The water is considered to be hard by water treatment standards, 371 to 376 milligrams per litre. Treatment using ion exchange water softeners is effective to reduce hardness.
- Where ion exchange water softeners are used, a separate unsoftened water supply could be used for drinking and culinary purposes.
- Sodium level is 73 mg/L, which is above the 20 mg/l medical advisory limit but well within the
 aesthetic objective of 200 mg/L. When sodium levels exceed 20 mg/l, the local Medical
 Officer of Health should be informed so that the information can be relayed to local
 physicians.
- The total dissolved solids exceed the aesthetic objective of 500 mg/l. The elevated TDS is due to high hardness, which contributes calcium, magnesium and bicarbonates to the TDS levels. The elevated TDS and hardness are reduced through the water softening which will reduce potential for scale formation.

Based on the above noted site conditions, Kollaard Associates Inc. considers that the water supply is adequate to provide for the existing dwelling and the existing coach house. The amount of interference between the well and the existing wells is acceptable.

We trust this letter provides sufficient information for your purposes. If you have any questions concerning this letter, please do not hesitate to contact our office.

Yours truly,

Kollaard Associates Inc.

C. E. VERMEERSCH 7 100183397

Isaac Bacon, P.Eng.

Colleen Vermeersch, P. Eng.

Attachments: Table I Summary of Hourly Field Water Quality

Figure 1 Key Plan

Attachment A Well Records for TW1 and Area Well Records

Attachment B TW1-Pumping Test Data
Attachment C Observation Well Data

Attachment D TW1-Laboratory Water Testing Results and TDS Calculations

May 30, 2024 240502

TABLE I
FIELD WATER QUALITY MEASUREMENTS
FOR TEST WELL 1

Time	Turbidity	Temperature	рН	Conductivity	Total	Free Chlorine
Since	(NTU)	(°C)		(μS)	Dissolved	(ppm)
Pumping					Solids	
Test					(ppm)	
Started						
(min)						
60	Not measured	11.9	7.31	688	346	Not measured
120	Not measured	16.5	6.86	690	351	-
180	Not measured	15	6.83	677	330	Not measured
240	Not measured	15.7	6.98	615	328	-
300	Not measured	15.9	7.2	643	325	-
360	Not measured	19	7.72	698	340	Not measured





NOT TO SCALE



Project No. 240502

Date May 2024



ATTACHMENT A

WELL RECORDS FOR TW1

AND

MECP AREA WELL RECORDS

Abandoned, other,

Diameter (cm/in)

Well owner's

information

package delivered Yea

orky

<u>Y | Y **2020** M</u> **69**90 69

Date Work Completed 2020₁

Ministry Use Only

Rec**net** 3 0 2020

Other, specify

20

Nell Contractor's Licence No

Ministry's Copy

20**′ 200**

7881

air-rock@sympatico.ca

Municipality Richmond

Τφ

tested

√ Untested

Business E-mail Address

Purcell, Shannon

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

Well Contractor and Well Technician Information

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

Hole Diameter

Depth (m/#)

(Plastic Galvanized Steel)

Water found at Depth Kind of Water: Fresh [

(m/ft) Gas Other, specify

(m/ft) Gas Other, specify

Postal Code

© Queen's Printer/for

K0A 270

Business Name of Well Contractor

ON

0506E (2020/06)

|61|38|38|21|70|

Air Rock Drilling Co. Ltd.

Business Address (Street Number/Name) 6559 Franktown Road

180 (mf) Gas Other, specify Water found at Depth Kind of Water: Fresh

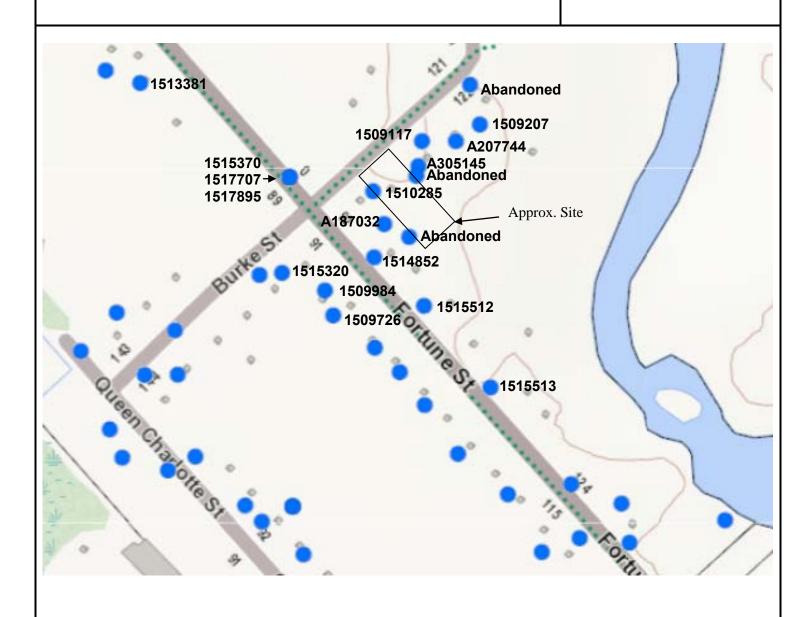
Water Details

Water found at Depth Kind of Water: Fresh Untested

(cm/in)

REGIONAL WELLS MAP

APPENDIX A



NOT TO SCALE



Project No. 240502

Date June 2024

Summary of Well Record Information

						Water	Yield Test			
Well No	Soil Depth	Soil Desc.	Bedrock desc.	Casing Depth	Total Depth	Desc.	Test rate	Static Level	Specific Capacity	Spec. Cap.
	m			m	m		L/min	m	L/min*m	m²/day
1509117	3.66	Clay	Limestone	3.66	14.64	Fresh	15.8	1.83	12.9	18.6
1509207	10.37	Clay	Limestone	10.37	13.42	Fresh	18.9	-	-	-
1509726	4.58	Sandy clay	Limestone	6.10	18.61	Fresh	37.9	5.49	12.4	17.9
1509984	4.88	Hardpan & boulders	Limestone	6.10	18.30	Fresh	37.9	2.44	9.5	13.7
1510285	5.19	Clay & sand	Limestone	6.10	18.61	Fresh	37.9	3.05	9.5	13.7
1513381	3.66	Sand & clay	Limestone	6.71	14.64	Fresh	18.9	4.58	3.1	4.5
1514852	4.58	Clay	Limestone	6.41	22.88	Fresh	15.1	1.83	2.1	3.0
1515320	3.05	Clay & stone	Limestone and Quartz	7.63	38.13	Fresh	30.3	4.58	2.8	4.1
1515370	0.00	Well Extension	Limestone	7.63	44.84	Fresh	151.4	0.61	27.6	39.7
1515512	4.58	Sand & gravel	Limestone	7.63	22.27	Fresh	56.8	1.22	7.2	10.3
1515513	4.58	Sand & gravel	Limestone	7.63	29.89	Fresh	37.9	3.05	12.4	17.9
1517707	2.75	Clay	Limestone	5.49	10.68	Fresh	34.1	2.75	5.3	7.7
1517895	4.88	Clay	Limestone	6.41	16.17	Fresh	15.1	2.44	1.2	1.7
A187032	4.27	Clay & sand	Limestone and Sandstone	6.10	54.60	Untested	56.8	1.68	2.7	3.9
A207744	3.66	andy clay with grav	Limestone	6.10	30.50	Untested	75.7	2.65	23.2	33.4
A305145	3.36	Sandy clay	Limestone	6.10	61.00	Untested	75.7	4.30	19.4	27.9

316/4F. A 1314131810 F No -9117RECEIVED Situation: Is well on unless | 5 | 2 | 0 | N JUN 19 1 53 Drilling Firm.... Address GEOLOGICAL BRANCH Name of Driller. artment of Mines, Province of CHEARTMENT of 1N 3 The Well Drillers Act Well Record FORM 5 5.3...Cost of Well (excluding pump)...... Date Completed.. Pipe and Casing Record **Pumping Test** Pumping rate... Length of screen..... Distance from top of screen to ground level..... Distance from cylinder or bowls to ground level..... Is well a gravel-wall type?..... Water Record No. of Feet Water Rises Depth(s) to Water Horizon(s) Kind of Kind (fresh or mineral).... Quality (hard, soft, contains iron, sulphur, etc.). Appearance (clear, cloudy, coloured)...... For what purpose(s) is the water to be used? How far is well from possible source of contamination?. What is the source of contamination? Enclose a copy of any mineral analysis that has been made of Well Log Location of Well Overburden and Bedrock Record From To 0 ft. In diagram below show distances offt. well from road and lot line. dicate north by arrow. Situation: Is well on upland, in valley, or on hillside?... Name of Driller, FORM 5

MTÚ	1:8 2 4131414115 P	
	5 R 5003530N	ſ



r	(P) 15	W.S. S.S.	SRAIN	297
	GROUND.	Wat Fu	13455-000	V
,				J

Elev. 4R 03110 The Ontario Water R

JANA . : JED /

	1	
11.	A P	See See
RELITERDES	Description :	Ž

Basin 25 WAT	ER W	ELL	RECOR!	D RELIGIOUS	OMMISSION
County or District CASL	7 . M	Township	Village, Town o	r City Rie	4mons
Con. Lot		Date cor	mpleted 2/	007	59
		ress	2 martus	month	year) Richlica and
Casing and Screen Reco	ď		Pui	mping Test	
Inside diameter of casing			evel umping rate	•	
Length of screen	·.	li li	on of test pumping		
Depth to top of screen		Water	clear or cloudy at	end of test	CLEAR
Diameter of finished hole	<i>f</i>	1	mended pumping h pumping level o		
Well Log			Wa	iter Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
Limistanis	37	44	44	44	F17651
For what purpose(s) is the water to be used	P		Locat	ion of Well	/
House		1	In diagram below	show distances of	well from
Is well on upland, in valley, or on hillsides Drilling Firm 19 19 EA 6 HE 1			oad and lot line.		by arrow.
Address 07700				And the second of the second o	
Licence Number				BURKES	<u>T</u>
Name of Driller SP ~ 5			100		·
Address Date J9 1/3 9 (Signature of Licensed Drilling Contractor)	fu.		1 • • • • • • • • • • • • • • • • • • •	20 20 110	

The Ontario Water Resources Commission Act WATER WELL RECORD County or District Con. Lot 23 Date completed 8 Mark Conic Con. Lot 25 Date completed 8 Mark Conic Con. Streen Record Pumping Test Inside diameter of casing 20 Test-pumping rate 10 G.P.M Type of screen Pumping level 28 Duration of test pumping level 28 Duration of test pumping rate 10 G.P.M Water clear or cloudy at end of test 28 Duration of test pumping rate 10 G.P.M Well Log Water clear or cloudy at end of test 28 Duration of test pumping rate 3 G.P.M Well Log Water clear or cloudy at end of test 29 Duration of test pumping rate 3 G.P.M Well Log Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 3 G.P.M Water clear or cloudy at end of test 4 G.P.M The continue test 4 G.P.M Water clear or cloudy at end of test 4 G.P.M The continue tes				
lav. 4 0308 The Ontario Water Res	ources Commission			r Challer - Chebbalans M. Chabbalans
County or District arleton	Township, Village, T	own or City	Richm	ond 1968
Owner Julia Construction Il	Address Ricc	hmo	nd 8	year)
	T	10		
Inside diameter of casing.				
Total length of casing.				G.P.M.
•	Pumping level	×.8.	, 0	
Length of screen	1			
Depth to top of screen			£*****	
Diameter of finished hole				
	with pump settin	g of		
Well Log				.
Overburden and Bedrock Record			which water(s)	(fresh, salty,
and of the second			1 7 -	Liesh
Stoulders	0	15'		\mathcal{U}
- Orange 15 a	15	61		
20 Millione				
For what purpose(s) is the water to be used?		Location	of Well	
new house				
Is well on upland, in valley, or on hillside?	road and	lot line. In	dicate north by	arrow.
Drilling or Boring Firm aprital Hater				_ /
Supply Ita	®io me ™ Establish in investigating in agree]	*
Address 14 ashford Dr	ا ا	,	†	/ `
Oglawa 6	1 /3			
Licence Number 2851	1,00	1		1
Name of Driller or Borer Bacres	1	15'	()	
Address	1		13	
Date, nov 18 1968	Ben and the second seco		٤	
Halter Lavanage			1	
(Signature of Licensed Drilling or Boring Contractor)			·	
Form 7 OWRC COPY				
OWNE COFI			CSS	<u>. 53</u>

1. 18 434320 CODED 4 500343 The Ontario Water Resources Commission Act .Township, Village, Town or City. County or District Date completed **Pumping Test** Casing and Screen Record 8 Static level Inside diameter of casing..... Total length of casing 20 Test-pumping rate Type of screen Pumping level..... Duration of test pumping Length of screen Water clear or cloudy at end of test Depth to top of screen Recommended pumping rate 5 G.P.M. Diameter of finished hole 5" with pump setting of #O feet below ground surface **Water Record** Well Log Kind of water Depth(s) at (fresh, salty, sulphur) From Overburden and Bedrock Record found Location of Well For what purpose(s) is the water to be used?..... In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley or on hillside? Drilling or Boring Firm Licence Number Name of Driller or Borer. Address... (Signature of Licensed Drilling or Boring Contractor) OWRC COPY CES.ES

	The Ontario Water Resou	rces Commission Act	•
WA'	TER WEL	L RECORD	
Water management in Ontario 1. PRINT ONLY IN SPACES	PROVIDED 11	11510285 MUNICIP.	con.
2. CHECK ⊠ CORRECT BC	X WHERE APPLICABLE 1 2 TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ET	15 22 23 24 FC. LOT 25-27
OWNER (SURNAME FIRST) 29-47	Richmond		23-27
Simlia (onstalte	A Richmond	(X) -	E COMPLETED 48-53
20NE EASTING 4:34:35	NORTHING RC.	ELEVATION RC. BASIN CODE	YR. O
LOG	OF OVERBURDEN AND REDPOR	ZE MATERIALS (SEE INSTRUCTIONS)	47
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET
brown class	0.4	a 'tt	FROM TO
	Hank	yulu	0 10
grey kardpan		hard	10' 17'
0 9 0			10 11
grey limestone		hard	17' 61'
0 0			
31 00/106/05/09 1 00/17/2/1	ا ا المام داري مي		
32	4		
41 WATER RECORD 51	CASING & OPEN HOLE F	RECORD Z SIZE(S) OF OPENING 31-33	65 75 80 DIAMETER 34-38 LENGTH 39-40
AT - FEET KIND OF WATER INSI	MATERIAL THICKNESS		INCHES FEET DEPTH TO TOP 41-44 80
2 SALTY 4 MINERAL 05		*4020 °	OF SCREEN FEET
15-18	17 3 ☐ CONCRETE 4 MA OREN, HOLE	61 PLUGGING & S	EALING RECORD
20-23	7-18 1	FROM 10	AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
25-28 1 FRESH 3 SULPHUR 29 2 SALTY 4 MINERAL 2	4 OPEN HOLE 4-25 1 STEEL 26	006 / 10-13 14-17 27-30 18-21 22-25	
30-33 1 FRESH 3 SULPHUR 34 80 2 SALTY 4 MINERAL	2 GALVANIZED 3 CONCRETE	26-29 30-33 80	
PUMPING TEST METHOD 10 PUMPING RATE	4 OPEN HOLE		
PUMP 2 BAILER OOLO	GPM. 0 15-16 0 0 17-18 HOURS 0 0 MINS.	LOCATION OF W	
LEVEL PUMPING WATER LEVELS	2 L RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF WEL LOT LINE. INDICATE NORTH BY ARROW.	L FROM ROAD AND
00 FEET 023 FEET FEET SWINDLES	29-31 32-34 35-37	JI	7
Z IF FLOWING, 38-41 PUMP INTAKE SET AT	FEET FEET FEET WATER AT END OF TEST 42	7	`
RECOMMENDED PUMP TYPE RECOMMENDED PUMP	FEET 1 CLEAR 2 CLOUDY 43-45 RECOMMENDED 46-49	Intia l	<i>y_</i>
SHALLOW DEEP SETTING 030 50-53 DOC8 _ GPM./FT. SPECIFIC CAPA	FEET RATE 0005 GPM.	700000	
54	ABANDONED, INSUFFICIENT SUPPLY		
STATUS 2 OBSERVATION WELL 6 3 TEST HOLE 7	ABANDONED, POOR QUALITY UNFINISHED	3	
OF WELL 4 RECHARGE WELL 55-56 1 DOMESTIC 5	COMMERCIAL	F : 1:	Q . 0
WATER 0/ 3 IRRIGATION 7	MUNICIPAL PUBLIC SUPPLY	3 1	ガチン
USE / 4 INDUSTRIAL 8 0	COOLING OR AIR CONDITIONING 9 NOT USED	40/21	72 3
METHOD 1 CABLE TOOL 2 ROTARY (CONVENTIONAL)	6 D BORING		863
OF 3 ROTARY (REVERSE) DRILLING 4 ROTARY (AIR)	7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING		
5 AIR PERCUSSION	3	LLERS REMARKS:	*
of well contractor thaten	Supply 3216	DATA 58 CONTRACTOR 59-62 DATE RECE	3 0 1 0 6 9 63-68 80
ADDRESS 14		DATE OF INSPECTION INSPECTOR	0.0
NAME OF DMILLER OR BORER	, I	REMARKS:	y- 1//-
SIGNOURE OF CONTRACTOR	SUBMISSION DATE DAYMOYR		
Jaller warage	DAYNOYR		A STATE OF
OWRC COPY			

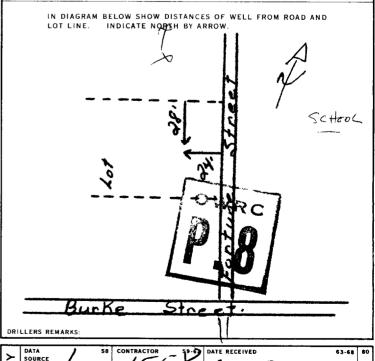
Carleton

. MINISTRY OF THE ENVIRONMENT	1	
The Ontario Water Resources Act)	
WATER WELL RECORD	319/4	7.
1. PRINT ONLY IN SPACES PROVIDED 2. CHECK CORRECT BOX WHERE APPLICABLE 11 15 13 18 18 19 10 10 11 11 15 13 13 13 13 14 15 16 17 17 18 18 18 18 18 18 18 18	CON	7
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE 3 9 CON., BLOCK, TRACT, SURVE	Y, ETC.	ĻC
79 FORTUNE	DATE COMPLETED	48

			, ,	1 4 ~ 1			DATE	COMPLET		18-53
		125,	Menotic	k Onter	io.		DAY	25	мо. <u>05</u>	YR. 73
		G	RC.	ELEVATION	RC.	BASIN CODE	п		111	Iν
		03557	4	306	4	26	MAR	17,	1975	248
	LC	OG OF OVERBURDEN AN	ID BEDROCI	K MATERIA	LS (SEE	INSTRUCTIONS)	and the second	J. 1		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIA	LS		GENE	RAL DESCRIPTION	N	Ť	DEPTH	
brown						7 140 4 1			FROM	то
Brown	sand		· · · · · · · · · · · · · · · · · · ·	10	956				0	2
derk	clay			pa	cked				2	12
derk	limestone			me	dium				12	48
	, <u>, , , , , , , , , , , , , , , , , , </u>									
							WENNE !			
				,						
							THE STATE OF THE S			
31 00012	1428 1 1 100/	210611100481	51.1.11		, ,	1,,,11,1				1.1.1
32				ا لىلىك ا ا . ا .			┸┸┛ ╏╏╏
10	14 15	32	43		<u> </u>	54 S) OF OPENING		65		75 8
	ER RECORD	51 CASING & OPE			Z SIZE	S) OF OPENING T NO.)	31-33	DIAMETER	34-38 LE	NGTH 39-40
AT - FEET	KIND OF WATER	DIAM. MATERIAL THIC	CKNESS FROM	TH - FEET	W MATE	RIAL AND TYPE		DEP	INCHES THE TO TOP	FEE1
	FRESH 3 SULPHUR 14	4'9-11 1981 CYES! 12		0022 13-16	SC WATE				SCREEN	
	SALII " [MINERAL	TA STEEL 1	88 0	WOZZ						FEET

	NOIDI - POLVICA								பப		للللا				L
32	0 14 15			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ш	43		ـــــــــــــــــــــــــــــــــــــــ	⊥ <u> </u>	1111	لبليا	65		111	L
41	WATER RE	CORD	(51)	CASING & C	PEN HO	LE REC	ORD	E	SIZE(S) (OF OPENING	31-33	DIAMETER	34-38	LENGTH	39-40
WATER FOUND	KINDO	F WATER	DIAM	MATERIAL	WALL	DEPT	- FEET	<u> </u>					INCHES		FEET
10.12	1 See Corcu	3 ☐ SULPHUR	INCHES	MATERIAL	THICKNESS INCHES	FROM	10	18	MATERIA	L AND TYPE			H TO TOP	41-44	. 8
0035		4 MINERAL	716	STEEL 12	188	D	00 22 13-16	S						FEE	Ţ
0 044	1 FRESH 2 SALTY	3 SULPHUR 19	3-4	3 CONCRETE		-22	48	6	1	PLUG	SING &	SEALING	REC	ORD	
0 048	1 FRESH 2 SALTY	3 SULPHUR 24	17-16	B 1 ☐ STEEL 19 2 ☐ GALVANIZED			20-23		ROM	AT - FEET	MATER	IAL AND TYPE		MENT GROUT. PACKER, ETC.	
25-28		3 SULPHUR 29	06	OPEN HOLE		22	0048		10-13	14-17					
	2 SALTY		24-25	S 1 STEEL 26 2 GALVANIZED			27-30	1	18-21	22-25					
30-33	I C PRESH	3 ☐ SULPHUR 34	80	3 CONCRETE			Į	-	26-29	30-33	80				
	2 SALTY	4 MINERAL		4 OPEN HOLE			(L							

	PUMPING TEST METH	OD 10	PUMPING RATE	11-14	DURATION OF PUMP	ING O
٣	1 🗮 PUMP	2 D BAILER	000	GPM.	15-16 HOURS	
	STATIC LEVEL	WATER LEVEL END OF PUMPING	25 WATER LEV	ELS DURING		MPING COVERY
TEST	19-21	22-24	15 MINUTES 26-28	30 MINUTES 29-31	45 MINUTES 32-34	60 MINUTES 35-37
	D15 FEET	<i>O</i> 35 FEET	035 FEET	AS FEET	CAS FEET	035 FEET
Ζ	IF FLOWING, GIVE RATE	38-41	PUMP INTAKE SET	T AT	WATER AT END OF	TEST 42
PUMPING		GPM.		FÉET	1 🙀 CLEAR	2 ☐ CLOUDY
ĮΣ	RECOMMENDED PUMP	TYPE	RECOMMENDED PUMP	43-45	RECOMMENDED PUMPING	46-49
"	ズ SHALLOW	☐ DEEP	SETTING ()	FEET	RATE OOD 5	GPM
	50-53	000	,4			
Γ		54	•			
	FINAL		ER SUPPLY ERVATION WELL		NDONED, INSUFFIC NDONED, POOR QU	
	STATUS	1	HOLE		INISHED	2011
	OF WELL	4 RECH	ARGE WELL			
	55-	56 1 🙀 DOM	ESTIC	S COMMER	CIAL	
	WATER .	2 🗆 STOC		6 MUNICIP		
1		1 -	GATION	7 D PUBLIC		
	USE ()		OTHER	8 COOLING	OR AIR CONDITION 9	
					NOT US	ED
		57 I □ CABL	E TOOL	6	BORING	
	METHOD	2 ROTA	RY (CONVENTIO	NAL) 7	DIAMOND	ļ
	OF	3 🗆 ROTA	RY (REVERSE)	8	☐ JETTING	
l	DRILLING	1 -	ARY (AIR)	9	☐ DRIVING	
	· · · · · · · · · · · · · · · · · · ·	³ XI AIR I	PERCUSSION			



LOCATION OF WELL

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Capital Water Supply Ltd.	1558
ADDRESS	
Box 490, Stitteville, On	LICENCE NUMBER
Lanny Drynan)
SIGN TURE OF CONTRACTOR	SUBMISSION DATE

			1		
NLY	DATA 58 SOURCE	contractor 59.69	130873	63-68	80
SE O	DATE OF INSPECTION	INSPECTOR	×		
FICE U	REMARKS: // }			P-R	
0 E	•				

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD 31 /af

Ontario 1. PRINT ONLY IN SPAN 2. CHECK CORRECT	CES PROVIDED BOX WHERE APPLICABLE	1514852.	MUNICIP. [570]	CON.
aller	TOWNSHIP, BOROUGH, CITY TOWN. VILLAGE	3 9 co	N., BIOCH, TRACE, SURVEY,	ET 81. 98 (36)
	Richmond	Out.		DAY MO 48
	5003450 4		26 AU	G 04, 1977 30
GENERAL COLOUR MOST	OF OVERBURDEN AND BEDRUE		INSTRUCTIONS)	DEPTH - FEET
A				FROM TO
My day				0 15
grey limestone				15 75
31 0015205 007521	5			
41 WATER RECORD 51	CASING & OPEN HOLE RE	CORD SIZE (SLO	54 S) OF OPENING . 31-33	65 75 80 DIAMETER 34-38 LENGTH 39-40
AT - FEET KIN OF WATER OIA 10-13 FRESH 3 SULPHUR 14	HES THICKNESS FROM		RIAL AND TYPE	
2 SALTY 4 MINERAL 15-18 1 FRESH 3 SULPHUR 19		13-16 Ø	DI UCCINIO A	FEET
2	4	2021	SET AT - FEET	SEALING RECORD (CEMENT GROUT, LEAD PACKER, ETC.)
25-28 1 FRESH 3 SULPHUR 29	3 ☐ CONCRETE 4 ☐ OPEN HOLE 24-25 1 ☐ STEEL 26	27-30 18	-13 14-17 -21 22-25	
30-33 1 FRESH 3 SULPHUR 34 80 2 SALTY 4 MINERAL	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE	26-		
71 PUMPING TES METHOD TO PUMPING RATE	11-14 DURATION OF PUMPING 15-16	L	OCATION OF	WELL 3403
STATIC WATER LEVEL 25 LEVEL END OF WATER LEVELS	DURING 1 PUMPING 2 RECOVERY	IN DIAGRAM BELO	OW SHOW DISTANCES OF ICATE NORTH BY ARROW	WELL FROM ROAD AND
15006 650 630°063	MINUTES 45 MINUTES 60 MINUTES 70 32-34 0 3035-37 FEET FEET FEET			£
FEET FEET FEET IF FLOWING. GIVE RATE GPM. RECOMMENDED PUMP TYPE RECOMMENDED PUMP TYPE RECOMMENDED PUMP TYPE RECOMMENDED PUMP TYPE	WATER AT END OF TEST 2 FEET 1 CLEAR 2 CLOUDY		3	MRKE ST
SHALLOW DEEP SETTING	143-45 RECOMMENDED A6-49 PUMPIN O SPM.		250	1
GPM./FI. SPECIFIC C	S ABANDONED, INSUFFICIENT SUPPLY		250	بر «إ
STATUS 2 OBSERVATION WELL	6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED		¥ 45'	100 FORTUNE
WATER 2 STOCK 6	COMMERCIAL MUNICIPAL			
1 I I I I I I I I I I I I I I I I I I I	PUBLIC SUPPLY COOLING OR AIR CONDITIONING 9			
METHOD 2 CABLE TOOL 2 ROTARY (CONVENTIONAL)	6 BORING 7 DIAMOND			
OF 3 ROTARY (REVERSE) 4 ROTARY (AIR) 5 AIR PERCUSSION	8 DETTING 9 DRIVING			
CE Stary Mains Will h	LICENCE NUMBER	DATA 58 CO	NTBACTOR 59-62 DATE N	1 508,75 63-68 80
Address 326, Richeron	helling 3694 No		SO HT	1 / /
ADDRESS JAME OF CONTRACTOR	LICENCE NUMBER	REMARKS: 173		P
SIGNATURE OF CONTRACTOR	SUBMISSION DATE DAY MO. VR. O		\$ ⁷ . •	Wi

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

31 G/4F

_	Ontario	1. PRINT ONLY IN SPACES Z. CHECK CORRECT BOX			51532	0 - 1	1 570	CON.		
ľ	Carleton	TO	WASHIP BOJOUGH CITY, TOWN V	TLLAGE 3		9 CON BLOC	K. TRICT, SUI	1	≠ ≠□	22 23 2 LOT 25-27
	THE PROPERTY OF THE PARTY OF TH		Rechme	n		- F		DATE CO	PLETED OF	48-53 YR
			003441	RC.	ELEVATION 308		N CODE 26	. " .IIIN 21	. " 3, 1977	, "
	GENERAL COLOUR	LUG JF	OVERBURDEN AND F	SEUROUR						
	COMM	ON MATERIAL	OTHER MATERIALS			GENERAL DE	SCRIPTION		FROM	- FEET
	gray d	any .	sterie							10
-		1						-		
	grey Um	islan					-	-	10	122
	white au	earts		10.					122	125
		0								
_										
F										
4	31 001012151	al los dele	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1						
	22 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	121 10/2/2/2// 111 111 1111			<u> . </u>				1 1 1 1 1	
	WATER REC		CASING & OPEN H			SIZE(S) OF OF OF ISLOT NO.)	PENING	65 31-33 DIAME	TER 34-38 LI	75 80 ENGTH 39-40
6	AT - FEET KIND OF	SULPHUR TO SULPHUR	MATERIAL WALL THICKNESS INCHES 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DEPTH FROM	10 13-16	MATERIAL AN	ND TYPE		DEPTH TO TOP OF SCREEN	41-44 80
	2 SALTY 4 15-18 1 FRESH 3 2 SALTY 4	SULPHUR 19	GALVANIZED 1	0	25	61	PLUGGIN	IG & SEAL	ING RECO	FEET
\vdash	20-23 1 FRESH 3 2 SALTY 4	SULPHUR 24	-18 1 STEEL 19 2 GALVANIZED		20-23	DEPTH SET AT		MATERIAL AND	TYPE (CEMEN	T GROUT,
	25-28 1 FRESH 3 2 SALTY 4	SULPHUR 29	3 CONCRETE 4 OPEN HOLE 25 1 STEEL 26		27-30	10-13	14-17			
	30-33 FRESH 3 2 SALTY 4	SULPHUR 34 CO	Z GALVANIZED CONCRETE OPEN HOLE			26-29	30-33 80			
7	UMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PUMPING	17-18		LOCA	TION	OF WEL	340	3
	STATIC WATER LEVE LEVEL END OF	E1 25	GPM HOURS	_ MINS	IN DIAG	RAM BELOW SHO		ES OF WELL		
TEST	0/5 050	22-24 15 MINUTES 30 MINUTES 25 (25 (25 (25 (25 (25 (25 (25 (25 (25	0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5	UT ES 5-37	1			Į.		
PUMPING	IF FLOWING. GIVE RATE	SB-41 PUMP INTAKE SET AT	WATER AT END OF TEST	42	V			1		
P S	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING D50	FEET 1 CLEAR 2 Det.	46-49			0.			
Ĺ		GPM./FT. SPECIFIC CAPA		GPM.	e e	Burke 45'	1			•
	STATUS 1	OBSERVATION WELL 6 [TEST HOLE 7 [ABANDONED, INSUFFICIENT SUF BANDONED, POOR QUALITY UNFINISHED	PPLY		45	78′	12		
-	FE 44		OMMERCIAL UNICIPAL	.		7		2		
	WATER , , _	IRRIGATION 7 PL	UBLIC SUPPLY DOLING OR AIR CONDITIONING					The same of the sa		
	57	CABLE TOOL	• □ NOT USED					U		
, ,	METHOD 5	ROTARY (CONVENTIONAL) ROTARY (REVERSE) ROTARY (AIR)	7 DIAMOND B JETTING DRIVING				•			
1	5 🗹	AIR PERCUSSION			LERS REMARKS:		•	<u> </u>	CARC	
OR	Hary Can Robress	m Well Ori	lbing 365	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	DATA SOURCE	50 CONTRACTO		DATE RECE	0057	63-68 80
CONTRACTOR	NAME OF DRILLER OR BORER	326, Ruch	where ON Tricence NUMBER	SE	DATE OF INSPECT	16,196	INSPECTOR	Flen	Treo	
CONT	SIGNATURE OF CONTRACTOR	Mrs.	SUBMISSION DATE	OFFICE U	AL AND SE	/			P	JEF]
		1009	DAY 29 MO. 4 YR	W [5]				£1	W	
	MINISTRY OF T	HE ÉNVIRONME	NT COPY						FORM 7 M	10E 07-09t

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

WELL RECOR

15701 CON 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE Carleton Richmond DAY 12 м 🐠 5 76 Walter Hardkye Constr Richmond, Ontario BASIN CODE Y 1 1 8 434299 (21) 5003499 0.3.1.0 1 1 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET GENERAL COLOUR GENERAL DESCRIPTION previously drilled n 115 grey limestone 147 51 WATER RECORD **CASING & OPEN HOLE RECORD** SCREEN FEET FOUND DEPTH KIND OF WATER MATERIAL AND TYPE 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL FEET **2**65 2 GALVANIZED 188 0 **∞**25 3 SULPHUR 3 CONCRETE 61 **PLUGGING & SEALING RECORD Ø**6 25 Z SALTY 4 0113 I STEEL DEPTH SET AT - FEET (CEMENT GROUT. MATERIAL AND TYPE 3 SULPHUR
4 MINERAL FRESH 2 | GALVANIZED 06 0115 CONCRETE 0140 3 SULPHUR 115 147 STEEL Z SALTY 4 MINERAL 2 GALVANIZED 0147 I ☐ FRESH 3 ☐ SULPHUR 4 MINERAL 2 SALTY 🗹 OPEN HOLE LOCATION OF WELL 15-16 HOURS 0017 1 🏻 PUMP 2 🙀 BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. PUMPING 2 RECOVERY WATER LEVELS DURING TES 60 MINUTES 26-28 29-31 020 FEET FEET **Ø2**0 FEET 020 2 CLOUDY 1 K CLEAR RECOMMENDED PUMP SETTING RECOMMENDED SHALLOW DEEP SETTING 030 FEET FEET RATE 0005 GPM 5 5 ABANDONED, INSUFFICIENT SUPPLY FINAL Z OBSERVATION WELL 6 ABANDONED, POOR QUALITY **STATUS** TEST HOLE 7 UNFINISHED OF WELL A | RECHARGE WELL DOMESTIC 5 COMMERCIAL STOCK 6 MUNICIPAL WATER 01 3 | IRRIGATION 7 D PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING USE ☐ INDUSTRIAL OTHER 9 NOT USED Z CABLE TOOL 6 BORING CABLE TOOL ROTARY (CONVENTIONAL) **METHOD** 7 DIAMOND ROTARY (REVERSE) JETTING DRILLING 4 🗆 ROTARY (AIR) DRIVING AIR PERCUSSION CONTRACTOR °0°9°0676 OFFICE USE ONLY 1558 ADDRESS Capital Water Supply Ltd. 1558 Hu 18/70 Box 490 Stittsville, Ontario LICENCE NUMBER W١ EORM 7 MOE 07-091

COUNTY OR DISTRICT

GENERAL COLOUR

brown

grey

grev

31

32 41

00 70

ATED FOUND

Carleton

MOST COMMON MATERIAL

limestone

limestone

sand

WATER RECORD

KIND OF WATER

FRESH 3 SULPHUR
SALTY 4 MINERAL

ER WELL RECORD

loose

Ø 25"

0073

0

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE

NSHIP, BOROUGH, CITY, TOW

Goulburn (Richmond)

OTHER MATERIALS

gravel

001562811177 002321571 0073215 11

MATERIAL

51

6106

Biscayne Cres.

CASING & OPEN HOLE RECORD

188

LICENCE NUMBER

1515512.

316/48 15704 Fortune DATE COMPLETED Ottawa, Ontario 12 MOD 7 180<u>8</u>0 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET GENERAL DESCRIPTION то 0 15 broken 23 23 73 10 14 15 21 21 54 SCREEN DEPTH TO TOP OF SCREEN 61 PLUGGING & SEALING RECORD DEPTH SET - FEET MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) LOCATION OF WELL

3 CONCRETE 1 | FRESH 3 SULPHUR OPEN HOLE 2 SALTY 4 MINERAL 1 STEEL
2 GALVANIZED FRESH 3 SULPHUR
4 MINERAL CONCRETE OPEN HOLE 1 | FRESH 3 SULPHUR 1 STEEL
2 GALVANIZED 2 SALTY 4 MINERAL 1 🗆 FRESH 3 🗍 SULPHUR 3 CONCRETE 2 | SALTY 2 D BAILER 0015 15-16 _HOURS . 00 17-18 MINS WATER LEVEL END OF PUMPING PUMPING RECOVERY STATIC LEVEL WATER LEVELS DURING 004 FEET 0 30 FEET 030 PUMPING 1 🙀 CLEAR RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING SETTING 0 40

GPM./FT. SPECIFIC C SHALLOW DEEP 1 WATER SUPPLY
2 OBSERVATION WELL **FINAL** S ABANDONED, INSUFFICIENT SUPPLY 6 ABANDONED, POOR QUALITY **STATUS** 3 TEST HOLE
4 RECHARGE WELL 7 UNFINISHED OF WELL 1 DOMESTIC 5 COMMERCIAL 6 MUNICIPAL WATER O 3 | IRRIGATION PUBLIC SUPPLY 4 🔲 INDUSTRIAL 8 COOLING OR AIR CONDITIONING 9 NOT USED OTHER METHOD 5 □ □ CABLE TOOL 6 D BORING 2 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) 7 DIAMOND B DETTING **DRILLING** 4 🖂 ROTARY (AIR) AIR PERCUSSION Ontario

W-7	IN DIAGRA	AM BELOW SHOW INDICATE N	V DISTANCES (ORTH BY ARRO	OF WELL FROM	I ROAD AND	
		FOR	TUNE	51.		
DRILLERS R	#	2	BUCKE ST			07#70
DAYA	/	SB CONTRACTOR		E RECEWED	26	53-6B 80

Km1 OFFICE USE WI

MINISTRY ENVIRONMENT COPY

Dougall

FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

ER WELL RECORD 316/4f 1515513. 1. PRINT ONLY IN SPACES PROVIDED 15704 CAN 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE OUNTY OR DISTRICT Carleton Goulburn (Richmond) East Fortune Biscavne Cres. Ottawa, Ontario 12 MOD 7 80,50 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS DEPTH - FEET GENERAL DESCRIPTION brown sand & gravel ۵ 13 grey limestone broken 13 22 limestone grey 22 98 00131628111 | 002221571 | 0098215 31 19 14 15 54 15 55 55 75 32 WATER RECORD CASING & OPEN HOLE RECORD 41 51 SCREEN AT - FEET DEPTH MATERIAL FEET MATERIAL AND TYPE DEPTH TO TOP OF SCREEN FRESH 3 SULPHUR
SALTY 4 MINERAL 0095 1 STEEL
2 GALVANIZED 188 0 0025 3 SULPHUR I ☐ FRESH 3 CONCRETE **PLUGGING & SEALING RECORD** 61 2 SALTY 4 PEN HOLE STEEL DEPTH SET AT - FEET 1 [] FRESH 3 SULPHUR MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) 2 GALVANIZED Z SALTY 4 | MINERAL 3 CONCRETE

4 OPEN HOLE 1 FRESH 0098 3 SULPHUR Z SALTY 1 STEEL
2 GALVANIZED 4 MINERAL 18-21 22-25 1 🗆 FRESH 3 SULPHUR 3 CONCRETE 26-25 30-33 2 SALTY A | MINERAL LOCATION OF WELL 2 - BAILER WATER LEVEL END OF PUMPING PUMPING PECOVERY IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND OT LINE. INDICATE NORTH BY ARROW. STATIC LEVEL WATER LEVELS DURING 15 MINUTES 26-28 29-31 32-34 D 10 FEET 025 25 FEET 0 25_{EET} FEET O IF FLOWING GIVE RATE 2 ☐ CLOUDY RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING 035 ☐ SHALLOW 🙀 DEEP FEET RATO OO 5 FORTUNE 51. GPM GPM./FT. SPECIFIC CAPACITY WATER SUPPLY
OBSERVATION W 5 ABANDONED, INSUFFICIENT SUPPLY
6 ABANDONED, POOR QUALITY **FINAL STATUS** 1 TEST HOLE , UNFINISHED OF WELL A | RECHARGE WELL DOMESTIC 5 COMMERCIAL WATER () STOCK 6 MUNICIPAL IRRIGATION PUBLIC SUPPLY USE 4 🗆 INDUSTRIAL A COOLING OR AIR CONDITIONING OTHER 9 O NOT USED 1 CABLE TOOL METHOD ROTARY (CONVENTIONAL) 7 DIAMOND OF 3 ROTARY (REVERSE) ☐ JETTING **DRILLING** 9 DRIVING AIR PERCUSSION 7558 0 908 76 OFFICE USE ONLY CONTRACTOR Cap bply Ltd. 1558 Box Ontario LICENCE NUMBER W١

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

The Ontario Water Resources Act WATER WELL RECORD

Ο	ntario	. I. PRINT ONLY IN S 2. CHECK ⊠ CORRI	SPACES PROVIDED ECT BOX WHERE APPLICABI	LE 11	1	51770	7	1.5.7.0	یا اِنْ اِ	3 _N	ج ا امع
co	UNTY OR DISTRICT	3	TOWNSHIP, BOROUGH		E		CON	BLOCK, TRACT, SURV	EY ETC	023	1°025"
				ırn	•				DATE COM	IPLETED 4 MO4	41-53 YR 81
), O	Burke St. 3.49.91	4	Richmond, N.3.1.0	On Rc (L)	RASIN CODE	DAY_	HI	I IV
Ė	2	* 10 12	OG OF OVERBURD	DEN AND BED	25	26	<u>4</u>	31			47
GE	NERAL COLOUR	MOST COMMON MATERIAL		MATERIALS				AL DESCRIPTION		DEPT	H · FEET
E	Blue	Clay					·			0	9
		Broken Rock								9	11
-		Hard Limesto	ne .						1	11	35
ļ					····						
**.									<u> </u>		
\vdash						Party."					
									-11	AND DESCRIPTION OF THE PARTY OF	
										15	
										1	To large
_											
				17.0							!
3		395	1271 00	35 1.573	_			11111			با بب
4	10	ER RECORD	51) CASING	& OPEN HOLI	_	COBD [-	SIZEIS	4 OF OPENING	65 31-33 DIAME	TER 34-38	75 80 LENGTH 39-40
WA	TER FOUND	KIND OF WATER	INSIDE MATERIAL	WALL THICKNESS		TH FEET U	Stor	NAL AND TYPE		INCHES	FEET
00		FRESH 3 D SULPHUR 14 SALTY 4 D MINERAL	10-11 1 STEEL 2 GALVANIZ	INCHES 12	======================================	13-16	מ ו			OF SCREEN	41-44 30 .
	15-18 1	FRESH 3 [SULPHUR 19 SALTY 4 [MINERAL	6 3 □ CONCRETE		0	0018	61	PLUGGIN	G & SEAL	ING RECO	ORD
	20-23	FRESH 3 SULPHUR 24 SALTY 4 MINERAL	17-18 ☐ STEEL 2 ☐ GALVANIZ	19 FD		20-23	DEPTH S FROM	ET AT - FEET	MATERIAL AND		ENT GROUT ACKER, ETC.)
	25-28 1	FRESH 3 SULPHUR 29 SALTY 4 MINERAL	3 CONCRETE 4 OPEN HOL 24-25 1 STEEL			27-30	10-1				
	30-33	FRESH 3 SULPHUR 34 80	2 □ GALVANIZI 3 □ CONCRETE	ED			26-2				
	PUMPING TEST METH	SALTY 4 MINERAL OD 10 PUMPING RATE	4 OPEN HOL		7 [
\Box	1 ExPUMP	BAILER 0009		15-16 30 17-18 HOURS 30 MIN		IN DIACDA		OCATION O			
ST	STATIC LEVEL 19-21	END OF WATER LEV PUMPING 22-24 15 MINUTES		PUMPING RECOVERY LES 60 MINUTES		LOT LINE		W SHOW DISTANCE CATE NORTH BY AF		FROM ROAD A	, NO
G TEST			29-31 009 FEET 009	32-34 35-3 FEET 009 HEE						Á	* *
PUMPING	IF FLOWING. GIVE RATE	38-41 PUMP INTAKE SE		EAR 2 CLOUDY			I	OPTU	//= ·	st	
Ş	RECOMMENDED PUMI	PUMP	43-45 RECOMMEND	DED 46-49	11	of the color property of the colors		70RTU2	R		
L	50-53	Steel Steel	y FEET MALE OF	00) GPM	<u> </u>		5	351	Ý		
	FINAL STATUS	1 WATER SUPPLY 2 OBSERVATION WELL	5 ABANDONED IN]			V.	r V		
	OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 UNFINISHED					0 //01	E		
	WATER	2 STOCK	5 COMMERCIAL 6 MUNICIPAL		Π				5		
	USE O	r i	7 PUBLIC SUPPLY 8 COOLING OR AIR CO 9	INDITIONING NOT USED				Ī	T.		1
-	**************************************	7 CABLE TOOL	6 ☐ BORING		$\left\{ \left[\right] \right\}$						
	OF 4	2 ROTARY (CONVENTIO 3 ROTARY (REVERSE)	DNAL) 7 🗌 DIAMOI 8 🗋 JETTIN	N D G				1			
	DRILLING	4 X ROTARY (AIR) 5 AIR PERCUSSION	9 🗌 DRIVIN	G	DF	RILLERS REMARKS					
E	NAME OF WELL CO		le Tea	LICENCE NUMBER][>	DATA		3504	AT RECEIVED	028	2 ** **
CONTRACTOR		Water Suppl	1	3504		PATE OF INSPECTION		INSPECTOR		- 1-	
VIRA	1532	Raven Ave. OR BORER A. Scharf	Ottawa, On	LICENCE NUMBER		REMARKS					
ខ្ល	SIGNATURE OF CO		SUBMISSION DATE		OFFICE						
	41	Active!	ONMENT COP		ا اِ						

The Ontario Water Resources Act

of the Environ	IMENT 1. PRINT ONLY IN SPACE		Γ ER 15178	WELI 95 HUNICIP	CON		RD
county on district	2. CHECK 🗵 CORRECT B			CON . BLOCK, YRAC	e Street	023	18 0 7
			C. ELEVATION	nd Ont	DATE COM		YR 32
),0,3,4,9,9 [4]	5 26			<u> </u>	
GENERAL COLOUR	MOST	OF OVERBURDEN AND BEDRO	JCK MATERIA	GENERAL DESCRIPT		DEPTH	- FEET
	Clay					FROM	10 1 4
	Limestone					16	<u>16</u> 53
				7.00			<u>,</u>
						7.4	
(31) bo163 09	5 1 9053 /	<u>\$ </u>			111111	4444	با لبا
41 WATER R	RECORD 51	CASING & OPEN HOLE	RECORD P	SIZE IS OF OPENING	31-33 DIAMET	TER 34-38 LE	75 80 NGTH 39-40
WATER FOUND KIND	OF WATER INSIG	DE WALL THICKNESS	DEPTH - FEET	MATERIAL AND TYPE		INCHES	FEET
0024 ² □ SALTY	H 3 SULPHUR INCH	ES INCHES PR	13-16	SC		OF SCREEN	41-44 30 FEET
005'3" D.F.BESI	SULPHUR 19	6 CONCRETE .188	0 0021		GING & SEAL	ING RECOR	₹D
20-23 1 FRESH	H 3 SULPHUR 24	17-18	20-23	DEPTH SET AT - FEET FROM TO	MATERIAL AND	TYPE (CEMENT LEAD PACE	
	1 3 SULPHUR 29	4 OPEN HOLE 4-25 1 STEEL 26	27-30	10-13 14-			
30-33 FRESH	3 SULPHUR 34 SO	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE		26-29 30-3	3 80		
71 PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PUMPING		LOCATIO	N OF WELL		
	LEVEL 25	GPM 00 15-16 30 17-18 HOURS 30 MINS	IN DIA	GRAM BELOW SHOW DIS			
LEVEL END PUMI	PING	INUTES 45 MINUTES 60 MINUTES	LOT LI				
S IF FLOWING		29-31 32-34 35-37 FEET COS FEET COS FEET WATER AT END OF TEST 42			÷	1=	
GIVE RATE	GPM	FEET 1 ACLEAR 2 CLOUDY			WELTO!	0	
□ 26thALLOW □ DE	RECOMMENDED PUMP SETTING 035	FEET RECOMMENDED 46-45 PUMPING 000 4 GPM			WELL 70.	4	
\$0-53					175	4	
STATUS ,	OBSERVATION WELL	BANDONED, INSUFFICIENT SUPPLY BANDONED POOR QUALITY UNFINISHED				1	
OF WELL 4	RECHARGE WELL	COMMERCIAL				E	
WATER 3	STOCK 6 IRRIGATION 7	MUNICIPAL Public Supply	B_0	URKE S	T. V	ST.	
USE OI .	OTHER	COOLING OR AIR CONDITIONING 9				121	
METHOD 1	CABLE TOOL ROTARY (CONVENTIONAL)	6 ☐ BORING 7 ☐ DIAMOND				1 1	´
OF 4	ROTARY (REVERSE) ROTARY (AIR)	F D JETTING DRIVING				1	
NAME OF WELL CONTRACT		LICENCE NUMBER	DRILLERS REMARKS		59.62 DAVE 00		
			SOURCE DATE OF INSPECT	3504	DATE DECEIVED	098	2"
1532 Rav	ren Ave., Ott	awa. Onţ.	SE	INSPEC.	OR		
NCLean WADDRESS 1532 Rav NAME OF DRILLER OR BO A. Scha	rf	LICENCE NUMBER	D REMARKS				

Compression from London Control Code Control Code Code Control Code Code Control Code Code Control Code Code Code Code Code Code Code Code Code Code Code	Ontario the Environment Measurements recorded in: Metric Mapperial	ag No. (Place Sticker an	·	Well n 903 Ontario Water R Page	Record esources Act
Comprehage Extinational Code Ontario Ontario Ontario NAD 8 3 M 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Mall Oursels to Consolin				
Comprehage Extinational Code Ontario Ontario Ontario NAD 8 3 M 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					
Comprehage Extinational Code Ontario Ontario Ontario NAD 8 3 M 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					
Corporational Zone, Estational No. Direct Space Potatal Code Ontario Other J 3 Manifolds Plan and Subside Mumber Other Materials And Type Other Materials Other Materials And Type Other Materials	Address of Well Location (Street Number/Name)	Township	Lui	Concession	
Method of Construction Recay (Comercial Disperse House) Despit (milt)		City/Town/Village ^	bourn	Province Pos	tal Code
Note State Reforce National Management Sealing Record (see instactions on the factor of the Remit General Colour Most Common National Other Materials General Colour Most Colours National Other Nationals General Colours (National Colours) Most Colours National Other Natio	Ottoma Car leton	Rich	mod	Ontario	
Annular Space	NAD 8 3 18 43 444 500 377	6 PL	AND-18 W	nif 39	
Annulus Space Depth Set at (mft) To Set (mf					
Annular Space Depth Set at (mft) Type of Sealant Used (Masterial and Type) Type of Sealant Used (Masterial and Type) Type of Sealant Used (Masterial and Type) Time Work Town To (Masterial and Type) Time Work Town Town Town Town Town Town Town Town	147 11 11	1	0.	10	40'
Depth Set at (m/ft) Type of Sealant Used Molarization and precedent Type Type of Sealant Used Type Type	T Unilled	vell th	parcion Mr	29	90
Depth Set at (m/ft) Type of Sealant Used Molarization and precedent Type Type of Sealant Used Type Type					
Depth Set at (m/ft) Type of Sealant Used Material and Type) Type of Sealant Used Minth (m/ft) Type of Sealant Minth (m/ft) Type of					
Depth Set at (m/ft) Type of Sealant Used Molarization and precedent Type Type of Sealant Used Type Type					
Depth Set at (m/ft) Type of Sealant Used Material and Type) Type of Sealant Used Minth (m/ft) Type of Sealant Minth (m/ft) Type of					
Depth Set at (m/ft) Type of Sealant Used Material and Type) Type of Sealant Used Minth (m/ft) Type of Sealant Minth (m/ft) Type of					
Construction Cons	Annular Space			ell Yield Testing	
Method of Construction			Clear and sand free	Time Water Level Tim	e Water Level
Method of Construction				Static	n) (m/ft)
Method of Construction					
Method of Construction Cable Tool Demond Public Commercial Not used Not used Redary (Convertional) Jetting Demond Public Commercial Not used Not used Redary (Convertional) Jetting Demond Public Commercial Not used Not used			Pump intake set at (m/ft)	2 2	
Cable Tool Diamond Public Commercial Devastering					
Ready (Reverse) Driving Livestock Test Jeffs Montoring Boring Digging	Method of Construction Well U	se	Pumping rate (Vmin / GPM)	3 3	
Construction Record - Casing Depth (m/tt) Water Supply Replacement Well Test Hole Recommended pump depth (m/tt) Construction Record - Steel Depth (m/tt) Water Supply Replacement Well Test Hole Recharge Well Deveating W	Cable Tool Diamond Public Comm	ercial Not used			+
Construction Record - Cashing	Cable Tool Diamond Public Committee Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test	ercial Not used pal Dewatering of Monitoring	Duration of pumping hrs + min	4 4 5	
Depth (m/ft) Depth (m/ft) Recommended pump depth (m/ft) Recommended (Glavharized, Freedings) Replacement Well Replacement Well Recommended pump depth (m/ft) 25 25 25 25 25 25 25 2	Cable Tool Diamond Public Committee Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test Maricipal Rotary (Reverse) Digging Irrigation Cooling Air percussion	ercial Not used pal Dewatering of Monitoring	Duration of pumping hrs +min Final water level end of pumping mit	4 4 5 5 10 10	
Test Hole Recharge Well Dewatering Well Dewatering Well Dewatering Well Dewatering Hole Alteration (Construction) Abandoned, Poor Water Coulside Diameter (Construction) Abandoned, Poor Water Coulside Construction Abandoned, Constructi	Cable Tool Diamond Public Commod Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test Hamber Digging Irrigation Cooling Other, specify Other, specify	ercial Not used pal Dewatering of Monitoring g & Air Conditioning	Duration of pumping hrs +min Final water level end of pumping mit	4 4 5 5 10 10 10 15 15 15	
Construction Record - Screen Outside Diameter (cm/kr) Water Details Water Detai	Cable Tool Diamond Public Commod Rotary (Conventional) Jetting Domestic Municipy Rotary (Reverse) Driving Livestock Test Hold Bring Digging Irrigation Cooling Air percussion Industrial Other, specify Other, specify Depth (mr/ft) Diameter (Galvanized, Fibreglass, Thiodess	ercial Not used pal Dewatering of Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN)	4 4 5 5 10 10 10 15 15 20 20	5
Construction Record - Screen Outside Diameter (cm/in) Water Details Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested (m/it) Gas Other, specify Water found at Depth Rind of Water Fresh Untested	Cable Tool Diamond Public Commod Rotary (Conventional) Jetting Domestic Municipy Rotary (Reverse) Driving Livestock Test Hold Bring Digging Irrigation Cooling Air percussion Industrial Other, specify Other, specify Depth (mr/ft) Diameter (Galvanized, Fibreglass, Thiodess	ercial Not used pal Dewatering of Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GP/lt) Recommended pump depth (m/ft) Recommended pump rate	4 4 5 5 5 10 10 10 15 15 20 25 25 25	
Construction Record - Screen Outside Diameter (cm/in) Plastic, Galvacized, Steel) Slot No. From To Water Quality Water found at Depth Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Rind Rind of Water Frosh Untested (m/fl) Gas Other, specify Water found at Depth Rind of Rin	Cable Tool Diamond Public Commod Rotary (Conventional) Jetting Domestic Municipy Rotary (Reverse) Driving Livestock Test Hold Bring Digging Irrigation Cooling Air percussion Industrial Other, specify Other, specify Depth (mr/ft) Diameter (Galvanized, Fibreglass, Thiodess	ercial Not used Dewatering Dewatering Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPNI) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM)	4 4 5 5 5 10 10 10 15 15 20 25 25 30 36	
Outside Diameter (Plastic, Galvacized, Steel) Sixt No. From To Water Quality Abandoned, other, specify Water Details Water Details Water Details Water Details Water Gund at Depth Kind of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water. Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring of Water Frosh Untested (m/ft) Gas Other, specify Water found at Depth Ring o	Cable Tool Diamond Public Commod Rotary (Conventional) Jetting Domestic Municipy Rotary (Reverse) Driving Livestock Test Hold Bring Digging Irrigation Cooling Air percussion Industrial Other, specify Other, specify Depth (mr/ft) Diameter (Galvanized, Fibreglass, Thiodess	ercial Not used pal Dewatering of Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM)	4 4 5 5 5 10 10 10 10 15 15 20 25 25 30 36 40 40	
Water Details	Cable Tool Diamond Public Commond Rotary (Conventional) Jetting Domestic Municipy Rotary (Reverse) Driving Livestock Test His Boring Digging Irrigation Cooling Air percussion Industrial Other, specify Other, specify Depth (m/ft) This design Concrete, Plastic, Steel) Construction Record - Casing Depth (m/ft) Concrete, Plastic, Steel) From To	ercial Not used pal Dewatering Ole Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned,	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPNI) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distiffected? Yes No	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 36 50 60 60 60	
Water found at Depth Gas Other, specify Other From To Gom/in Water found at Depth Nind of Water: Gresh Untested	Cable Tool Diamond Public Commond Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test Hamiltonian Rotary (Reverse) Driving Livestock Test Hamiltonian Rotary (Reverse) Drigging Hrigation Cooling Rotary Record Record Rotary Record Re	ercial Not used pal Dewatering Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Water Quality	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Water found at Depth Gas Other, specify Other From To Gom/in Water found at Depth Nind of Water: Gresh Untested	Construction Record - Screen Construction Record - Screen Outside Diameter (Plastic Columbrized Stoel) Cable Tool Diamond Public Commit Commit Commit Domestic Municing Livestock Test Interest of Municing Domestic Municing Domestic Municing Domestic Municing Diameter (Construction Record - Casing Industrial Cother, specify Other, specify Depth (m/ft) Construction Record - Casing Wall Depth (m/ft) From To	ercial Not used pal Dewatering Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Water Quality	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Water found at Depth Gas Other, specify Other From To Com/in) Water found at Depth Nind of Water: Gresh Untested (m/ft) Gas Other, specify Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Oth	Construction Record - Screen Construction Record - Screen Outside Diameter (Plastic Columbrized Stoel) Cable Tool Diamond Public Commit Commit Commit Domestic Municing Livestock Test Interest of Municing Domestic Municing Domestic Municing Domestic Municing Diameter (Construction Record - Casing Industrial Cother, specify Other, specify Depth (m/ft) Construction Record - Casing Wall Depth (m/ft) From To	ercial Not used pal Dewatering Status of Well Water Supply Replacement Well Test Hole Recharge Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Water Quality	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Water found at Depth Rind of Water: Fresh Untested	Construction Record - Screen Construction Record - Screen Outside Diameter (cm/in) Outside Diameter (cm/in) Construction Record - Screen Outside Diameter (Plastic, Galvaoized, Steel) Slot No. From To	ercial	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Water found at Depth Kind of Water: Fresh Untested (m/fl) Gas Other, specify Well Contractor and Well Technician Information Business Name of Well Contractor Under Contracto	Cable Tool Diamond Public Commond Rotary (Conventional) Jetting Domestic Municipal Livestock Test Municipal Other, specify Digging Irrigation Cooling Other, specify Other, specify Other, specify Depth (m/ft) From To Construction Record - Casing Depth (m/ft)	ercial	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Well Contractor and Well Technician Information Business Name of Well Contractor Business Address (Street Number/Name) Province Postal Code Business E-mail Address Well contractor's Licence No. Municipality Comments: Well owner's information package Well owner's information package Audit No. Z O 7 C A	Cable Tool Diamond Public Common Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test Make Indiana Policy Diagram Diagram Diagram Diagram Diagram Dother, specify Dother, specify Dother, specify Dother, specify Dother, specify Depth (m/ft) This dess (Galvanized, Fibreglass, Concrete, Plastic, Steel) Slot No. Construction Record - Casing Depth (m/ft) Depth (m/ft) This dess (Galvanized, Fibreglass, Concrete, Plastic, Steel) Slot No. Construction Record - Screen Depth (m/ft) Depth (m	ercial	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Business Name of Well Contractor Business Address (Street Number/Name) Province Postal Code Business E-mail Address Well contractor's Licence No. Municipality Comments: Well owner's Information Package Delivered Ministry Use Only Audit No. Z O 7 C A	Cable Tool Diamond Public Common Rotary (Conventional) Jetting Domestic Municipe Rotary (Reverse) Driving Livestock Test Manicipe Rotary (Reverse) Driving Livestock Test Manicipe Rotary (Reverse) Digging Irrigation Cooling Industrial Other, specify Dopen Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) This less (multi) From To Construction Record - Casing Depth (mult) Depth (mult)	ercial	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Province Postal Code Business E-mail Address Well owner's Date Package Delivered information package Name of Well Technician (Last Name, First Name) Audit No. Z 0 7 C /	Cable Tool	ercial Dewatering Dewatering Dewatering Status of Well Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Dewatering Well Dewatering Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, specify Well Diameter To Convin)	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Province Postal Code Business E-mail Address Well owner's Date Package Delivered information package Name of Well Technician (Last Name, First Name) Ministry Use Only Audit No. Z	Cable Tool Diamond Public Common Rotary (Conventional) Jetting Domestic Municipal Rotary (Reverse) Driving Livestock Test Management Record Public Common Diagong Diagong Inrigation Cooling Industrial Other, specify Other, specify Other, specify Depth (m/ft) Concrete, Plastic, Steel) Record - Casing Inside Diameter (Galvanized, Fibreglass, Concrete, Plastic, Steel) Slot No. From To Construction Record - Casing Depth (m/ft) Depth (m/ft)	ercial Dewatering Dewatering Dewatering Monitoring Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Dewatering Well Dewatering Well Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, specify Monitoring Point Monitoring Mon	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPN) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distinfected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) / package Audit No. Z O O 7 C /	Cable Tool Diamond Diamond Domestic Municipal Domestic Municipal Diamond Diamond Domestic Municipal Diamond Diamond Domestic Municipal Diamond	ercial Dewatering Dewatering Dewatering Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Dewatering Well Dewatering Well Dewatering Well Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, Specify Diameter To Contractor's Licence No.	Duration of pumpinghrs +min Final water level end of pumping m/tt If flowing give rate (l/min-/ GPNt) Recommended pump depth (m/tt) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distiffected? Yes No Map of W Please provide a map below following	4 4 5 5 5 10 10 10 10 15 15 20 25 25 25 30 30 30 50 60 60 60 60 60 60 60 60 60 60 60 60 60	
1 package VVVVM M M D D D	Cable Tool	ercial Dewatering Dewatering Dewatering Status of Well Water Supply Replacement Well Dewatering Well Dewatering Well Dewatering Well Dewatering Well Dewatering Well Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, Specify Diameter To Contractor's Licence No.	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPNI) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distillected? Yes No Map of W Please provide a map below following Comments:	4 4 5 5 5 5 6 10 10 10 10 10 15 15 15 15 15 15 15 15 15 15 15 15 15	
Date Work Completed	Cable Tool	ercial Dewatering Dewatering Dewatering Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Other, Specify Other, Specify Water Quality Abandoned, other, Specify Other, Specify	Duration of pumping hrs + min Final water level end of pumping (m/ft) If flowing give rate (l/min-/ GPNI) Recommended pump depth (m/ft) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distiffected? Yes No Map of W Please provide a map below following Comments: Well owner's Date Package Delivered information package information	4 4 5 5 5 5 6 10 10 10 10 10 10 10 10 10 10 10 10 10	NA VA
Ministry's Copy Ministry's Copy Ministry's Copy Osofic (12/2007) Ministry's Copy Osofic (12/2007)	Cable Tool	ercial Dewatering Dewatering Dewatering Monitoring g & Air Conditioning Status of Well Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Other, Specify Other, Specify Water Quality Abandoned, other, Specify Other, Specify	Duration of pumping hrs + min Final water level end of pumping mit If flowing give rate (l/min-/ GPNI) Recommended pump depth (m/R) Recommended pump rate (l/min / GPM) Well production (l/min / GPM) Distiffected? Yes No Map of W Please provide a map below following Comments: Date Package Delivered y y y y y M M	4 4 4 5 5 5 5 10 10 110 110 110 110 110 110 1	N4 See Only 0764

Ontario Ministry of the Environment, Conservation and Parks	Well Tag No. (Place Sticker and/or	·				
Measurements recorded in: ☐ Metric Mmperial	N/A	Regulation 903 C	Ontario Water Resources Act Page of			
Well Owner's Information						
First Name Last Name/Organization	ATE WORK	E-mail Address				
Mailing Address (Street Hymber/Name)	Municipality	Province Postal Code	Telephone No. (inc. area code)			
Well Location	2 ELANI	DIZ TRIP LONG				
Address of Well Location (Street Number/Name)	Township Soul By	Let X	Concession			
County/District/Municipality	City/Town/Village	Provis	nce Postal Code			
UTM Coordinates Zone Easting Northing	Municipal Plan and Sublot Nur	10 kd-10				
NAD 8 3 18 AB FF404 DOOL Overburden and Bedrock Materials/Abandonment Se	3721 aling Record (see instructions on the bac	k of this form				
General Colour Most Common Material	Other Materials	General Description	Depth (mft) From no			
6" Drille	Well Alamo	lan menat	0' 33'			
	-	:				
		<u> </u>				
They 6" Drilled well	-Sept 8, 20,00					
THE A 30514	5 - Avolut E	<u>344055</u>				
Annular Space		Results of Well Yie	ld Testing			
Depth Set at (mf) Type of Sealant Used From To (Material and Type)	Volume Placed After	er test of well yield, water was: Di	raw Down Recovery Water Level Time Water Level			
331 41 38 Holo Plu		Other, specify (min)	, , , , , , , , , , , , , , , , , , , ,			
4' 0' Backfill	0 0	ournping discontinued, give reason: Level				
	Pu	mp intake set at (m/ft) 2	2			
man alarino CD CD Admit 200 CD all thanking in the result of a more law consumer representations are	Pu	mping rate (I/min / GPM)	3			
Method of Construction Cable Tool Diamond Public	Commercial Not used	4	4			
☐ Rotary (Conventional) ☐ Jetting ☐ Domestic ☐ Rotary (Reverse) ☐ Driving ☐ Livestock	☐ Municipal ☐ Dewatering ☐ Test Hole ☐ Monitoring	ration of pumping hrs + min	5			
☐ Boring ☐ Digging ☐ Irrigation ☐ Air percussion ☐ Industrial	Cooling & Air Conditioning Fin	nal water level end of pumping (m/ft)	10			
Other, specify Other, specify Other, specify		lowing give rate (l/min/GPM)	15			
	n (m/ft)	ecommended pump de pth (m/ft)	20			
(cm/in) Concrete, Plastic, Steel) (cm/in) From		ecommended pump rate	25			
	☐ Dewatering Well	nin/GPM)	30			
	Monitoring Hole	ell production (l/min/GPM)	50			
	Alteration (Construction)	infected?	60			
Construction Record - Screen	Insufficient Supply Abandoned, Poor		cation			
Outside Diameter (cm/in) Material Material Slot No. From	Abjandoned, other,	ease provide a map below following inst	ructions on the bar			
(3.11)	Pepecify	14. 15				
	Other, specify	# 130	<u>></u>			
Water Details		2/ RUKKE	<u> </u>			
Water found at Depth Kind of Water: ☐Fresh ☐Untested	Depth (m/ft) Diameter From To (cm/in)	2 \ STREE	7			
Water found at Deptn Kind of Water: ☐Fresh ☐Untested		1/2 /	A O K			
Water found at Depth Kind of Water: ☐ Fresh ☐ Untested		\$ \$ \	7 100			
/ (m/ft) Gas Other, specify	n information		w X			
Business Name of Well Contractor	Well Contractor's Licence No.	1000	en 9			
Business Address (Street Number/Name)	Municipality Con	mments:				
Province Postal Code Business E-mail Add	d Lichmond Iress					
Bys. Telephone No. (inc. area code) Name of Well Technician (I	art Name First Name \ info	ell owner's Date Package Delivered D	Ministry Use Only Audit No. 79 A 4 4 4 6			
Well Technician's Licence No. Signature of Technician apd/or Co		ckage ivered Date Work Completed	Audit No. Z344149			
veil lechnician's Licence No. Signature of Technician and/or Co	Intractor Date Submitted	Yes Date Work Completed	JAN 0 9 2021			
0506E (2020/06) © Queen's Printer for Ontario, 2010	Ministry's Copy					
• • • • • • • • • • • • • • • • • • • •		ı				

Measurements recorded in:

Ministry of the Environment

☐ Metric

Tag#: A187032 A187032

rint Below)

Well Record

Regulation 903 Ontar

Page_

rio	Water	Resources	Act
B I 400	4 12 PM P ME		

Address of Well Location (Street Number/Name) 96 FORUME SILES	Township	Lot	Concessio		
County/District/Municipality	City/Town/Village Richmond		Province	Postal Code	
Ottawa-Carleton UTM Coordinates Zone Easting Northing	Municipal Plan and Sublo	ot Number	Ontario Other		
NAD 8 3 4434347 5003692	Plan D-18	- Kanlant thin to rom	Part U-37		
Overburden and Bedrock Materials/Abandonment Sealing Red General Colour Most Common Material	Other Materials	General Description	1	Depth (ro/ft	
***************************************			<u>,,</u>	0 14' 14 15(
Grey White Sandstone	**************************************	**************************************		156 ⁷ 170	
White Sandstone				173 179	
			,,,		
	·y			^^^^	
/ 1 LAN TENDENT OF TO		Results of W	ell Yield Testing		
Depth Set at (m(tt)) Type of Sealant Used From To, (Material and Type)	Volume Placed (m³∰3)	After test of well yield, water was: Clear and sand free	Draw Down Time Water Leve	Recoven	
20/ 10/ Neat Cement		Other, specify NOLLESIE	Cialla F.	(min) (m/) 5 4 73.	
		If pumping discontinued, give reason:	Level	3 1	
		Pump intake set at (nQft)	2 22.3	2 2 5	
		1 Pumping rate (//min_/_GP\/t)	3 30.5	3 4	
	nmercial Not used	15US	4 35.5	3 4 2	
□ Rotary (Conventional) □ Jetting ▶ Domestic □ Mun □ Rotary (Reverse) □ Driving □ Livestock □ Test	t Hole	Duration of pumping Thrs + 0 min	5 39.6		
☐ Boring ☐ Irrigation ☐ Cool ☐ Air percussion ☐ Industrial	ling & Air Conditioning	Final water level end of pumping (m/ft) 73.8			
Other, specify		If flowing give rate (I/min / GPM)	15 66.1 70.7	JO	
Construction Record - Casing Inside Open Hole OR Material Wall Depth (n@)	Status of Well 'X Water Supply	Recommended pump depth (m(II)		1 20	
Diameter (Galvanized, Fibreglass, Thickness From To (cm(n)) Concrete, Plastic, Steel) (cn(n)) From To	Replacement Well Test Hole	120' Recommended pump rate		. ZO	
(=====================================	Downtoring \Moll	(l/min / GFW)	30 73.8 40 73.8	30 5 3 40 5	
515/IL'	Observation and/or Monitoring Hole	Well production (I/min / GEM)	73.E		
	Alteration (Construction)	Disinfected? XYes No	60 73.8		
Construction Record - Screen	☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor		ell Location		
Outside Material Diameter (Plastic, Galvanized, Steel) Slot No. From To	Water Quality Abandoned other	Please provide a map below following	instructions on the	back.	
(cm/in) (Flasic, Galvarii2ed, Steel) From 10	specify				
	Other, specify		~~		
Water Details 2	Hole Diameter				
Water found at Depth Kind of Water: Fresh Mntested Fron	Depth (<i>m/ft</i>) Diameter n To (<i>cm/in</i>)				
Water found at Depth Kind of Water: Fresh Untested	0 20 9 3/4"		K ~10		
(m/ft) Gas Other, specify	20 179 5 5/6"	# 10 E			
(m/ft) Gas Other, specify Well Contractor and Well Technician Infori	mation	TO PITUT			
Business Name of Well Contractor Air Rock Drilling Co. Ltd.	Well Contractor's Licence No.	STA			
	Murfieiratity.ond	Comments: 1/2 HP - 10 GPM SET	(3) 420 FT		
Province: Postab Godezo Business E-mail Address sy		COMPAN NO. OF THE COMPAN NO. O			
		Well owner's Date Package Delivered information 2015 0.7	ed Minis Audit No.7	stry Use Only	
Bus Telephone No. (inc. area code) Name of Well Technician (Last Nan 613882170 Hanna, Jeremy		package delivered Date Work Completed			
Well Technician's Licence No. Signature of Technician and Science Contractor 36 32 42-23	Date Still mitted C	No ZUID O			
0506E (2007/12) © Queen's Printer for Ontario, 2007	Ministry's Copy				

7285368 Tag#: A 207744 Ministry of the Environment and Climate Change Ontario

A 207744

Well Record

Regulation 903 Ontario Water Resources Act

Page_ of

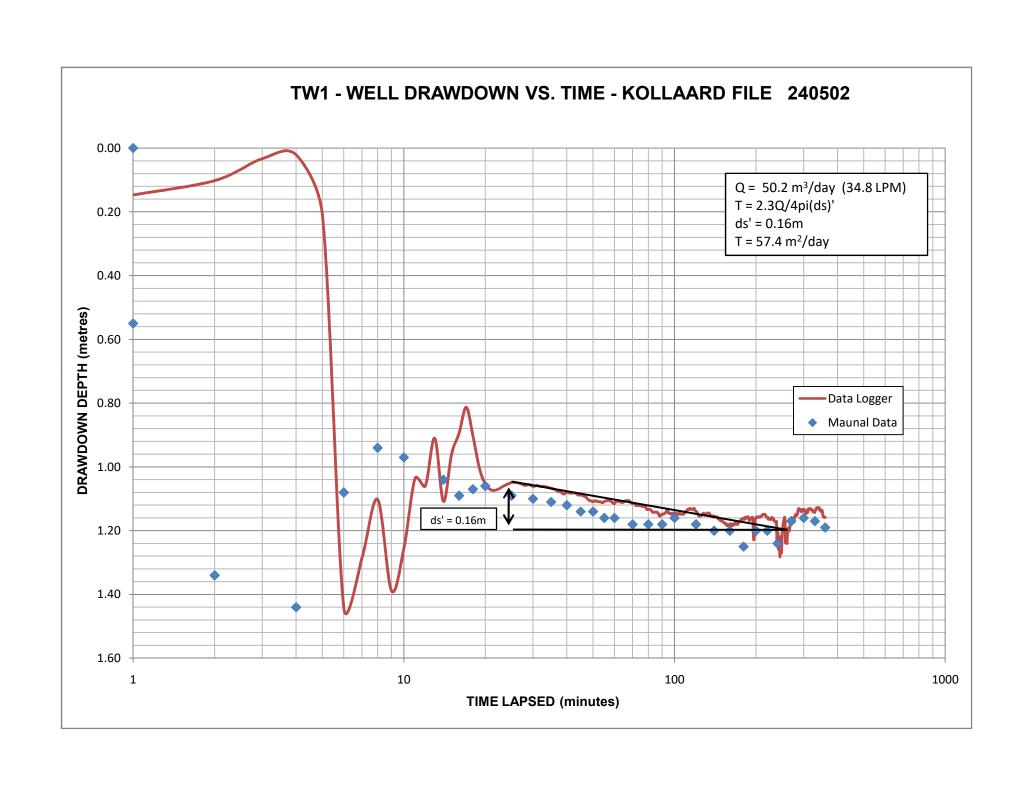
ESTATE OF HELEN BROWN

Measurements recorded in: Metric Imperial

Address of Well Location (Street Nu	mber/Name)	Township			Lot	Concess	ion	
# 126 BURKE	STREET	City/Town/Village	LBOU	RN_	X	Province	Postal	Code
County/District/Municipality OTTA-NA- Cf	RLETON	- Ric	ctme	ONC		Ontario	FOSIZI	Code
UTM Coordinates Zone Easting NAD 8 3 1 8 4 3 4	43 150031	Municipal Plan ar	nd Sublot Num	D-18	u	Other N(T	39	
Overburden and Bedrock Materi	ials/Abandonment Sea	ling Record (see instruction	is on the back o	The state of the s			Den	th (<i>m/f(</i>))
General Colour Most Com	mon Material	Other Materials	Pm 0	Gener	al Description		From	19,
Comus black	Jag Kt	the bref of	Delie V	<u>aurs</u>			12'	100 1
		\ <u>\\</u>						
Depth Set at (m/ft)	Annular Space Type of Sealant Used	Volume Pla	ced Affer	R r test of well yield, v		Il Yield Testii		lecovery
From To	(Material and Type)	(m³/€)		Clear and sand fro Other, specify		Time Water L	evel Time	
20' 0' Nast	Cerva & Sli	ery 12.48	/ IL	mping discontinue	d, give reason:	Charle	12	19.4"
				X		1 14.8	3 1	ю. <u>'</u>
			Pum	np intake set at (m	n (b)	² lb.:	3 2	8,7"
Method of Construction		Well Use	Pum	nping rate (V/min /	(PM)	3 17,	3	87"
Cable Tool Diamon Rotary (Conventional) Jetting	d Public	☐ Commercial ☐ Not ☐ Municipal ☐ Dev	used Dura	ation of pumping		4 17.3		
Rotary (Reverse) Driving Boring Digging	Livestock	Test Hole Mor	nitoring	hrs + m		5 17.6		
Air percussion Other, specify	Industrial Other, specify			19:4"		10 18.	10 3 15	
	Record - Casing	Status of I	Well	wing give rate (I/n	,	20 (8.5		
Inside Open Hole OR Material Diameter (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Depth Thickness From	(M) Water Supp	- 11	commended pump	depth (<i>m(tt</i>)	25 18	7 25	
Zikii Shel	- 188 +9,	☐ Test Hole ☐ Recharge V	Vell Rec	commended pump	rate	30 18,8	30	
515/16" Opertice	20'	□ Dewatering □ Observation Monitoring	and/or Well	I production (I/min	(GPM)	40 19,	40	
7 116 CASTILLE		☐ Alteration	lole	nfectel)?		50 9,	<u>ک</u> 50	
		(Construction Abandoned Insufficient		Yes ☐ No		60 19,4	60	V
Outside Material	Record - Screen Depth	Abandoned (m/fi) Water Qual	, Poor	ase provide a map		lell Location instructions on t	he back.	
Diameter (cm/in) (Plastic, Galvanized, Steel	DI-LNI-	To Abandoned specify	, other,	1				
		Other, spec	ify		-	# 126	1	
Water Do		Hole Diameter		1	F	BURKE		_
Water found at Depth Kind of Wat	er: Fresh Intested	Depth (m/Q) D	iameter (cm@)			ST	<u> </u>	
38 (m/m) ☐ Gas ☐ Other, sp Water found at Depth Kind of Wat		0' 26' 9	3/4"	4			1	مُو [']
78 (m/t) ☐ Gas ☐ Other, sp. Water found at Depth Kind of Wat	ecifyer: Tresh XUntested	20 100 5	15/161	1, 20	6-		<i>></i>	0
☐ (mft) ☐ Gas ☐ Other, sp	pecify			(8° &)		9KM	XX.	L. III
Well Contractor Business Name of Well Contractor	tor and Well Technicia	n Information Well Contractor's Lice	ence No.		\			
Business Address (Street Number/N	LINGCOL	Municipality	Com	nments:	1			
KK#1	KIC	AnonD		1/2HP.	INGON) Cat	@ Q	TT
Province Postal Code CAA	Business E-mail Add	iress			ackage Deliver		nistry Us	e Only
Bus.Telephone No. (inc. area code)	lame of Well Technician (Last Name, First Name)	pack	vered 😂	170 M	-⊋7 Audit N	o. <u>723</u>	7286
Well Technician's Licence No. Signatu	re of Technician and/or Co		X		Vork Completed	ΔP	R 1820)17
T3058 /KG	merch	Ministry's		100	HIY CHE	Receive © Que	d en's Printer f	or Ontario, 2014
10 10 10 10 10 10 10 10 10 10 10 10 10 1			······································					



ATTACHMENT B PUMPING TEST DATA (TW1)



Kollaard File 240502 Pump Rate 34.8 litres/minute DRAWDOWN DATA TW1

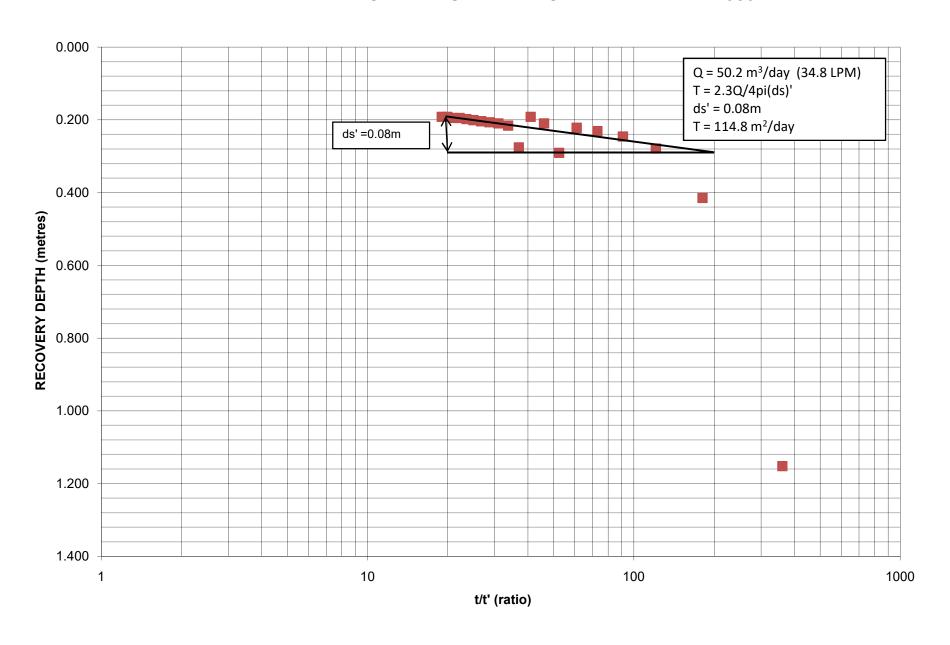
Time Lapsed	Abs Pres	Temp	Water Level	Drawdown	Water Level (Manual)	Drawdowr
(minutes)	(kPa)	(°C)	(m)	(m)	(m)	(m)
0	362.368	9.571	-2.877	0.00	-2.86	0.00
1	360.921	9.571	-3.024	0.15	-3.41	0.55
2	361.364	9.571	-2.979	0.10	-4.20	1.34
3	362.043	9.571	-2.91	0.03		
4	362.161	9.571	-2.898	0.02	-4.30	1.44
5	360.33	9.571	-3.085	0.21		
6	348.228	9.571	-4.319	1.44	-3.94	1.08
7	349.763	9.571	-4.163	1.29		
8			-3.979		-3.80	0.94
	351.563	9.571		1.10	-3.80	0.54
9	348.76	9.571	-4.265	1.39		
10	350.058	9.571	-4.133	1.26	-3.83	0.97
11	352.212	9.571	-3.913	1.04		
12	351.976	9.571	-3.937	1.06		
13	353.451	9.571	-3.787	0.91		
14	351.504	9.571	-3.985	1.11	-3.90	1.04
15	352.95	9.571	-3.838	0.96		
16	353.599	9.571	-3.771	0.89	-3.95	1.09
17	354.396	9.571	-3.69	0.81		
18			-3.78	0.90	-3.93	1.07
	353.51	9.571			-3.93	1.07
19	352.536	9.571	-3.88	1.00		
20	352.035	9.571	-3.931	1.05	-3.92	1.06
21	351.858	9.571	-3.949	1.07		
22	351.858	9.571	-3.949	1.07		
23	351.946	9.571	-3.94	1.06		
24	352.027	9.472	-3.932	1.06		
25	352.027	9.472	-3.926	1.05	-3.95	1.09
					-3.53	1.09
26	352.086	9.472	-3.926	1.05		
27	352.057	9.472	-3.929	1.05		
28	351.998	9.472	-3.935	1.06		
29	352.027	9.472	-3.932	1.06		
30	351.968	9.472	-3.938	1.06	-3.96	1.10
31	351.998	9.472	-3.935	1.06		
32	351.968	9.472	-3.938	1.06		
33	351.968	9.472	-3.938	1.06		
34	351.939	9.472	-3.941	1.06		
35	351.909	9.472	-3.944	1.07	-3.97	1.11
					-3.97	1.11
36	351.88	9.472	-3.947	1.07		
37	351.821	9.472	-3.953	1.08		
38	351.791	9.472	-3.956	1.08		
39	351.732	9.472	-3.962	1.09		
40	351.791	9.472	-3.956	1.08	-3.98	1.12
41	351.762	9.472	-3.959	1.08		
42	351.762	9.472	-3.959	1.08		
43	351.762	9.472	-3.959	1.08		
44	351.703	9.472	-3.965	1.09		
45	351.703	9.472	-3.965	1.09	-4.00	1.14
	1				4.00	1.17
46	351.673	9.472	-3.968	1.09		
47	351.644	9.472	-3.971	1.09		
48	351.555	9.472	-3.98	1.10		
49	351.526	9.472	-3.983	1.11		
50	351.496	9.472	-3.986	1.11	-4.00	1.14
51	351.526	9.472	-3.983	1.11		
52	351.496	9.472	-3.986	1.11		
53	351.496	9.472	-3.986	1.11		
54	351.467	9.472	-3.989	1.11		
	1	9.472			4.03	1.10
55	351.496		-3.986	1.11	-4.02	1.16
56	351.526	9.472	-3.983	1.11		
57	351.526	9.472		1.11		
58	351.526	9.472		1.11		
59	351.467	9.472	-3.989	1.11		
60	351.437	9.472	-3.992	1.12	-4.02	1.16
61	351.437	9.472	-3.992	1.11		
62	351.378	9.472		1.11		
63	351.378	9.472	-3.998	1.11		
64	351.378	9.472		1.11		
65	351.378	9.472		1.11		
66	351.349	9.472		1.11		
67	351.349	9.472		1.11		
68	351.349	9.472		1.11		
69	351.26	9.472		1.11		
70	351.26	9.472	-4.01	1.12	-4.04	1.18
71	351.26	9.472	-4.01	1.12		
72	351.231	9.472	-4.013	1.12		
73	351.231	9.472		1.12		
74	351.172	9.472		1.12		
75	351.172	9.472		1.12		
76	351.172	9.472		1.12		
77	351.142	9.472	-4.022	1.12		
78	351.054	9.472		1.12		
79	351.083	9.472		1.13		
80	351.113	9.472		1.13	-4.04	1.18
81	351.113		-4.025		7.04	1.10
		9.472		1.13		
82	351.142	9.472		1.14		
83	351.172	9.472		1.14		
	354.36	0.472	-4.01	1.14	1	
84	351.26	9.472	-4.01			
	351.26 351.142	9.472		1.14		

87	351.113	9.472	-4.025	1.15	1	
88	351.142	9.472	-4.022	1.15		
89	351.142	9.472	-4.022	1.15		
90	351.142	9.472	-4.022	1.15	-4.04	1.18
91	351.142	9.472	-4.022	1.15		1.10
92	351.083	9.472	-4.028	1.15		
93	351.113	9.472	-4.025	1.14		
94	351.113	9.472	-4.022	1.13		
95	351.142	9.472	-4.025	1.15		
96	351.113	9.472	-4.025	1.15		
97	351.113	9.472	-4.025	1.15		
98	351.113	9.472	-4.025	1.15		
99	351.142	9.472	-4.022	1.15		
100	351.201	9.472	-4.016	1.15	-4.02	1.16
101	351.231	9.472	-4.013	1.15		
102	351.26	9.472	-4.01	1.15		
103	351.26	9.472	-4.01	1.15		
104	351.29	9.472	-4.007	1.15		
105	351.26	9.472	-4.01	1.15		
106	351.26	9.472	-4.01	1.15		
107	351.26	9.472	-4.01	1.15		
108	351.29	9.472	-4.007	1.15		
109	351.231	9.472	-4.013	1.15		
110	351.201	9.472	-4.016	1.14		
111	351.172	9.472	-4.019	1.14		
112	351.113	9.472	-4.025	1.13		
113	351.054	9.472	-4.031	1.13		
114	351.083	9.472	-4.028	1.13		
115	351.054	9.472	-4.031	1.13		
116	351.083	9.472	-4.028	1.13		
117	351.113	9.472	-4.025	1.13		
118	351.142	9.472	-4.022	1.13		
119	351.083	9.472	-4.028	1.14		
120	351.113	9.472	-4.025	1.14	-4.04	1.18
121	351.113	9.472	-4.025	1.14		
122	351.142	9.472	-4.022	1.15		
123	351.142	9.472	-4.022	1.15		
124	351.142	9.472	-4.022	1.15		
125	351.113	9.472	-4.025	1.15		
126	351.054	9.472	-4.031	1.15		
127	351.054	9.472	-4.031	1.15		
128	351.054	9.472	-4.031	1.15		
129	351.024	9.472	-4.034	1.15		
130	351.054	9.472	-4.031	1.15		
131	351.024	9.472	-4.034	1.15		
132	351.024	9.472	-4.034	1.15		
133	351.024	9.472	-4.034	1.15		
134	351.024	9.472	-4.034	1.15		
135	350.965	9.472	-4.04	1.15		
136	350.965	9.472	-4.04	1.15		
137	350.936	9.472	-4.043	1.15		
138	350.906	9.472	-4.046	1.15		
139	350.906	9.472	-4.046	1.16		
140	350.906	9.472	-4.046	1.15	-4.06	1.20
141	350.877	9.472	-4.049	1.16	4.00	1.20
142	350.847	9.472	-4.052	1.16		
143	350.847	9.472	-4.052	1.16		
144	350.818	9.472	-4.055	1.16		
145	350.818	9.472	-4.055	1.16		
146	350.759	9.472	-4.061	1.16		
147	350.788	9.472	-4.051	1.17		
148 149	350.759 350.788	9.472 9.472	-4.061 -4.058	1.17 1.17		
150	350.788	9.472	-4.058	1.17		
		9.472	I	1.17		
151 152	350.818 350.759	9.472	-4.055 -4.061	1.17		
153	350.788	9.472	-4.051	1.18		
154	350.759	9.472	-4.058 -4.061	1.18		
155	350.788	9.472	-4.051	1.18		
156	350.84	9.373	-4.054	1.18		
157	350.84	9.373	-4.057	1.18		
158	350.847	9.472	-4.057	1.18		
159	350.84	9.472	-4.052	1.18		
160	350.81	9.373	-4.054	1.18	-4.06	1.20
161	350.81	9.373	-4.057	1.18	-4.00	1.20
162	350.869	9.373	-4.057	1.18		
163	350.869	9.373	-4.051 -4.051	1.18		
164	350.869 350.899	9.373	-4.051 -4.048	1.18		
165	350.899	9.373	-4.048 -4.045	1.18		
166	350.928	9.373	-4.045	1.18		
			-4.045			
167 168	350.965 350.958	9.472	-4.04 -4.041	1.18 1.18		
	350.958	9.373				
169	350.987	9.373	-4.039	1.18		
170	350.958	9.373	-4.041	1.18		
171	350.958	9.373	-4.041	1.18		
172	351.017	9.373	-4.035	1.17		
173	350.987	9.373	-4.039	1.17		
174	351.017	9.373	-4.035	1.17		
175	351.017	9.373	-4.035	1.17		
176	351.017	9.373	-4.035	1.17		
177	351.046	9.373	-4.033	1.16		
178	350.958	9.373	-4.041	1.16		
179	350.928	9.373	-4.045	1.16	1	

			1		1	
180	350.958	9.373	-4.041	1.16	-4.11	1.25
181	350.987	9.373	-4.039	1.16		
182	350.987	9.373	-4.039	1.16		
183	351.017	9.373	-4.035	1.16		
184	351.017	9.373	-4.035	1.16		
185	350.81	9.373	-4.057	1.16		
186	350.338	9.373	-4.105	1.16		
187	350.574	9.373	-4.081	1.16		
188	350.81	9.373	-4.057	1.16		
189	350.958	9.373	-4.041	1.17		
190	351.017	9.373	-4.035	1.16		
191	351.017	9.373	-4.035	1.16		
192	351.017	9.373	-4.035	1.16		
193	351.046	9.373	-4.033	1.16		
194	351.017	9.373	-4.035	1.16		
195	351.017	9.373	-4.035	1.18		
196	351.017	9.373	-4.035	1.23		
197	351.046	9.373	-4.033	1.20		
198	351.046	9.373	-4.033	1.18		
199	351.046	9.373	-4.033	1.16		
					-4.06	1.20
200	351.076	9.373	-4.029	1.16	-4.06	1.20
201	351.076	9.373	-4.029	1.16		
202	351.105	9.373	-4.026	1.16		
203	351.105	9.373	-4.026	1.16		
204	351.105	9.373	-4.026	1.16		
205	351.105	9.373	-4.026	1.16		
206	351.105	9.373	-4.026	1.16		
207	351.076	9.373	-4.029	1.16		
208	351.046	9.373	-4.033	1.16		
209	351.017	9.373	-4.035	1.16		
210	351.017	9.373	-4.035	1.15		
211						
	351.017	9.373	-4.035	1.15		
212	350.958	9.373	-4.041	1.15		
213	350.958	9.373	-4.041	1.15		
214	350.958	9.373	-4.041	1.15		
215	350.987	9.373	-4.039	1.15		
216	350.958	9.373	-4.041	1.15		
217	350.958	9.373	-4.041	1.15		
218	350.958	9.373	-4.041	1.16		
219	351.017	9.373	-4.035	1.16		
220	350.958	9.373	-4.041	1.16	-4.06	1.20
221	350.958	9.373	-4.041	1.16		
222	350.987	9.373	-4.039	1.16		
223	350.928	9.373	-4.045	1.16		
224	350.899	9.373	-4.048	1.16		
225	350.899	9.373	-4.048	1.16		
226	350.899	9.373	-4.048	1.16		
227	350.869	9.373	-4.051	1.16		
228	350.899	9.373	-4.048	1.16		
229	350.22	9.373	-4.117	1.16		
230	350.25	9.373	-4.114	1.16		
231	350.545	9.373	-4.084	1.16		
232	350.043	9.373	-4.135	1.16		
233	350.22		-4.117	1.17		
		9.373				
234	350.279	9.373	-4.111	1.17		
235	349.807	9.373	-4.159	1.17		
236	350.132	9.373	-4.126	1.17		
	350.427					
237		9.373	-4.096	1.17		
238	349.925	9.373	-4.147	1.17		
239	350.22	9.373	-4.117	1.24		
240	350.545	9.373	-4.084	1.24	-4.10	1.24
241	350.722	9.373	-4.066	1.21		I
242	350.84	9.373	-4.054	1.26		
243	350.928	9.373	-4.045	1.24		
244	350.958	9.373	-4.041	1.23		
245	351.017	9.373	-4.035	1.28		
246	350.899	9.373	-4.048	1.25		
247	350.25	9.373	-4.114	1.22		
248	350.397	9.373	-4.099	1.27		
249	350.604	9.373	-4.078	1.24		
250	350.22	9.373	-4.117	1.21		
251	350.486	9.373	-4.09	1.19		
252	350.663	9.373	-4.072	1.18		
253	350.692	9.373	-4.069	1.17		
254	350.633	9.373	-4.075	1.16		
255	350.604	9.373	-4.078	1.16		
256	350.663	9.373	-4.072	1.17		
257	350.781	9.373	-4.06	1.24		
258	350.869		-4.051	1.22		
		9.373				
259	350.958	9.373	-4.041	1.20		
260	350.987	9.373	-4.039	1.24		
261	350.987	9.373	-4.039	1.21		
262			-4.039	1.20		
	350.987	9.373				
263	350.987	9.373	-4.039	1.19		
264	350.987	9.373	-4.039	1.20		
265	350.987	9.373	-4.039	1.20		
266	351.017	9.373	-4.035	1.20		
267	350.987	9.373	-4.039	1.18		
268	351.046	9.373	-4.033	1.17		
269	351.046	9.373	-4.033	1.16		
					4.03	4 4-
270	351.105	9.373	-4.026	1.16	-4.03	1.17
271	351.105	9.373	-4.026	1.16		
272	351.076	9.373	-4.029	1.16		
•			1	-		•

1			1		1	
273	351.076	9.373	-4.029	1.16		
274	351.105	9.373	-4.026	1.16		
275	351.135	9.373	-4.023	1.16		
276	351.253	9.373	-4.011	1.16		
277	351.282	9.373	-4.008	1.16		
278	351.282	9.373	-4.008	1.16		
279	351.282	9.373	-4.008	1.16		
280	351.253	9.373	-4.011	1.15		
281	351.253	9.373	-4.011	1.15		
282	351.253	9.373	-4.011	1.15		
283	351.194	9.373	-4.017	1.15		
284	351.194	9.373	-4.017	1.15		
285	351.194	9.373	-4.017	1.15		
286	351.253	9.373	-4.011	1.13		
287	351.253	9.373	-4.011	1.13		
288	351.223	9.373	-4.014	1.13		
289	351.253	9.373	-4.011	1.13		
290	351.253	9.373	-4.011	1.13		
291	351.223	9.373	-4.014	1.13		
292	351.253	9.373	-4.011	1.13		
293	351.223	9.373	-4.014	1.14		
294	351.194	9.373	-4.017	1.14		
295	351.164	9.373	-4.02	1.14		
296	351.164	9.373	-4.02	1.13		
297	351.135	9.373	-4.023	1.13		
298	351.194	9.373	-4.017	1.14		
299	351.164		-4.02	1.13		
		9.373			4.00	4.46
300	351.164	9.373	-4.02	1.13	-4.02	1.16
301	351.253	9.373	-4.011	1.14		
302	351.282	9.373	-4.008	1.13		
303	351.253	9.373	-4.011	1.14		
304	351.253	9.373	-4.011	1.14		
305	351.282	9.373	-4.008	1.14		
306	351.282	9.373	-4.008	1.14		
307	351.282	9.373	-4.008	1.15		
	351.282	9.373	-4.008			
308				1.14		
309	351.253	9.373	-4.011	1.14		
310	351.253	9.373	-4.011	1.14		
311	351.253	9.373	-4.011	1.13		
312	351.253	9.373	-4.011	1.13		
313	351.223	9.373	-4.014	1.13		
314	351.194	9.373	-4.017	1.13		
315	351.194	9.373	-4.017	1.13		
316	351.194	9.373	-4.017	1.13		
317	351.194	9.373	-4.017	1.13		
318	351.194	9.373	-4.017	1.13		
319	351.164	9.373	-4.02	1.13		
320	351.194	9.373	-4.017	1.13		
321	351.223	9.373	-4.014	1.13		
322	351.253	9.373	-4.011	1.13		
323	351.282	9.373	-4.008	1.14		
324	351.282	9.373	-4.008	1.14		
	351.282					
325		9.373	-4.005	1.14		
326	351.312	9.373	-4.005	1.14		
327	351.312	9.373	-4.005	1.14		
328	351.312	9.373	-4.005	1.14		
329	351.282	9.373	-4.008	1.14		
330	351.312	9.373	-4.005	1.14	-4.03	1.17
331	351.312	9.373	-4.005	1.14		
332	351.312	9.373	-4.005	1.13		
333	351.253	9.373	-4.011	1.13		
334	351.253	9.373	-4.011	1.13		
335	351.223	9.373	-4.014	1.13		
336	351.223	9.373	-4.014	1.13		
337	351.253	9.373	-4.011	1.13		
338	351.194	9.373	-4.017	1.13		
339	351.223	9.373	-4.014	1.13		
340	351.223	9.373	-4.014	1.13		
341	351.223	9.373	-4.014	1.13		
342	351.164	9.373	-4.02	1.13		
343	351.076	9.373	-4.029	1.13		
344	351.046	9.373	-4.033	1.13		
345	351.046	9.373	-4.033	1.14		
346	351.046	9.373	-4.033	1.14		
347	351.047	9.373	-4.035	1.13		
348	351.017		-4.035	1.14		
		9.373				
349	351.017	9.373	-4.035	1.14		
350	351.017	9.373	-4.035	1.14		
351	351.017	9.373	-4.035	1.14		
352	351.017	9.373	-4.035	1.14		
353	351.076	9.373	-4.029	1.15		
354	351.046	9.373	-4.033	1.16		
355	351.046	9.373	-4.033	1.16		
356	351.076	9.373	-4.029	1.16		
357	351.135	9.373	-4.023	1.16		
358	351.105	9.373	-4.026	1.16		
359	351.076	9.373	-4.029	1.16		
360	351.076	9.373	-4.029	1.16	-4.05	1.19

TW1 - WELL RECOVERY VS. TIME - KOLLAARD FILE 240502



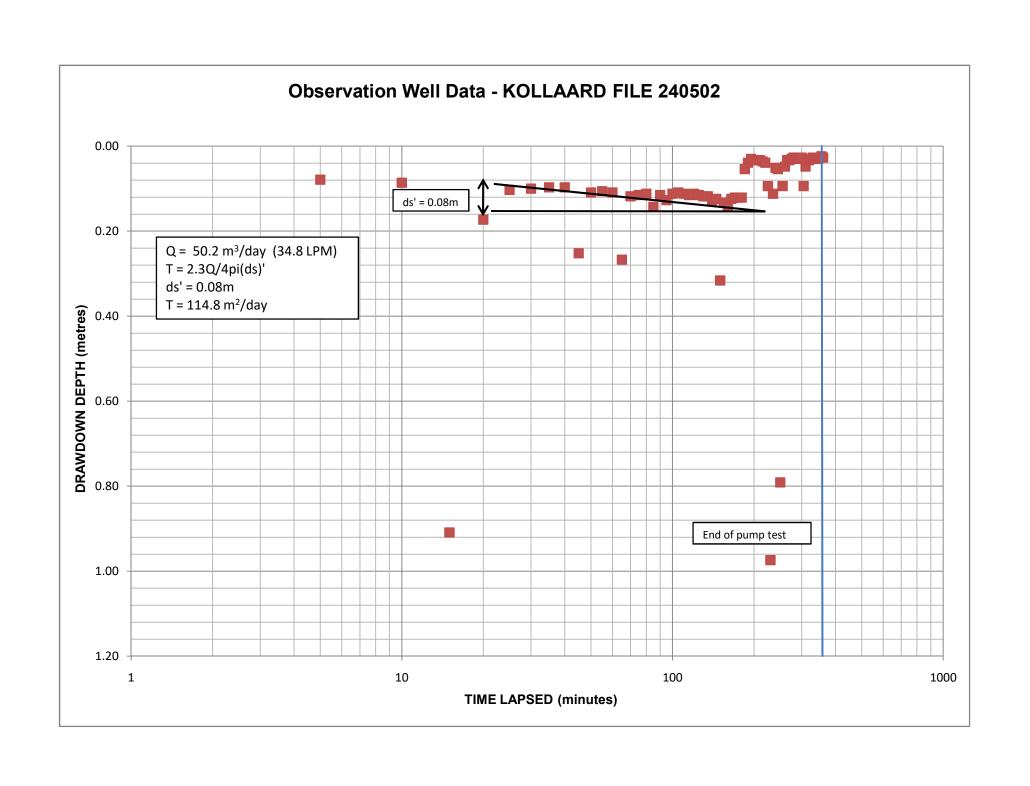
Kollaard File 240502

RECOVERY DATA TW1

ť'	t/t'	Abs Pres	Temp	Water Level	Drawdown	Recovery
		(kPa)	(°C)	(m)	(m)	(%)
1	361	351.017	9.373	-4.029	1.15	4%
2	181.0	351.046	9.373	-3.292	0.42	65%
3	121.0	351.046	9.373	-3.156	0.28	77%
4	91.0	351.017	9.373	-3.123	0.25	79%
5	73.0	350.987	9.373	-3.108	0.23	81%
6	61.0	350.958	9.373	-3.099	0.22	81%
7	52.4	351.076	9.373	-3.168	0.29	76%
8	46.0	358.307	9.373	-3.087	0.21	82%
9	41.0	359.636	9.373	-3.069	0.19	84%
10	37.0	359.961	9.373	-3.153	0.28	77%
11	33.7	360.108	9.373	-3.093	0.22	82%
12	31.0	360.197	9.373	-3.087	0.21	82%
13	28.7	359.518	9.373	-3.084	0.21	83%
14	26.7	360.315	9.373	-3.081	0.20	83%
15	25.0	360.492	9.373	-3.078	0.20	83%
16	23.5	359.665	9.373	-3.075	0.20	83%
17	22.2	360.256	9.373	-3.072	0.20	84%
18	21.0	360.315	9.373	-3.072	0.20	84%
19	19.9	360.345	9.373	-3.069	0.19	84%
20	19.0	360.374	9.373	-3.069	0.19	84%



ATTACHMENT C OBSERVATION WELL DATA



Observation Well Data

Time Lapsed	Abs Pres	Temp	Water Level	Drawdown
(minutes)	(kPa)	(°C)	(m)	(m)
0	166.017	10.944	-2.187	0.00
5	165.248	10.651	-2.266	0.08
10	165.181	10.553	-2.273	0.09
15	157.117	10.455	-3.096	0.91
20	164.331	10.357	-2.36	0.17
25	165.017	10.357	-2.29	0.10
30	165.047	10.357	-2.287	0.10
35	165.077	10.357	-2.284	0.10
40	165.077	10.357	-2.284	0.10
45	163.555	10.357	-2.439	0.25
50	164.957	10.357	-2.296	0.11
55	164.987	10.357	-2.293	0.11
60	164.957	10.357	-2.296	0.11
65	163.406	10.357	-2.454	0.27
70	164.868	10.357	-2.305	0.12
75	164.898	10.357	-2.302	0.12
80	164.927	10.357	-2.299	0.11
85	164.629	10.357	-2.33	0.14
90	164.898	10.357	-2.302	0.12
95	164.778	10.357	-2.314	0.13
100	164.927	10.357	-2.299	0.11
105	164.957	10.357	-2.296	0.11
110	164.927	10.357	-2.299	0.11
115	164.898	10.357	-2.302	0.12
120	164.927	10.357	-2.299	0.11
125	164.898	10.357	-2.302	0.12
130	164.868	10.357	-2.305	0.12
135	164.868	10.357	-2.305	0.12
140	164.778	10.357	-2.314	0.13
145	164.808	10.357	-2.311	0.12
150	162.929	10.357	-2.503	0.32
155	164.719	10.357	-2.32	0.13
160	164.629	10.357	-2.33	0.14
165	164.808	10.357	-2.311	0.12
170	164.838	10.357	-2.308	0.12
175	164.838	10.357	-2.308	0.12
180	164.838	10.357	-2.308	0.12
185	165.494	10.357	-2.241	0.05
190	165.644	10.357	-2.226	0.04
195	165.733	10.357	-2.217	0.03
200	165.703	10.357	-2.22	0.03

205	165.703	10.357	-2.22	0.03	
210	165.703	10.357	-2.22	0.03	
215	165.673	10.357	-2.223	0.04	
220	165.644	10.357	-2.226	0.04	
225	165.106	10.357	-2.281	0.09	
230	156.483	10.357	-3.161	0.97	
235	164.927	10.357	-2.299	0.11	
240	165.524	10.357	-2.238	0.05	
245	165.494	10.357	-2.241	0.05	
250	158.274	10.357	-2.978	0.79	
255	165.106	10.357	-2.281	0.09	
260	165.554	10.357	-2.235	0.05	
265	165.703	10.357	-2.22	0.03	
270	165.703	10.357	-2.22	0.03	
275	165.733	10.357	-2.217	0.03	
280	165.763	10.357	-2.214	0.03	
285	165.733	10.357	-2.217	0.03	
290	165.733	10.357	-2.217	0.03	
295	165.733	10.357	-2.217	0.03	
300	165.763	10.357	-2.214	0.03	
305	165.793	10.357	-2.211	0.09	
310	165.763	10.357	-2.214	0.05	
315	165.106	10.357	-2.281	0.03	
320	165.703	10.357	-2.22	0.03	
325	165.763	10.357	-2.214	0.03	
330	163.316	10.357	-2.464	0.03	
335	165.644	10.357	-2.226	0.03	
340	165.226	10.357	-2.269	0.03	
345	165.673	10.357	-2.223	0.03	
350	165.494	10.357	-2.241	0.03	
355	165.673	10.357	-2.223	0.02	
360	165.673	10.357	-2.223	0.03	



ATTACHMENT D WATER QUALITY RESULTS



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS: 3931408

WORK REQUEST : 100286114 Report Date : 2024-06-03

Kollaard Associates Inc. 210 Prescott St., Box 189

Kemptville, ON K0G 1J0

Attention: Colleen Vermeersch

Reception Date: 2024-05-31 Project: 240502 Sampler: NA

PO Number: Not Applicable

Temperature: 12 °C

Analysis	Quantity	External Method
E.Coli and Total Coliforms (DC Plate)	2	Modified from MECP E3407
Heterotrophic Plate Count (mHPC)	2	Modified from SM 9215 D

Criteria:

A: Ontario Regulation 169/03 (Non-Regulated Drinking Water)

Sample status upon receipt :

7749376 7749377 **Compliant**

Notes

- All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated.
- Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/
- Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Legend:



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - RESULTS

Client: Kollaard Associates Inc.

Project: 240502 Reception Date: 2024-05-31

				Eurofins Sa	ample No :	7749376	7749377		
	Matrix :								
				Samp	oling Date :	2024-05-30	2024-05-30		
			Client	Sample Ide	ntification :	TW1-3 Hrs	TW1-6 Hrs		
Microbiology				Criteria					
	RL	Unit	Α	В	С				
E.Coli and Total Coliforms (DC Plate)									
Escherichia coli (DC)	0	CFU/100mL	0			0	0		
Total Coliforms (DC)	0	CFU/100mL	0	0			0		
Heterotrophic Plate Count (mHPC)	0	CFU/1 mL				50	48		

Approved by:

Emma-Dawn Ferguson, M.Sc.



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - QUALITY CONTROL

Client: Kollaard Associates Inc.

Project: 240502 Reception Date: 2024-05-31

_ ,	11-24	DI.	Disaste	QC	5	Matrix S	Spike	Dupl	icate
Parameter	Unit	RL	Blank	Recovery %	Range %	Recovery %	Range %	RPD %	Range %
E.Coli and Total Coliforms (DC Plate)									
Method : To	tal Coliforms and E.C	Coli by MF (V	Vater, DC plate)	. Internal meth	nod: OTT-M-	BAC-WI45296			
Escherichia coli (DC)	CFU/100mL	0	0					-	0-30
Total Coliforms (DC)	CFU/100mL	0	0					-	0-30
	Associated	Samples : 7	749376				ļ	Prep Date: Analysis Date:	2024-05-31 2024-06-01
Method : To	tal Coliforms and E.C	Coli by MF (V	Vater, DC plate)	. Internal meth	nod: OTT-M-	BAC-WI45296			
Escherichia coli (DC)	CFU/100mL	0	0					-	0-30
Total Coliforms (DC)	CFU/100mL	0	0					-	0-30
	Associated	Samples : 7	749377				ļ	Prep Date: Analysis Date:	2024-05-31 2024-06-01
Method : F	Heterotrophic Plate C	ount by MF	(mHPC Media).	Internal metho	d: OTT-M-B	AC-WI45296.			
Heterotrophic Plate Count (mHPC)	CFU/1 mL	0	0					0	0-30
	Associated Sam	ples : 77493	76, 7749377				ļ	Prep Date: Analysis Date:	2024-05-31

Where RPD % is reported as "-" the calculation is not available because one or both of the duplicates is within 5 times the RL.



DRINKING WATER CHAIN-OF-CUSTODY

146 Colonnade Road, Unit #8, Ottawa, ON, KZE 7Y1 - Phone: 613-727-5692, Fax: 613-727-5222

Eurofins Workorder #:______

rimpany: Kollogra	Associates Inc.	, , , , ,		Y -00		35 - 0		"	Waterworks Name:				10							100286114
entact: Colleen									Waterworks#:			100								i i i i i i i i i i i i i i i i i i i
<u>-</u>	scott St, Kemptville	On KOG	1 10	- 10 <u>-11</u>	.			·	Contact:			-, 5-	-				<u></u> i			
		, Oli Rud	Fax:		- ·				Address:	-		34.E						ы.	n manal	an marakka akta bija tili 1917 jil
37,000	0-0923 ext230		#2:			W	3		Telephone:	-						Fax:	<u> </u> /	Print	ed On :	2024-05-31 12
mail #1:			#2:	-		-			70 MARIE - 100 MAR	70		-			700 N	100.				
roject: 240502					_	1			Cell Phone:	SE PERSONAL PROPERTY AND ADDRESS OF THE PERSONAL		Ŕ		-		#2:				
0#:		-27-12-12-12-12-12-12-12-12-12-12-12-12-12-				Quote #	1/03	114	Email #1:		A 20		IDAL A					. 1		
- 1 m f		ATION/GUI	•	QUIRE							_		URN-A			250 100000	ess Da	10, 101011	*	-
O. Reg 170	O, Reg 170 15.1	_ <u> </u>	wsog	M	Private \	Vell	Ш	None	1 Day* (10		Щ.	2 Day**			3-5 Days	\$6 833	V	- 5	(Standard)	
O. Reg 318/31	9 O. Reg 243	GC	bwa.	<u>Ш</u>	Other:				pesticides may take up t	a 3 weeks	to analyze). Pleasa s	ee nates (a	n reverse) :	about TAT	policies.				(i.e. O. Reg. 170 Schedule 24
	ure conditions during trans				1	1	Samp	le Details I			S	1	Analysis	Require	≧d T		Field I	Vleasure I	ements	
xceedances will be requires. he COC must be o here will be a \$25	rozen. Note that for drinking eported where (and how) to complete upon submissi surcharge if required in e shaded in grey).	he application on of the sar	legislation mples,	Sample Type Code (see below)	Resample? Y = Yes N = No	MOE/MOH Reportable? Y = Yes N = No	# of Containers	PL Code/Watenrax	Sample Location	Subdivision parameters	Koliaard Subdivisionbacteria	Kollaard Special Metals	true colour	. 2		ic	Fotal Chlorine	Free Chlorine	Field Turbidity	Sample RN# (Lab Use Only)
· . s	imple ID	Date/Tim	e Collected	San	Res ≺=	¥ .	- tt	<u> </u>	(i.e. Kitchen, POE)	8	S S	중	 	,		r	Ĕ	Fre	Fig.	- 1000
TV	V1-3 hrs	05-30	/11:30	PW	N	N	.8		wellhead	1	/	1	1		1		-	-	•	774934
T۷	V1-6 hrs	05-30	/ 14:30	PW	Ņ	N	8		wellhead	1	1	✓	✓		1		-	-	-	Ŧ
2 2 2 2	0 0 (0	n (1704		<u> </u>	1									i	(<u> </u>			
* 8			* j.	1	R		- /3								<u> </u>		ļ			
07 € .0 ×0.4				<u> </u>									<u> </u>				ļ <u>.</u>			
7.0	er gen									L			<u> </u>			2	<u> </u>			
100				3.00	1000000]							l			<u> </u>		$\perp \perp \downarrow$	
X12.00										 		<u> </u>	 , .,,,,,,,	1	<u> </u>	L				
							81 15	,			200200000000000000000000000000000000000	<u> </u>	J				<u> </u>			7 <u> </u>
					1000									i	1	<u> </u>				
ample Type Code	s for Drinking Water: RV	V = Raw Wat	er, TW ≡ Tr	eated W	ater at	Point of	Entry	o distribution,	TW-NT = Untreate	d Wate	r at Poir	nt of En	try to di	stributio	n, DW =	Distri	bution, i	RP = Re	sidential I	Plumbing, NRP = Non-
esidential Plumbi	ng, S = Standing, F = Flu	shed, PW = P	rivate Well	46	- 84				<u> </u>	<u> </u>	. N. . Day	1			СОММЕ	BITC.			N.	
	NT -		0.0			SIGN	20 10		DATE/	TIME			TEMP (*	Ç),	Control of the Contro		· for	m at	مام س	oro fiold
PR	hawn Beaton								2											ere field
ء ا	nawn beaton			70				y 50 70				28	- Ta	(30)	Hilfe	ii ea	นรทา	ıy v.	40 [[]	cron filter
ampled By: S	nawn beaton							4												
ء ا	nawn beaton						5	1 0	1011	24	3 3	1	<u>⊕</u>							



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS: 3938169

WORK REQUEST: 100286210 Report Date: 2024-06-07

Kollaard Associates Inc. 210 Prescott St., Box 189

Kemptville, ON K0G 1J0

Attention: Colleen Vermeersch

2024-05-31 Reception Date: 240502 Project:

Sampler: NA

Not Applicable PO Number:

Temperature: 12 °C

Analysis	Quantity	External Method
Alkalinity (Water, Automated)	2	Modified from SM 2320 B
Ammonia, Total (Water, Colorimetry)	2	Modified from EPA 350.1
Chloride (Water, IC)	2	Modified from SM 4110 B and C
Colour, Apparent (Water, Spectrophotometry)	2	Modified from SM 2120 C
Colour, True (Water, Spectrophotometry)	2	Modified from SM 2120 C
Conductivity (Water, Automated)	2	Modified from SM 2510 B
DOC (Water, IR)	2	Modified from SM 5310 B
Fluoride (Water, Auto/ISE)	2	Modified from SM 4500-F A and 4500-F C
Hardness (Water, Calculation Only)	2	SM 2340 B
Ion Balance (Water, Calculation)	2	Modified from SM1030 E
Lab Filtration (Water, Sample Preparation)	2	Lab Prep
Metals Scan (Water, ICP/MS)	2	Modified from EPA 200.8
Metals Scan (Water, ICP/OES)	2	Modified from SM 3120 B
Nitrate (Water, IC)	2	Modified from SM 4110 B and C
Nitrite (Water, IC)	2	Modified from SM 4110 B and C
pH (25°C) (Water, Automated)	2	Modified from SM 4500-H+ B
Phenols (Water, Colorimetry)	2	Modified from EPA 420.2
Sulphate (Water, IC)	2	Modified from SM 4110 B and C
Sulphide (Water, Colorimetry)	2	Modified from SM 4500-S2 D
Tannin and Lignin (Water, Spec)	2	Modified from SM 5550 B
TDS (Estimated)	2	Modified from SM 2510 A
Total Kjeldahl Nitrogen (Water, Colorimetry)	2	Modified from EPA 351.2
Turbidity (Water, Turbidimeter)	2	Modified from SM 2130 B

Criteria:

A: Ontario Regulation 169/03 (Non-Regulated Drinking Water)

Sample status upon receipt :

7750168 7750169 Compliant

Certificate Comments:

7750168 7750169

Hg spike not available due to matrix interferences in the mother sample.

- All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated.
- Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/
- Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Legend:

RL: Reporting limit N/A: Not applicable QC : Reference material (QC) 1: Results in annex

: Analysis conducted by external subcontracting

^: Analysis not accredited



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - EXCEEDENCE SUMMARY

Client: Kollaard Associates Inc.

Eurofins	Client Sample	Analista	Descrit	Units		Exceeded Cr	iteria
Sample No	Identification	Analyte	Result	Units	A	В	С
Colour, Appare	ent (Water, Spectrophoton	netry)					
7750168	TW1-3 hrs	Colour (Apparent)	12	TCU	5		
7750169	TW1-6 hrs	Colour (Apparent)	9	TCU	5		
Hardness (Wat	ter, Calculation Only)						
7750168	TW1-3 hrs	Hardness as CaCO3 (Calculation)	371	mg/L	80-100		
7750169	TW1-6 hrs	Hardness as CaCO3 (Calculation)	376	mg/L	80-100		
TDS (Estimate	d)						
7750168	TW1-3 hrs	TDS (Estimated) [^]	624	mg/L	500		
7750169	TW1-6 hrs	TDS (Estimated) [^]	624	mg/L	500		



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - RESULTS

Client: Kollaard Associates Inc.

1 10,000 . 240002								
			Eu	rofins Sample No	7750168	7750169		
				Matrix	: Drinking water	Drinking water		
				Sampling Date		2024-05-30		
			Client Sar	nple Identification	: TW1-3 hrs	TW1-6 hrs		
Anions				riteria				
	RL	Unit	A	ВС				
Chloride	0.5	mg/L	250		113	117		
Nitrate (as Nitrogen)	0.1	mg/L	10.0		1.04	1.24		
Nitrite (as Nitrogen)	0.1	mg/L	1.0		<0.1	<0.1		
Sulphate	1	mg/L	500		57	57		
	Eurofins	Sample No :	7750168	7750169				
		Matrix :	Drinking water	Drinking water				
	Sam	pling Date :	2024-05-30					
C	ient Sample Ide		TW1-3 hrs	TW1-6 hrs				
		Unit						
Calculations	RL							
Calculations Ion Balance (Calculation)^	RL 0.1	V	1.08	1.06				
Calculations Ion Balance (Calculation)^	RL 0.1		1.08	1.06				
				rofins Sample No		7750169		
					: Drinking	Drinking		
				rofins Sample No Matrix	: Drinking water	Drinking water		
			Eu	rofins Sample No Matrix Sampling Date	Drinking water 2024-05-30	Drinking water 2024-05-30		
Ion Balance (Calculation)^			Eu Client Sar	rofins Sample No Matrix Sampling Date	Drinking water 2024-05-30	Drinking water		
	0.1		Eu Client Sar	rofins Sample No Matrix Sampling Date nple Identification riteria	Drinking water 2024-05-30	Drinking water 2024-05-30		
Ion Balance (Calculation)^ General Chemistry	0.1	Unit	Client Sar	rofins Sample No Matrix Sampling Date	Drinking water 2024-05-30 TW1-3 hrs	Drinking water 2024-05-30 TW1-6 hrs		
General Chemistry Alkalinity (as CaCO3)	0.1 RL 5	Unit mg/L	Client Sar	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs	Drinking water 2024-05-30 TW1-6 hrs		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent)	RL 5 2	Unit mg/L TCU	Client Sar	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273	Drinking water 2024-05-30 TW1-6 hrs		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True)	RL 5 2 2	Unit mg/L TCU TCU	Client Sar	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273 12 <2	Drinking water 2024-05-30 TW1-6 hrs 282 9 3		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C	RL 5 2 2 5	Unit mg/L TCU TCU μS/cm	Client Sar C A 500 5	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273 12 <2 960	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon	RL 5 2 2 5 0.5	Unit mg/L TCU TCU μS/cm mg/L	Client Sar C A 500 5	rofins Sample No Matrix Sampling Date nple Identification riteria	Drinking water 2024-05-30 TW1-3 hrs 273 12 <2 960 1.6	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride	8L 5 2 2 5 0.5	Unit mg/L TCU TCU μS/cm mg/L	Client Sar C A 500 5 1.5	rofins Sample No Matrix Sampling Date nple Identification riteria	Drinking water 2024-05-30 TW1-3 hrs 273 12 <2 960 1.6 0.34	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride Hardness as CaCO3 (Calculation)	RL 5 2 2 5 0.5 0.1 1	Unit mg/L TCU TCU μS/cm mg/L	Client Sar C A 500 5 1.5 80-100	rofins Sample No Matrix Sampling Date nple Identification riteria	Drinking water 2024-05-30 TW1-3 hrs 273 12 <2 960 1.6 0.34 371	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33 376		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride Hardness as CaCO3 (Calculation) pH @ 25°C	RL 5 2 2 5 0.5 0.1 1 1 1	Unit mg/L TCU TCU μS/cm mg/L mg/L	Client Sar C A 500 5 1.5	rofins Sample No Matrix Sampling Date nple Identification riteria	Drinking water 2024-05-30 TW1-3 hrs 273 12 <2 960 1.6 0.34 371 7.88	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33 376 7.84		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride Hardness as CaCO3 (Calculation) pH @ 25°C Phenols-4AAP	RL 5 2 2 5 0.5 0.1 1 1 0.001	Unit mg/L TCU TCU μS/cm mg/L mg/L mg/L	Client Sar C A 500 5 1.5 80-100	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273 12 <2 960 1.6 0.34 371 7.88 <0.001	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33 376 7.84 <0.001		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride Hardness as CaCO3 (Calculation) pH @ 25°C Phenols-4AAP Sulphide (S2-)	RL 5 2 2 5 0.5 0.1 1 1 0.001 0.001	Unit mg/L TCU TCU μS/cm mg/L mg/L mg/L mg/L	Client Sar CA 500 5 1.5 80-100 6.5-8.5	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273 12 <2 960 1.6 0.34 371 7.88 <0.001 <0.01	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33 376 7.84 <0.001 <0.01		
General Chemistry Alkalinity (as CaCO3) Colour (Apparent) Colour (True) Conductivity @ 25°C Dissolved Organic Carbon Fluoride Hardness as CaCO3 (Calculation) pH @ 25°C Phenols-4AAP	RL 5 2 2 5 0.5 0.1 1 1 0.001	Unit mg/L TCU TCU μS/cm mg/L mg/L mg/L	Client Sar CA 500 5 1.5 80-100 6.5-8.5	rofins Sample No Matrix Sampling Date nple Identification riteria	: Drinking water : 2024-05-30 : TW1-3 hrs 273 12 <2 960 1.6 0.34 371 7.88 <0.001	Drinking water 2024-05-30 TW1-6 hrs 282 9 3 960 1.7 0.33 376 7.84 <0.001		



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - RESULTS

Client: Kollaard Associates Inc.

			Eu	rofins Sample No :	7750168	7750169	
				Matrix :	Drinking	Drinking	
					water	water	
				Sampling Date :	2024-05-30	2024-05-30	
			Client Sar	mple Identification:	TW1-3 hrs	TW1-6 hrs	
Metals			c	riteria			
	RL	Unit	Α	ВС			
Metals Scan (Water, ICP/MS)							
Aluminum	0.01	mg/L	0.1		<0.01	<0.01	
Antimony	0.0005	mg/L	0.006		<0.0005	<0.0005	
Arsenic	0.001	mg/L	0.01		<0.001	<0.001	
Barium	0.001	mg/L	1		0.130	0.131	
Beryllium	0.0005	mg/L			<0.0005	<0.0005	
Boron	0.01	mg/L	5		0.19	0.19	
Cadmium	0.0001	mg/L	0.005		<0.0001	<0.0001	
Chromium	0.001	mg/L	0.05		<0.001	<0.001	
Cobalt	0.0002	mg/L			0.0004	0.0004	
Copper	0.001	mg/L	1		<0.001	<0.001	
Iron	0.03	mg/L	0.3		0.18	0.16	
Lead	0.001	mg/L	0.01		<0.001	<0.001	
Manganese	0.01	mg/L	0.05		0.02	0.02	
Mercury	0.0001	mg/L	0.001		<0.0001	<0.0001	
Molybdenum	0.005	mg/L			<0.005	<0.005	
Nickel	0.005	mg/L			<0.005	<0.005	
Selenium	0.001	mg/L	0.05		<0.001	<0.001	
Silver	0.0001	mg/L			<0.0001	<0.0001	
Strontium	0.001	mg/L			3.18	3.18	
Thallium	0.0001	mg/L			<0.0001	<0.0001	
Uranium	0.001	mg/L	0.02		0.001	0.001	
Vanadium	0.001	mg/L			<0.001	<0.001	
Zinc	0.01	mg/L	5		0.03	0.02	
Metals Scan (Water, ICP/OES)							
Calcium	1	mg/L			91	93	
Magnesium	1	mg/L			35	35	
Potassium	1	mg/L			6	6	
Sodium	1	mg/L	200		73	74	
	Eurofine 9	Sample No :	7750168	7750169			
	Euronius	Matrix :	Drinking	Drinking			
		iviau i.	water	water			
	Sam	pling Date :	2024-05-30				
	Client Sample Ide	-	TW1-3 hrs				
Nutrients	RL	Unit	1 44 1-0 1113	1 44 1-0 1113			
Ammonia (Total, as Nitrogen)	0.02	mg/L	<0.020	<0.020			
Total Kjeldahl Nitrogen	0.02	mg/L	<0.020	<0.100			



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - RESULTS

Client: Kollaard Associates Inc.

Project: 240502 Reception Date: 2024-05-31

Eurofins Sample No :			7750168	7750169			
Matrix :			Drinking	Drinking			
			water	water			
Sampling Date :			2024-05-30	2024-05-30			
Client Sample Identification :		TW1-3 hrs	TW1-6 hrs				
Sample Preparation	RL	Unit					
Lab Filtration			Υ	Υ			

Approved by:

Emma-Dawn Ferguson, M.Sc.



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - QUALITY CONTROL

Client: Kollaard Associates Inc.

Parameter	Unit	RL	Blank	QC Recovery %		Matrix Recovery %		Dupl RPD %	icate Range %
Alkalinity (Water, Automated)				Recovery 70	range 70	ixecovery 70	ixalige /	RFD /0	range 70
	Ikalinity (water, tit	ration to pH 4	4.5. automated)	. Internal meth	od: OTT-I-A	T-WI45398.			
Alkalinity (as CaCO3)	mg/L	5	<5	98	95-105			-	0-20
, , , , , , , , , , , , , , , , , , , ,		Samples : 7	750168					Prep Date:	2024-06-04 2024-06-05
Method : A	Ikalinity (water, tit	ration to pH 4	4.5. automated)	. Internal meth	od: OTT-I-A	T-WI45398.			
Alkalinity (as CaCO3)	mg/L	5	<5	95	95-105			1	0-20
	Associated	Samples : 7	750169					Prep Date: Analysis Date:	2024-06-05 2024-06-06
Ammonia, Total (Water, Colorimetry)	h - d - A (1	Matain Oalais			. NUIT 14/140	2004			
	hod : Ammonia (V						00.400		0.00
Ammonia (Total, as Nitrogen)	mg/L	0.02	<0.020	88	80-120	102	80-120		0-20
	Associated Sam	iples : 775016	68, 7750169					Analysis Date:	2024-06-05 2024-06-06
Chloride (Water, IC)									
	od : Anions (Wate						00.155		0.77
Chloride	mg/L	0.5	<0.5	102	80-120	108	80-120	-	0-20
	Associated Sam	ples : 775016	68, 7750169					Prep Date: Analysis Date:	2024-06-05 2024-06-05
Colour, Apparent (Water, Spectrophotometry)									
	d : Colour (Water,					145980.			
Colour (Apparent)	TCU	2	<2	97	39-159			6	0-40
	Associated Sam	ples : 775016	68, 7750169					Prep Date: Analysis Date:	2024-06-04 2024-06-04
Colour, True (Water, Spectrophotometry)									
	d : Colour (Water,					145980.			
Colour (True)	TCU	2	<2	97	39-159			-	0-40
	Associated Sam	ples : 775016	68, 7750169					Prep Date: Analysis Date:	2024-06-04 2024-06-04
Conductivity (Water, Automated)									
	thod : Conductivity	1				398.			
Conductivity @ 25°C	uS/cm	5	<5	99	98-102			-	0-20
	Associated	Samples : 7	750168					Prep Date: Analysis Date:	2024-06-04 2024-06-05
Met	hod: Conductivity	(Water, Auto	otitrator). Intern	al Method: OT	T-I-AT-WI45	398.			
Conductivity @ 25°C	uS/cm	5	<5	100	98-102				
	Associated	Samples : 7	750169					Prep Date: Analysis Date:	2024-06-05 2024-06-06
DOC (Water, IR)									
Method : Orga	anic carbon (wate	r, IR, combus	stion). Internal m	nethod:	OTT-I-E	DEM-WI46148.			
Dissolved Organic Carbon	mg/L	0.5	<0.5	107	84-116	105	80-120	-	0-15
	Associated Sam	ples : 775016	68, 7750169					Prep Date: Analysis Date:	2024-06-03 2024-06-04
Fluoride (Water, Auto/ISE)									
Method : F	luoride by autotitr	ator, ion sele	ctive electrode.	Internal metho	d: OTT-I-A	T-WI45398.			
Fluoride	mg/L	0.1	<0.10	102	90-110			-	0-20
	Associated	Samples: 7	750168					Prep Date: Analysis Date:	2024-06-04 2024-06-05
Method : F	luoride by autotitr	ator, ion sele	ctive electrode.	Internal metho	d: OTT-I-A	T-WI45398.			
Fluoride	mg/L	0.1	<0.10	103	90-110				
	Associated	Samples : 7	750169				!	Prep Date:	2024-06-05 2024-06-06



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - QUALITY CONTROL

Client: Kollaard Associates Inc.

Project: 240502 Reception Date: 2024-05-31

Davamatan	Unit	RL	Blank	QC		Matrix Spike			licate
Parameter	Offic	KL		Recovery %	Range %	Recovery %	Range %	RPD %	Range %
Metals Scan (Water, ICP/MS)									
			•	al method: AM					
Aluminum	mg/L	0.01	<0.01	100	80-120	113	70-130	-	0-20
Antimony	mg/L	0.0005	<0.0005	96	80-120	93	70-130	-	0-20
Arsenic	mg/L	0.001	<0.001	94	80-120	103	70-130	-	0-20
Barium	mg/L	0.001	<0.001	90	80-120	103	70-130	-	0-20
Beryllium	mg/L	0.0005	<0.0005	102	80-120	116	70-130	-	0-20
Boron	mg/L	0.01	<0.01	100	80-120	-	70-130	-	0-20
Cadmium	mg/L	0.0001	<0.0001	99	80-120	105	70-130	-	0-20
Chromium	mg/L	0.001	<0.001	110	80-120	110	70-130	-	0-20
Cobalt	mg/L	0.0002	<0.0002	105	80-120	101	70-130	-	0-20
Copper	mg/L	0.001	<0.001	110	80-120	106	70-130	0	0-20
Iron	mg/L	0.03	<0.03	100	80-120	104	70-130	-	0-20
Lead	mg/L	0.001	<0.001	100	80-120	90	70-130	-	0-20
Manganese	mg/L	0.01	<0.01	100	80-120	102	70-130	-	0-20
Mercury	mg/L	0.0001	<0.0001	106	80-120			-	0-20
Molybdenum	mg/L	0.005	<0.005	90	80-120	97	70-130	-	0-20
Nickel	mg/L	0.005	<0.005	100	80-120	107	70-130	-	0-20
Selenium	mg/L	0.001	<0.001	96	80-120	_	70-130	-	0-20
Silver	mg/L	0.0001	<0.0001	99	80-120	108	70-130	-	0-20
Strontium	mg/L	0.001	<0.001	100	80-120	97	70-130	-	0-20
Thallium	mg/L	0.0001	<0.0001	102	80-120	89	70-130	-	0-20
Uranium	mg/L	0.001	<0.001	100	80-120	84	70-130	_	0-20
Vanadium	mg/L	0.001	<0.001	100	80-120	107	70-130	_	0-20
Zinc	mg/L	0.01	<0.01	100	80-120	107	70-130	-	0-20
	Associated Sar					-		Prep Date	: 2024-06-05
			,				A	Analysis Date	
Metals Scan (Water, ICP/OES)									
	Method : Metals (Water, ICP/OI	ES). Internal m	ethod: OTT-I-I	MET-WI4849	1.			
Calcium	mg/L	1	<1	106	86-115	110	70-130	-	0-20
Magnesium	mg/L	1	<1	100	91-109	108	70-130	-	0-20
Potassium	mg/L	1	<1	112	87-113	111	70-130	-	0-20
Sodium	mg/L	1	<1	107	85-115	111	70-130	0	0-20
	Associated Sar	mples : 775016	68, 7750169					Prep Date	: 2024-06-03
							A	Analysis Date	: 2024-05-31
Nitrate (Water, IC)									
	Method : Anions (Wate	er, Ion Chroma	atography). Int	ernal method:	OTT-I-IC-WI	45985.			
Nitrate (as Nitrogen)	mg/L	0.1	<0.1	94	80-120	108	80-120	-	0-20
	Associated Sar	mples : 775016	68, 7750169						: 2024-06-05
							A	Analysis Date	: 2024-06-05
Nitrite (Water, IC)	Mothod : Aniana (Mat	or Ion Chrom	otography) lat	ornal mathadi	OTT LIC W	15005			
Nitrito (as Nitrogon)	Method : Anions (Water						80 120		0-20
Nitrite (as Nitrogen)	mg/L	0.1	<0.1	95	80-120	104	80-120	- Deer Det	_
	Associated Sar	mples : 775016	68, 7750169				A	Prep Date Analysis Date	



146 Colonnade Rd, Unit 8, Ottawa, ON K2E 7Y1 (613) 727-5692

OFFICIAL CERTIFICATE OF ANALYSIS - QUALITY CONTROL

Client: Kollaard Associates Inc.

Project: 240502 Reception Date: 2024-05-31

Parameter	Unit	RL	Blank	QC		Matrix Spike		Duplicate	
	Offic	KL		Recovery %	Range %	Recovery %	Range %	RPD %	Range %
pH (25°C) (Water, Automated)									
	Method : pH (Wate	r, Automated	Meter). Intern	al method: OTT-	-I-AT-WI453	98.			
pH @ 25°C		1	6.11	100	97-103			6	0-20
	Associated	d Samples : 7	750168				A	Prep Date Analysis Date	e: 2024-06-04 e: 2024-06-05
	Method : pH (Wate	r, Automated	Meter). Intern	al method: OTT	-I-AT-WI453	98.			
pH @ 25°C		1	6.23	99	97-103			0	0-20
	Associated	Samples : 7	750169				P	Prep Date Analysis Date	e: 2024-06-06 e: 2024-06-06
Phenols (Water, Colorimetry)									
	Method : Phenols (W	/ater, Colorin	netry). Internal	method: OTT-I-	4AAP-WI46	150.			
Phenols-4AAP	mg/L	0.001	<0.001	101	75-125	115	70-130	-	0-20
	Associated San	nples : 77501	68, 7750169				A	Prep Date Analysis Date	e: 2024-06-03 e: 2024-06-03
Sulphate (Water, IC)									
	Method : Anions (Wate	er, Ion Chrom	natography). In	ternal method: C	DTT-I-IC-WI	45985.			
Sulphate	mg/L	1	<1	100	90-110	106	80-120	-	0-20
	Associated San	nples : 77501	68, 7750169				A	Prep Date Analysis Date	e: 2024-06-05 e: 2024-06-05
Sulphide (Water, Colorimetry)									
	Method : Sulphide, S2-	(Water, Cold	orimetry). Interr	nal method: OTT	-I-SPEC-W	145931.			
Sulphide (S2-)	mg/L	0.01	<0.01	112	80-120			13	0-20
	Associated San	nples : 77501	68, 7750169				P	Prep Date Analysis Date	e: 2024-06-03 e: 2024-06-03
Tannin and Lignin (Water, Spec)									
	Method : Tannin and L	ignin (Water,	, Spec), Interna	al method: OTT-	I-SPEC-WI5	7693.			
Tannin and Lignin	mg/L	0.1	<0.1	94	80-120			-	0-20
	Associated San	nples : 77501	68, 7750169				A	Prep Date Analysis Date	e: 2024-06-06 e: 2024-06-06
Total Kjeldahl Nitrogen (Water, Colorim	etry)								
	Method : TKN (Wa	ater, colorime	etry). Internal n	nethod: OTT-I-N	UT-WI4620	1.			
Total Kjeldahl Nitrogen	mg/L	0.1	<0.100	94	70-130	84	70-130	12	0-20
	Associated San	nples : 77501	68, 7750169				A	Prep Date Analysis Date	e: 2024-06-05 e: 2024-06-06
Turbidity (Water, Turbidimeter)	Method : Turbidity (V	Vater Turbid	imeter) Interna	al method: OTT	LTI IR-WIAE	288			
Turbidity	NTU	0.1	<0.1	101	80-120	200.		10	0-30
	Associated San			101	30 120				e: 2024-06-01

Where RPD % is reported as "-" the calculation is not available because one or both of the duplicates is within 5 times the RL.



DRINKING WATER CHAIN-OF-CUSTODY

146 Colonnade Road, Unit #8, Ottawa, ON, K2E 7Y1 - Phone: 613-727-5692, Fax: 613-727-5222

CLIENT INFORMATION	WATERWORKS INFORMATION
	II II D II D I D I D I D I D I D I D I
	Waterworks Name:
Contact: Colleen Vermeersch	Waterworks #: Printed On: 2024-05-3
Address: 210 Prescott St, Kemptville, On KOG 1J0	Contact:
Telephone: 613-860-0923 ext230	Address:
Email #1: #2:	Telephone: Fax:
Project: 240502	Cell Phone:
PO #: Quote #: 170314	Email #1: #2:
REGULATION/GUIDELINE REQUIRED.	TURN-AROUND TIME (Business Days)
O. Reg 170 O. Reg 170 15.1 ✓ ODWSOG ✓ Private Well None O. Reg 318/319 O. Reg 243 GCDWQ Other:	I Day* (100%) 2 Day** (50%) 3-5 Days (25%) 5-7 Days (5tandard) Please contact the laboratory in advance to determine rush availability. Surcharges may apply to rush service. Note that some tests (i.e. O. Reg. 170 Schedule 24 posticides may take up to 3 weeks to enalyre). Please see notes (on reverse) about TAT policies.
Samole Details	
The optimal temperature conditions during transport must be less than 10°C. Sample(s) cannot be frozen. Note that for drinking water samples, all exceedances will be reported where (and how) the application legislation requires. The COC must be complete upon submission of the samples, there will be a \$25 surcharge if required information is missing (required fields are shaded in grey). Date/Time/Collected Sample ID Date/Time/Collected Date/Time/Collected Date/Time/Collected	Sample Live Chlorine Tree Chlorine Tree Chlorine Tree Chlorine Tree Chlorine Tree Chlorine Tree Chlorine
	the ritties, very
TW1-3 hrs 05-30 / 11:30 PW N N 8	
TW1-6 hrs 05-30 / 14:30 PW N N N 8	wellhead / / / / / / / G
[25] C.	
	hy 10 mm 2 m
Completion Code for Drinking Water RW = Raw Water TW = Treated Water at Point of Entry to distrib	on, TW-NT = Untreated Water at Point of Entry to distribution, DW = Distribution, RP = Residential Plumbing, NRP = Non-
Residential Elumbing 5 = Standing F = Flushed; PW = Private Well. Sampled By: Shawn Beaton	bate/fine comments: Sample for metals were field filtered using 0.45 micron filter
Relinquished By:	
Received By:	5 3 24 2

Ryznar Stability Index

$$RSI = 2(pH_s) - pH$$

RSI $<< 6 \rightarrow$ the scale tendency increases as the index decreases

RSI >> 7 → the calcium carbonate formation probably does not lead to a protective corrosion inhibitor film

RSI >> 8 → mild steel corrosion becomes an increasing problem

Langelier Saturation Index

$$LSI = pH - pH_s$$

If LSI is negative → no potential to scale, the water will dissolve CaCO₃

If LSI is positive → scale can form and CaCO₃ precipitation may occur

If LSI is close to zero → borderline scale potential, water quality or temperature change or evaporation could change the index

where pH measured from sample

pH_s = pH at saturation in calcite or calcium carbonate

$$pH_{s} = (9.3 + A + B) - (C + D)$$

$$A = \frac{\log_{10}[TDS] - 1}{10}$$

$$B = -13.12 \times \log_{10}(^{\circ}C + 273) + 34.55$$

$$C = \log_{10}[Ca^{2+}asCaCO_{3}] - 0.4$$

$$D = \log_{10}[alkalinityasCaCO_{3}]$$

pH hardness [mg/l as CaCo₃] Alkalinity [mg/l as CaCo₃] total dissolved solids [mg/l] temperature (°C)

→→ RSI
→→ LSI

TW1-3hr	TW1-6hr
7.88	7.84
371	374
273	282
624	624
15	15
6.43	6.44
0.72	0.70