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Potable Water Supply Assessment

Commercial Site Development 210 and 220 Maple Creek Court Ottawa, Ontario



Prepared For Wall Sound (2434894 Ontario Inc.) ^{c/o} BBS Construction (Ontario) Ltd.

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1.0 INTRODUCTION

Paterson Group (Paterson) was retained by **BBS Construction (Ontario) Ltd.** on behalf of the site owner, Wall Sound (2434894 Ontario Inc.) to conduct a potable water supply assessment for a commercial property at located at 210 and 220 Maple Creek Court, Ottawa (Carp), Ontario. The site location is indicated on Figure 1 below.

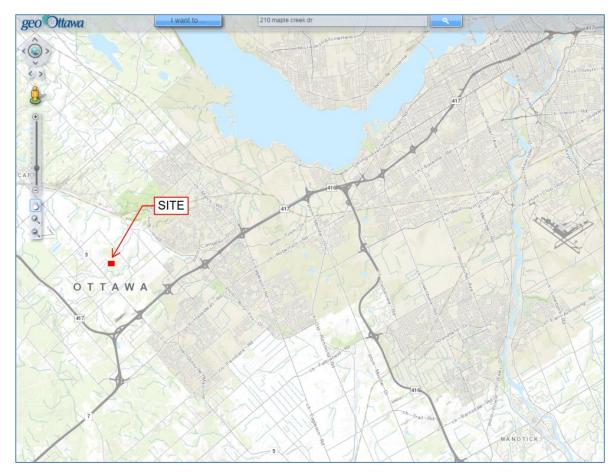


Figure 1 - Site Location

Ref: http://maps.ottawa.ca/geoottawa/

This study was conducted in general accordance with Ontario Ministry of the Environment and Climate Change (MOECC) guidance document Procedure D-5-5: Technical Guideline for Private Wells: Water Supply Assessment (MOEE, 1996).

The scope of the assessment is limited to a determination of the potential yield and raw water quality of the bedrock water supply aquifer intercepted by an new test well (TW1) that

was drilled at the site, as it relates to the future servicing potential for the proposed commercial development.

The investigation involved the following major components:

- Review of available information regarding the subject site, the proposed development, and surrounding lands.
- Hydrogeological analysis including a pumping test, groundwater sampling, geological information review, aquifer analysis and water quantity assessment.

2.0 SITE DESCRIPTION

The combined lot at 210 and 220 Maple Creek Court is approximately 3.47 hectares (Ha). See Figure 2 for site layout and identification of surrounding properties.

Figure 2 – Site Layout and Surrounding Properties



Ref: Google Earth Pro 2017

Topography at the site is relatively flat, and onsite drainage is by infiltration with minimal amounts of surface flow. Surface drainage flows to the southwest, towards a small unnamed creek. The onsite topographic elevation is approximately 114 to 115 m asl.

The following legal description of the subject lots was obtained from the City of Ottawa's interactive GIS mapping system, GeoOttawa (<u>http://maps.ottawa.ca/geoottawa/</u>):

- 210 Maple Creek Court
 - PIN 045370626 Concession 2 North Part of Lot 7 Registered Plan 4R-17169; Part 5
- 220 Maple Creek Court
 - PIN 045370625 Concession 2 North Part of Lot 7 Registered Plan 4R-17169; Part 4

2.1 **Proposed Commercial Development**

The proposed commercial development at the site consists of four large warehouse buildings with associated laneways, parking areas and landscaping. (see Drawing No. PH3158-2 in Appendix 4 – Proposed Site Development Plan).

The potable water supply for the proposed development will consist of two privately owned drilled wells (see note at the end of Section 5.2 for further details). Wastewater will be treated by an onsite Class 4 sewage system.

2.2 Surrounding Land Uses

Surrounding land uses are described below:

North

- Waste transfer station (NCM Services)
- Undeveloped land (forest)
- Developed commercial lots

East

• Undeveloped land (forest) with agricultural (crop land) beyond

West

- Maple Creek Court right-of-way
- Developed commercial lots (trucking/logistics)

South

- Commercial lots (storage and layout of equipment)
- Unused (forest)

2.3 Potential Sources of Contamination

Onsite

The lots at 210 and 220 Maple Creek Court are vacant and undeveloped. No potential environmental concerns were identified on the subject property,

Offsite

The following potential offsite sources of contamination were identified:

- Waste transfer station at 200 Maple Creek Court (vacuum trucks)
- Maple Creek Court (potential spills, road salt use).

The waste transfer station is relatively new and it is unlikely that there has been any significant impacts to offsite properties.

As part of a geotechnical investigation by Paterson (Paterson, 2016a), an overburden groundwater sample was collected from a monitoring well that was installed in one of the boreholes (BH6 which is located near the northern property line, in proximity to the waste transfer station). The sample was submitted for laboratory testing of petroleum hydrocarbon related parameters. All results were non-detectible and therefore well below the applicable MOECC site condition standards (please refer to Paterson Memorandum PG3905-MEMO.01, dated December 20, 2016 – Paterson, 2016b).

Road salt impacts are expected to be localized and confined to groundwater in the overburden unit. Potential spills must be reported and cleaned up according to MOECC requirements.

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3.0 METHOD OF STUDY

3.1 Water Well Record Search

A search of the MOECC water well records database was conducted for the site and surrounding properties. Key information from water well records in the vicinity of the site is summarized below in Table 1, below. MOECC water well records are included in Appendix 1, and the locations are indicated on Figure 3.

Figure 3 – MOECC Water Well Records



Ref: Google Earth Pro 2017 and https://www.ontario.ca/environment-and-energy/map-well-records

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Table 1 - Well Records Summary

Well Record ID	Year Drilled	Depth to Bedrock (m)	Casing Depth (m)	Depth to Water Bearing Fractures (m)		Depth Depth to Water Be		Total Depth (m)	Recommended Pumping Rate (L/min)	Comments
1503062	1967	19.81	19.81	28.3			28.96	46		
1503120	1966	not intercepted	7.92				7.92	23	overburden w ell	
1511534	1971	11.89	12.50				12.50	not provided	very low yield	
1514322	1974	not intercepted	9.45	9.5			9.75	23	- , - ,	
1514446	1974	21.03	21.64	25.6			25.91	23		
1517694	1981	not intercepted	6.71	7.6			7.62	46		
1519848	1984	50.29	50.60	54.3			56.69	46	bedrock described as granite	
1519849	1985	3.35	6.71	47.2			50.29	46		
1521487	1987	1.83	6.40	10.9	14.3		15.24	136		
1522190	1987	5.79	6.71	9.7	16.5		18.29	23		
1524249	1989	4.87	6.71	8.5	26.5		45.72	18		
1525420	1991	8.53	9.14	88.1	20.0		90.83	9		
1526582	1992	4.87	6.40	14.9	74.1		76.20	23		
1527789	1992	18.90	20.73	22.5	27.1		30.48	46		
1530054	1992	4.57	6.86		o 28.9		30.48	23		
1531859	2001	8.69	10.36	83.8	0 20.9		85.04	14		
1532012	2001	6.10	7.92	27.40	41.1		46.02	46		
1532012	2001	14.33	15.24	33.2	41.1			23		
1532037	2001	5.79	7.62	15.2	76.2		37.49 79.25	36		
1532109					70.2					
	2001	4.11	6.86	48.5	40.7		51.82	23		
1532401	2001	7.16	7.62	7.6	13.7		15.24	23		
1533699	2003	3.96	6.40		0 12.2		14.63	23		
1533703	2003	7.62	10.06	45.1	00.0		60.96	18		
1534685	2004	8.38	9.29	16.7	80.8		85.03	23		
1534700	2004	5.48	6.85	49.4			52.73	23		
1534968	2004	4.87	6.40	42.7			45.11	36		
1535188	2004	5.18	6.70	18.9	21.6		24.38	91		
1535575	2005	7.61	9.44	11.6	81.1		83.20	46		
1536096	2005	1.22	7.31	43.9			45.72	91		
1536327	2006	5.49	7.01	7.6	16.8		18.29	91		
1536645	2006	4.88	7.01	9.1	12.5		15.24	91		
1536723	2006	6.40	12.34	70.7			73.15	91		
7049235	2007	8.84	10.67	69.2			73.15	45		
7141759	2010	6.10	15.85	45.1	47.2		48.77	68		
7141771	2010	9.75	16.46	90.5	94.8		97.54	27		
7146322	2010	7.32	9.07	84.8			87.54	23		
7147331	2010	6.10	7.92	11.6	24.9	26.8	30.78	91		
7150117	2010	4.42	7.01	41.2	81.7		85.34	36		
7164962	2011	4.58	6.41	94.0			97.60	45		
7166847	2011	7.31	10.36	101.4			106.06	27		
7181767	2012	16.16	17.38	20.7	24.1		25.31	45		
7182536	2012	6.10	7.32	8.2			8.23	45		
7188067	2012	6.10	7.92	9.1			14.63	27		
7188086	2012	4.27	6.71	16.8			18.29	not provided		
7214932	2013			enviror	mental mor	itoring w e	I			
7233576	2014	7.61	9.44	57.9	66.4		68.57	45		
7247944	2015	3.96	13.40	15.2	47.2		64.31	14		
7247945	2015	4.87	13.41	38.1			64.31	14		

3.2 Test Well

A new drilled well (designated TW1) was installed at the site on January 16, 2017 by Air Rock Drilling Co. Ltd. (Air Rock) of Richmond, Ontario (Well Contractor License No.1119). The new well was drilled to a total depth of 42.67 m. Steel casing was installed to a depth of 8.53 m. The drilling, installation, and construction procedures were observed by Paterson to be in compliance with the requirements of Ontario Regulation 903 (Wells). See Table 2 (below) for details of the well construction.

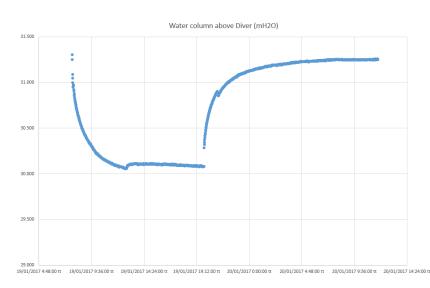
An observation well was identified and monitored during the pumping test (see below). The observation well is located at 200 Maple Creek Court, near the northern property boundary. This well appears to correspond to MOECC water well record # 1531859.

TEST WELLS SUMMARY									
Test Well ID	ell ID Year Drilled		Casing Depth (m)	Depth to Water Bearing Fractures (m)	Total Depth (m)	Recommended Pumping Rate (L/min)			
TW1	2017	6.71	8.53	34.1 and 39.6	42.67	91			
OBS (200 Maple Creek Court)	2001	8.69	10.36	83.8	85.04	14			

Table 2 - Test Wells Summary

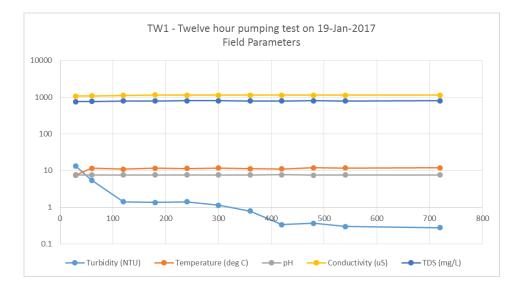
3.3 Twelve Hour Pumping Test

Paterson conducted a pumping test at TW1 on January 19, 2017. The well was pumped at approx. 68 L/min for 12 hours, and was allowed to recover.



During the test the pumping rate was monitored at regular intervals to ensure the rate of discharge remained constant (i.e. < 5% variation). Drawdown observations during pumping and recovery were recorded using manual measurements taken with an electronic water level tape. An electronic datalogger was also installed in the pumping well to record changes in water level throughout the test.

Turbidity measurements were taken using a Hanna[™] HI93414 Fast Tracker portable meter at the well head at regular intervals during the pumping test. Free chlorine residual measurements were taken using a Hach[™] Pocket Colorimeter II handheld unit immediately prior to the collection of each groundwater sample. Field measurements of pH, temperature, conductivity and TDS were carried out during the test using an Extech[™] ExStik II portable multi-meter. Field parameter results for the pumping test are provided below.



3.4 Offsite Well Owner Interviews

The neighbouring well owners at 200 and 205 Maple Creek Court were interviewed about their well and septic systems. A standard form was used to conduct each brief interview. The form includes standard questions about the well location, water quality, water quantity and potential environmental concerns. No water supply related concerns were identified. Well owner interview log sheets are included in Appendix 3.

3.5 Groundwater Sampling

Groundwater samples were collected at TW1 during the pumping test. Samples were collected at 6 hours and 12 hours after the start of pumping. Prior to collection of the groundwater samples, the free chlorine residual was verified to be non-detectable.

All groundwater samples were submitted for comprehensive testing of bacteriological, chemical and physical water quality parameters consistent with the standard 'Subdivision Supply' suite of parameters.

All samples were collected unfiltered and unchlorinated and were placed directly into clean bottles supplied by the analytical laboratory. Samples were placed immediately into a cooler with ice and were transported directly to the Eurofins laboratory in Ottawa. All samples were received by the laboratory within 24 hours of collection.

Eurofins is fully accredited by the Canadian Association for Laboratory Accreditation (CALA) having received a Certificate of Laboratory Proficiency in 1991 (CALA Registration Number 2602). Eurofins has ISO 17025 accreditation (through CALA) and is fully accredited for Ontario Safe Drinking Water Act (OSDWA) testing (License No 2318).

Offsite Well Sampling

No offsite well samples were collected. The well at 200 Maple Creek Court (i.e. the well that was used as an observation well) does not currently have a pump installed, and is not presently in use.

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4.0 GEOLOGY

4.1 Overburden Geology

Surficial geology mapping information from the Ontario Geological Survey (OGS) was obtained from the OGS Earth website at: <u>http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth</u>, and is included on Figure 4 below.



Figure 4 - Overburden Geology

Ref: Google Earth Pro 2016, and http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth

The mapping data from OGS shows that the site has coarse textured glaciomarine sediments and till (diamicton) at surface. The glaciomarine sediments are described as sand, gravel, minor silt and clay, in foreshore and basinal depositional environments. The till is described as stone poor, sandy silt to silty sand, on Palaeozoic terrain.

The thickness of the overburden unit, based on available water well record information from wells located in the vicinity of the subject site, varies significantly. Water well record data indicates that the overburden varies in depth from approximately 1.2 m to 21.0 m.

A geotechnical investigation was conducted at the site by Paterson in November 2016 (Paterson, 2016a). A total of six (6) boreholes were drilled at locations across the site (refer to Drawing No. PH3158-2– Proposed Site Development Plan in Appendix 4 for borehole locations). The general stratigraphy that was encountered in the boreholes is as follows:

- Topsoil
- Till (diamicton)

Soil thicknesses based on the drilling was interpreted to be between 5 and 5.3 m. Please refer to the geotechnical report by Paterson (Paterson, 2016a) for further details.

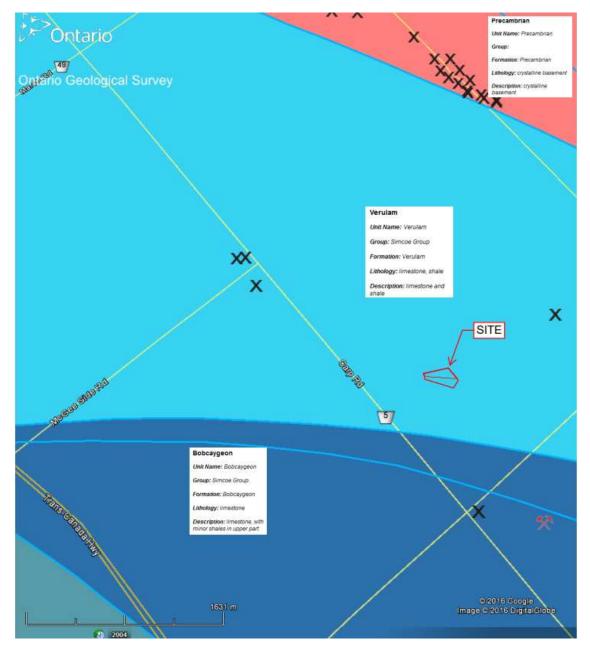
4.2 Bedrock Geology

Geological mapping information from the OGS Earth website (OGS, 2016) shows that the site is located in an area where the **Verulam Formation** is the uppermost bedrock unit. The lithology is described as limestone and shale. The Verulam formation is a recognized water bearing aquifer unit in the Ottawa region which typically has satisfactory water quality and quantity. Figure 5 (below) shows the OGS Earth mapping information in the vicinity of the site.



Potable Water Supply Assessment Commercial Site Development 210 and 220 Maple Creek Court, Ottawa, Ontario





Ref: Google Earth Pro 2016, and http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth

4.3 Hydrogeology

A limited investigation of the overburden aquifer was conducted by Paterson as part of the geotechnical investigation (Paterson, 2016a). Five of the six boreholes were instrumented

with standpipe style piezometers. One borehole was instrumented with a 51mm ID schedule 40 PVC monitoring well, to allow for sampling). A shallow unconfined aquifer exists in the overburden layer. Groundwater was encountered at depths from 0.9 to 2.6 m below ground surface (see Table 3, below). The data does not clearly indicate the direction of shallow groundwater flow, but it probably flows towards the southwest, based on the location of the nearby creek.

The 'Carp Road Corridor Community Design Plan (City of Ottawa, 2004) indicates the subject site is located on an area of high to moderate recharge.

Test Hole	Ground	Ground	– Date	
Location	Surface Elevation (m)	Depth (m) Elevation (m)		
BH 1	113.85	1.11	112.74	November 24, 2016
BH 2	115.54	1.88	113.66	November 24, 2016
BH 3	113.96	0.92	113.04	November 24, 2016
BH 4	114.93	2.64	112.29	November 24, 2016
BH 5	114.27	1.07	113.20	November 24, 2016
* BH 6	114.96	1.25	113.71	November 24, 2016

Table 3 - Overburden Groundwater Elevations

Ref: Paterson, 2016a

The bedrock aquifer consists of water bearing fracture zones (i.e. horizontal bedding plane fracture zones) that occur between relatively unfractured layers of massive bedrock. The upper bedrock layer tends to form a confining layer. The interpreted direction of groundwater flow in bedrock at the site is probably towards the north, based on the location of the site relative to the Ottawa River (this interpretation is consistent with the findings of the Carp Road Corridor Groundwater Study, that was conducted by Dillon Consulting in 2004 (Dillon, 2004).

5.0 AQUIFER ANALYSIS

5.1 Aquifer Characteristics

The pumping test data was analyzed using Aquifer Test Pro[™] (V2016) software. Drawdown data was measured using an electronic water level tape. An electronic datalogger unit was also used to monitor drawdown in the test well.

The drawdown data was analyzed using the Theis (Theis, 1935), and the Cooper & Jacob methods of analysis (Cooper & Jacob, 1946). Aquifer transmissivity is estimated to be approximately 551 m²/day.

Parameter	
Transmissivity Calculated Using	TW1
Transmissivity (m²/day)	551
Storativity Calculated Using	TW1 and OBS
Storativity	1.0E-07
Pumping test	19-Jan-17
Average Test Pumping Rate (L/min)	68
Average Test Pumping Rate (m³/day)	98
Available Draw dow n (m)	40.0
Draw dow n at 100 mins (m)	0.93
Maximum Test Draw dow n (m)	1.17
Max test draw dow n as % of available draw dow n	3%
Draw dow n at 20 years (extrapolated)	2.70
Specific Capacity (L/min/m)	58
Q20 safe w ell yield (m ³ /day) _{Farvolden}	10535
Q20 safe w ell yield (m ³ /day) Maarthius & van der Kamp	1015
Q20 safe w ell yield (L/min) Maarthius & van der Kamp	705
Q20 safe w ell yield (IGPM) Maarthius & van der Kamp	155
Farvolden, 1959	Maathius & van der Kamp, 2006

5.2 Groundwater Quantity

The pumping test results show that test well TW1 has a high yield. Drawdown at a pumping rate of 68 L/min for 12 hours was 1.17 m. 95% recovery was achieved approximately 70 minutes after the end of pumping.

The total volume of water pumped during the 12 hour pumping event was 48,960 L.

The water demand for the proposed commercial development has been estimated based on the total daily design sanitary sewage flow (TDDSSF) calculated in accordance with Part 8 of the Ontario Building Code (OBC). Based on the proposed occupancy of the office and warehouse, the TDDSSF, calculated in accordance with Table 8.2.2.3.B of the OBC, is as follows:

Building			Floor Are	a (m²)	Estimated Daily Sewage Flow (L)				
No.	Unit No.	Office	Ware	house	Total GFA	Office	Warehouse	Total	
NO.		Space	Space	L. Docks	TOTAL GLA	Office	warenouse	Total	
1	1	92	827	3	929	742	450	1192	
I	2	92	827	5	929	742	750	1492	
Total	2	184	1654	8	1858	1484	1200	2684	
						PHASE '	I - TDDSSF	2700	
0	1	92	827	3	929	742	450	1192	
2	2	92	827	3	929	742	450	1192	
Total	2	184	1654	6	1858	1484	900	2384	
						PHASE 2	2 - TDDSSF	2400	
3	1	92	827	3	929	742	450	1192	
3	2	92	827	3	929	742	450	1192	
Total	2	184	1654	6	1858	1484	900	2384	
	PHASE 3 - TDDSSF 2400								
4	1	92	827	3	929	742	450	1192	
4	2	92	827	3	929	742	450	1192	
Total	2	184	1654	6	1858	1484	900	2384	
						PHASE 4	4 - TDDSSF	2400	

Table 5 – Sewage Flow Summary

The estimated total daily design sanitary sewage flow (TDDSSF) for the completed development will be approx. 9,900 L/day.

Water use will mostly occur within an 8 hour period each day (i.e. during normal working hours). This equates to an average water demand of approximately 6.9 L/min, which is approximately 10% of the pumping rate that was used during the 12 hour test.

The new well at 220 Maple Creek Court will provide a sufficient quantity of water for the proposed commercial use. In Paterson's professional opinion the probable well yield determined on the basis of this investigation is representative of the yield that can be expected in the long term.

PLEASE NOTE: The proposed development will be serviced by two drilled wells. TW1 will service the Phase 1 and Phase 2 buildings, and a new drilled well will service Phases 3 and 4. The proposed new well will be configured/constructed in a similar way to TW1. The locations of the two wells are indicated on Drawing No. PH3158-2– Proposed Site Development Plan, in Appendix 4.

5.3 Groundwater Quality

Water quality analysis data from TW1 is summarized in Table 4 (below). Laboratory certificates of analysis are included in Appendix 2.

The analytical results show that water quality at the subject site is acceptable and that there are no exceedances of the applicable health related parameter limits of the Ontario Drinking Water Standards (ODWS).

Table 6 - Groundwater Geochemistry (TW1)	- Groundwater Geoche	emistry (TW1)	
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GROUNDWATER GEOCHEMISTRY - TW1										
PARAMETER	UNITS	19-Jan-17		ODWS LIMIT						
HEALTH RELATED LIMITS		19-Ja	ari- 17							
Microbiological										
÷	at/100 ml	0	0	0 ^{MAC}						
Escherichia Coli	ct/100 mL	0	0	0						
Heterotrophic Plate Count	ct/100 mL	0	1	0 ^{MAC}						
Total Coliforms Chemical	ct/100 mL	0	0	0						
		0.04	0.00							
Fluoride	mg/L	0.24	0.28	1.5 ^{MAC}						
N-NH3 (Ammonia)	mg/L	0.1	0.12	- 1 ^{MAC}						
N-NO2 (Nitrite)	mg/L	<0.10	<0.10	-						
N-NO3 (Nitrate)	mg/L	<0.10	<0.10	10 ^{MAC}						
Total Kjeldahl Nitrogen	mg/L	0.1	0.2	-						
Turbidity (Lab)	NTU	2.4	2.1	5.0 ^{AO}						
AESTHETIC and OPERATIC	DNAL RELATE	-								
Hardness as CaCO3	mg/L	431	428	100 ^{0G}						
Alkalinity (as CaCO3)	mg/L	250	255	500 ^{0G}						
TDS (COND - CALC)	mg/L	734	728	500 ^{AO}						
Calcium	mg/L	118	117	-						
Chloride	mg/L	194	190	250 ^{AO}						
Colour	TCU	7	8	5 ^{AO}						
Conductivity	uS/cm	1130	1120	-						
Dissolved Organic Carbon	mg/L	2.9	2.6	5 ^{AO}						
Hydrogen Sulphide	mg/L	0.05	0.06	0.05 ^{AO}						
pH	_	7.77	7.81	6.5-8.5 ^{AO}						
Phenols	mg/L	<0.001	<0.001	-						
Sulphate	mg/L	46	45	500 ^{AO}						
Tannin & Lignin	mg/L	0.1	0.2	-						
Magnesium	mg/L	33	33	-						
Potassium	mg/L	5	5	-						
Sodium	mg/L	64	60	200 ^{AO}						
Iron	mg/L	0.40	0.38	0.3 ^{AO}						
Manganese	mg/L	0.04	0.04	0.05 ^{AO}						
NOTE: Values exceeding the OD	Ť	hlighted in yellov	v							

With respect to aesthetic objectives and operational guidelines, the analytical results indicate the following exceedances:

- Hardness
- TDS
- Colour
- Hydrogen sulphide
- Iron

Hardness

At the measured concentrations, the water is considered to be moderately hard, which is typical of wells drilled throughout eastern Ontario. Hardness is a measure of the dissolved calcium and magnesium in water and is expressed as the equivalent quantity of calcium carbonate. Hardness can lead to the formation of scale deposits and can form excessive scum (MOE, 2003).

TDS

Total dissolved solids (TDS) refers to the concentration of inorganic substances dissolved in water. The main constituents are typically chloride, sulphates, calcium, magnesium and bicarbonates. Water with a TDS concentration above 500 mg/L of TDS may not palatable. Procedure D-5-5 does not provide a 'treatability limit' for TDS, but it does require written rationale that corrosion, encrustation, or taste problems will not occur.

The Langelier Saturation Index (Langelier, 1936) is used to predict the calcium carbonate stability of water. It indicates whether the water will precipitate, dissolve, or be in equilibrium with calcium carbonate. The results of the Langlier calculation (LSI = 0.6) indicate the water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive). See Appendix 3 for calculation details.

The Ryznar Stability Index (Ryznar, 1944) uses a database of scale thickness measurements in municipal water systems to predict the effect of water chemistry. The RSI was developed from empirical observations of corrosion rates and film formation in steel water mains. The results of the RSI calculation (RSI = 6.6) indicate the water is not scale forming and is not corrosive. See Appendix 3 for calculation details.

Colour

Colour may occur in drinking water for any one or more of several reasons. It may be due to organic substances from the decay of vegetation; or the presence of metals such as iron, manganese and copper, which are abundant in nature. The provincial aesthetic objective for colour in drinking water is 5 TCU (True Colour Units). The federal (Health Canada) guideline aesthetic objective limit for colour is 15 TCU (Guidelines for Canadian Drinking Water Quality, Health Canada 1979). <u>http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/water-colour-couleur-eau/index-eng.php</u>

Hydrogen Sulphide

The aesthetic objective for sulfide in drinking water is based on odour. Although hydrogen sulfide is toxic, poisoning from ingestion of drinking water is very unlikely because of the unpleasant taste and odour. Sulfide in combination with iron produces black staining on pipes and fixtures. Low concentrations of hydrogen sulphide can be effectively removed from drinking water by aeration.

Iron

Concentrations of iron above 0.3 mg/L can cause staining of fixtures and a metallic taste at higher concentrations. Precipitation of iron can promote the growth of iron bacteria in pipes. The concentration of iron in the groundwater at TW1 is considered to be reasonably treatable in accordance with Table 3 of Procedure D-5-5.

6.0 DEVELOPMENT CONSIDERATIONS

6.1 Well Water Treatment

The water within the bedrock aquifer displays elevated hardness, TDS, colour, hydrogen sulphide and iron. A standard commercial grade softener water is suitable for the reduction of hardness and iron to an acceptable level.

Conventional water softeners introduce sodium into the water supply, so it may be appropriate to bypass the water softener with a separate tap for drinking water.

Hydrogen sulphide can be reduced by aeration or with an iron/sulphur filter.

TDS can be reduced in drinking water, if desired, by using reverse osmosis or by distillation.

7.0 CONCLUSIONS

The following statements and conclusions are based on the investigation and analysis contained within this report:

- The existing onsite well (TW1) is technically suitable and appropriate for the purpose of characterizing the water supply aquifer for the proposed commercial site development.
- The bedrock aquifer at the subject site will provide a sufficient quantity of water for the intended commercial use (warehouses). In Paterson's professional opinion the probable well yield determined on the basis of this investigation is representative of the yield that can be expected in the future. The well yield is high, and long term safe yield calculations suggest that pumping at the peak demand rate will be sustainable.
- The bedrock aquifer at the subject site will provide sufficient water quality for the intended commercial use (warehouses). Elevated hardness and iron can be treated with a commercial grade water softener. TDS can be reduced by using reverse osmosis or by distillation. Hydrogen sulphide can be treated by aeration or with an iron/sulphur filter.
- Historical land use of the subject property is not considered to be a concern as a potential source of contamination to the underlying bedrock aquifer.
- The only potential offsite sources of groundwater contamination that were identified in the vicinity of the site are potential spills and road salt use along Maple Creek Court, and the neighbouring waste transfer station. Potential impacts to the bedrock aquifer are considered to be unlikely due to the confining nature of the upper bedrock.
- The subject site is considered to be suitable for commercial development based on the available well water yield and quality as determined by this investigation.



8.0 **RECOMMENDATIONS**

- The existing drilled well (TW1) at 220 Maple Creek Court is considered to be a suitable water supply for the proposed development. The additional new drilled well at the site should be constructed and configured in a similar manner to TW1.
- Water softener treatment is likely to cause an elevated concentration of sodium (> 20 mg/L) in the treated water. The local Medical Officer of Health should be notified in order to alert persons with medical conditions requiring a low sodium diet (NOTE: as an alternative, potassium chloride can be used as the ion exchange medium).

In summary, it is Paterson's professional opinion that this site is suitable for the commercial development. The hydrogeological recommendations contained within this report, if followed, will ensure that the development takes place in an effective manner, with a minimal impact on the natural environment.

patersongroup

Long

Russell L. Chown, P.Geo. Senior Hydrogeologist



9.0 STATEMENT OF LIMITATIONS

This Potable Water Supply Assessment report has been prepared in general accordance with the agreed scope-of-work and the requirements of MOECC Procedure D-5-5: Technical Guideline for Private Wells: Water Supply Assessment (August 1996).

The conclusions presented herein are based on information gathered from a limited historical review along with a field inspection and testing program. The findings of this investigation are based on a review of readily available geological, historical, and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by provincial agencies and was limited within the scope-of-work, time, and budget of the project herein.

This report was prepared for the sole use of **BBS Construction (Ontario) Ltd**. Permission from the above noted party and our firm will be required to release this report to any other party.



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Appendix 1

• MOECC Water Well Records

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TW1 (new test well at 220 Maple Creek Drive)

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CERTIFICATE OF WELL COMPLIANCE

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located at # 220 MAPLE CREEKCOURT, CARP	
Lot/Plan No.) in the City of Ottawa (Geographical Township of Osgoode).	
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CERTIFY FURTHER that, I am aware of the well drilling requirements, the guidelines,	
recommendations and regulations of the Ministry of the Environment governing well	
installations in the Province of Ontario, and the standards specified in any subdivision	
agreement and hydrogeological report applicable to this site and City Standards.	
AND DO HEREBY CERTIFY THAT the said well has been drilled, cased, grouted	
(cement or bentonite) as applicable and constructed in strict conformity with the	
standards required.	
Signed this 16 TH day of <u>JANUARY</u> <u>2017</u> . Konget Air Rock Drilling Co. Ltd. Well Driller/Company	
The Engineer on behalf of the landowner set out above Certifies that he/she has inspected the well and it was constructed in accordance with the specifications in O.Reg.903, this report and the Hydrogeological Report with regards to casing length and grouting requirements.	
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Ministry of the Environment

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200 Maple Creek Court (OBSERVATION WELL)

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The Ontario Water Resources Act WATER WELL RECORD 1531859

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Total length of casing 3.0		Test-pun	nping rate		G.P.M.
Type of screen		Pumping			
Length of screen		Duration	of test pumping	g I h	
Depth to top of screen		Water cl	ear or cloudy at	end of test	G.P.M.
Diameter of finished hole		Recomm	ended pumping	rate	G.P.M.
		with	pumping level o	f	
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)
Red 100m	0	151		•	
may hard pan					
Gray Line stone	20	64	64		firesh
			•		-
					_
				-	
	1				$\overline{\Omega}$
For what purpose(s) is the water to be used?				tion of Well	w/
house	••••••	I		show distances of	
Is well on upland, in valley, or on hillside?		n	ad and lot line	. Indicate north	to arrow.
hillside	······		rt	JHATTY -	1.25
Drilling Firm JP Spark	<u>\$</u>	· · · ·			* //
Address <u>SHHSuille</u>	ant		۲!	UN-204 T	L.
	-				
				$\hat{\mathbf{x}}$	
Name of Driller Clay 201	Ŝo. 1			G.	
Name of Driller	21 f.) ar //s (27 - 4			1 A	
Address 571445 ville			IL I	<i>N</i>	
Date Feb. 961 F. P. Dar Bo (Signature of Licensed Drilling Contractor)			H OHW	1	
			···· ··· •.		
				C.S	<u>4.</u> 3 3

Inside diameter of casing 51 Total length of casing 55 Type of screen Mil Length of screen 55 Depth to top of screen 55''	Static level Test-pumping r Pumping level Duration of test Water clear or cl	rate	·	
Total length of casing 65' Type of screen mil Length of screen ————————————————————————————————————	Test-pumping r Pumping level Duration of test	Serate	·	
Type of screen Length of screen Depth to top of screen	Test-pumping r Pumping level Duration of test	rate		
Length of screen	Pumping level Duration of test	301		G.P.M.
Length of screen	Duration of test			G.P.M.
Depth to top of screen Diameter of finished hole 5''	Water clear or cl		I HOUT	R
Diameter of finished hole 5"		loudy at end of	test CLDL	VDY
	Recommended	numping rate	10	~ ~ ~ ~ ~
	with pump settin	ng of 50	feet belo	ow ground surface
Well Log				r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s)	Kind of water (fresh, salty,
CLAY & BOULDERS	\bigcirc	30	found	sulphur)
SAND BOULDERS	30	50		
LIMESTONE HARD GR	50 xy (5	6/-	07	+
			- 72.	FRESH.
For what purpose(s) is the water to be used? NEW HOME Is well on upland, in valley, or on hillside? UPLAND. Drilling or Boring Firm BLAIR PHILLIRS DRILLING-CO. 4 Address //19 FAL AISE RD OTTAWAS ONT. Licence Number 2-56 V Name of Driller or Borer MOORE Address RR#/ KARS ONT. Date 6 OCTOBER 1960	road and	lot line. Indi - 9mi 2-3 Mi	distances of well cate north by	I from arrow. NoRTH 575 MI- T

$\frac{21}{18} = \frac{412}{28} = 0^{E}$ $\frac{5}{8} = \frac{5016}{22} = 0^{E}$ Elev. $\frac{4}{8} = 0^{3} = 5^{E}$ $\frac{5016}{22} = 0^{E}$ $\frac{501}{62} = 0^{E}$ $\frac{16}{7} = 0^{2}$ 16	LL RECO) R D	TIM	31/20 5510
Con. 2 Lot	ess			year)
Casing and Screen Record		Pumping		
Inside diameter of casing Total length of casing Type of screen Length of screen Depth to top of screen Diameter of finished hole	Static levei Test-pumping ra Pumping level Duration of test p Water clear or cle Recommended p with pump settin	te oumping oudy at end of oumping rate	9 6 1 HR test 6 6 6	
Well Log	.1		Wate	r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
	23	26	2.3	FRESH
For what purpose(s) is the water to be used? Is well on upland, in valley, or on hillside? Drilling or Boring Firm Address Licence Number	road and	m below show	of Well w distances of w adicate north by	ell from arrow.
Name of Driller or Borer Address Date (Signature of Licensed Drilling or Boring Contractor) Form 7 15M-60-4138 OWRC COPY			Hur	TEEN 1.58

UTM 18 2 AR 1919 OF Kat 15 WTM 18 2 AR 1919 OF Kat 15 Elev. AR 0 B PO WATER WEL	L REC	DRD	1503120 DYSIGN NG JUN 1 3 1968 ONTARIO WATER OURCES COMMISS	
Con. 4 Lot 15		2 (day	may may	$\frac{1968}{\text{year}}$
	ress Box	/0/ 2	Source	Int.
Casing and Screen Record		Pumping	g lest	
Inside diameter of casing	Static level			C P M
Total length of casing 20				
Type of screen	Pumping level Duration of test j		, 1	
Length of screen	-		· /	idin
Depth to top of screen 5"	Water clear or cl		5	G.P.M.
Diameter of finished hole	Recommended j			w ground surface
	with pump settir			r Record
Well Log				Kind of water
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	(fresh, salty, sulphur)
class loam	0 '	21	60	fresh
		751		0
sandslone	L	62		
· · · · · · · · · · · · · · · · · · ·				
For what purpose(s) is the water to be used?	T 1'	Location	of Well distances of we	Il from
new house	road and	lot line. Ind	licate north by	arrow, TI
Is well on upland, in valley or on hillside?		TYR0 109	20/	
Drilling or Boring Firm April March			150- 2	D LOTIS
Supply sug.		A.	14-2	•
Address 9 ushfra ba		13		275'
1057				
Licence Number 2857			-) [10
Name of Driller or Borer 3				
Address Date mar 20 1968				
Date Man 20 neah			-	
(Signature of Licensed Drilling or Boring Contractor)				, 9
Form 7 15M-60-4138				Bure
OWRC COPY			8 	" I AHB
				-

The Ontario Water Resources Commission Act ATER WELL RECOR 211 = 1. PRINT ONLY IN SPACES PROVIDED 1511534 11 92 2. CHECK X CORRECT BOX WHERE APPLICABLE 23 24 TOWNSHIP, BOROUGH, BLOCK, TRACT, SUF EY. ETC LOT leton Hun DATE COMPLETED 18 мо. DAY 1 25 T T 1 1 1 1 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST GENERAL COLOUR OTHER MATERIALS DEPTH - FEET COMMON MATERIAL GENERAL DESCRIPTION FROM то an class packed \mathcal{O} 10 sand + boulder 30 10 stones + boulders 39 30 39 31 ъl 10 14 15 21 32 43 54 55 75 WATED DECODD JERTACING & ODEN HOLE DECODD Z SIZE(S) OF OPENING 31-33 DIAMETER 34-38 LENGTH 32 1 Z (SLOT NO.) MATERIAL AND TY O O 41 51 CASING & OPEN HOLE RECORD WATER FOUND AT - FEET - FEET KIND OF WATER INS DEPTH WALL THICKNESS MATERIAL INCHES DEPTH TO TOP OF SCREEN MATERIAL AND TYPE FEE FROM то 1 🗌 FRESH 3 🗌 SULPHUR STEEL 188 414-16 0 2 🗌 SALTY 4 🗌 MINERAL GALVANIZED t 🗌 FRESH 3 🗌 CONCRETE 3 🗋 SULPHUR 05 4 OPEN HOLE 61 PLUGGING 0041 & SEALING RECORD 2 🗌 SALTY 4 🗍 MINERAL 17-18 1 🗌 STEEL DEPTH SET AT - FEET (CEMENT GROUT, LEAD PACKER, ETC.) 3 SULPHUR MATERIAL AND TYPE 2 GALVANIZED FROM то 3 10-13 14-1 3 SULPHUR 4 🗌 OPEN HOLE 24-25 1 STEEL 27-30 2 SALTY 18-2 22-25 2 GALVANIZED 3 CONCRETE 1 🗌 FRESH 3 SULPHUR 26-29 30-33 2 SALTY 4 🗍 MINERAL OPEN HOLE 4 METHOD TEST 11-14 DURATION OF PUM 10 PUMPING RATE 71 LOCATION OF WELL 15-16 HOURS 2 🗌 BAILER 🖞 РОМР WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. STATIC 1 D PUMPING WATER LEVELS DURING TEST 2 RECOVER MINUTES 29-31 19-2 UTES 26-2 45 MINUTES 32-34 60 MINUTES 35-H1 U Z FEE FEE1 FEET FEET IF FLOWING WATER AT END TEST 4 1 🗌 CLEAR 153 FEET PUM RECOMMENDED PUMP RECOMMENDED 43-45 RECOMMENDED 46-49 PUMP SHALLOW DEEP 3/10 GPM 50-53 _ GPM./FT. SPECIFIC CAPACITY 1 WATER SUPPLY 5 🗌 ABANDONED, INSUFFICIENT SUPPLY **FINAL** 2 OBSERVATION WELL ABANDONED, POOR QUALITY **STATUS** 7 KUNFINISHED 3 TEST HOLE OF WELL 4 🗌 RECHARGE WELL 1 🗋 DOMESTIC 5 COMMERCIAL 2 🗌 стоск 6 D MUNICIPAL į, WATER 3 | IRRIGATION 4 | INDUSTRIAL 7 D PUBLIC SUPPLY USE 8 COOLING OR AIR CONDITIONING 9 D NOT USED 5 CABLE TOOL 6 🗌 BORING METHOD 7 DIAMOND OF 3 ROTARY (REVERSE) 8 🗌 JETTING DRILLING ROTARY (AIR) 9 🗌 DRIVING AIR PERCUSSION DRILLERS REMARKS: LICENCE NUMBER DATA CONTRACTOR 59-62 DATE RECEIVED 63-68 ONLY ONTRACTOR 1558 '558 231271DATE INSPECTO USE LICENCE NUMBER REMARKS Ρ OFFICE WI 05.00 DAY 18 MO. 10 YR.7/ OWRC COPY

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COUNTY OR DISTRICT	/	TOWNSHIP, BOROUGH	LE 1 2 CITY, TOWN, VILLAG	E 3			BLOCK, TRACT, SI	JRVEY, ETC.		LOT 25-27
Carletø	n	West Car	leton //	NNTLE	1	3		DATE COMI	PLETED	008 48-53
		Do: NG	rcan St. P		Dnt		BASIN CODE	DAY_1	7_ мо.09	YR. 74
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41 WATI	KIND OF WATER	51 CASING	& OPEN HOL	E RECORI		Z (SLOT N		SI-33 DIAMET	ER 34-38 INCHES	LENGTH 39-40 Feet
10-13 1 🕱	FRESH $3 \square$ SULPHUR 14 SALTY $4 \square$ MINERAL	INCHES	12 188	FROM	¹⁰ '		AL AND TYPE		DEPTH TO TOP OF SCREEN	41-44 80 FEET
15-18 1	FRESH 3 TI SUL PHUP 19	2 GALVANIZ 3 GONCRET 4 GONCRET 4	E	31		61	PLUGG	NG & SEAL	ING RECO	
20-23 1	FRESH 3 SULPHUR 24 SALTY 4 MINERAL	17-18 1 🗍 STEEL 2 🗍 GALVANIZ	19 ED		20-23	DEPTH SE	TAT - FEET TO	MATERIAL AND		ENT GROUT, ACKER. ETC.)
25-28 1		06 ³ □ CONCRET 4 X OPEN HOI 24-25 1 □ STEEL		0	032	10-13				
30-33 i 🗌	FRESH 3 SULPHUR 34 80 SALTY 4 MINERAL	2 🗍 GALVANIZ 3 🗋 CONCRET	ED			26-29		50		
PUMPING TEST METH		4 OPEN HO	OF PUMPING			L	CATION	OF WELI	- 22	16
1 EXPUMP 2 STATIC	WATER LEVEL 25	1	15-16 00 17-1 HOURS 00 41N			GRAM BELOW	SHOW DISTAN	CES OF WELL		
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005 FEET	15 FEET 015 FEET 38-41 PUMP INTAKE SE	0 15 FEET 0 15				0	1 VOY			
A RECOMMENDED PUMP	GPM.	FEET I CKCL	EAR 2 CLOUDY							
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	GPM./FT. SPECI	IFIC CAPACITY	NSUFFICIENT SUPPLY				ALM		7↑	
FINAL STATUS OF WELL	2 OBSERVATION WELL 3 I TEST HOLE			X				· 0.	n n	t.
55-1	1 DOMESTIC	5 COMMERCIAL	- <u></u>	- Y			0	75 mile	1	
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5	0 OTHER	• []	NOT USED							
METHOD OF	1 CABLE TOOL 2 ROTARY (CONVENTION 3 ROTARY (REVERSE)	6 🗌 BORIN DNAL) 7 🛄 DIAMO 8 🛄 JETTIN	N D							
	4 C ROTARY (AIR) 5 R AIR PERCUSSION	• 🗆 JEIII • 🗖 DRIVIN		DRILLER	S REMARKS	:				
NAME OF WELL CO	1		LICENCE NUMBER			58 CON		62 DATE RECEIVED		63-68 60
E ADDRESS	LlWater Supply		1558		OF INSPECT		1558	15	10 74	
	O Stittsville	, Ontario	LICENCE NUMBER		Up ARKS:	x / ~	′_	K.Vin		
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[COUNTY OR DISTRICT		TOWNSHIP, BOROUGH.	CITY, TOWN, VILLAGE	3	9 CON.,	BLOCK, TRACT, SUR			22 23 24 LOT 25-27
ł	car15t		West Carle	······································	UNTLEY	2		DATE COM	LETED	007
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L E	2 SAI	IO PUMPING RATE	3 CONCRETE 4 OPEN HOLE 11-14 DURATION OF			26-29	30-33 80			
DIIMPING TEST 7 2	LEVEL	BAILER O TER LEVEL END OF UMPING 22-24 35 FEET O 38-41 PUMP INTAKE SE GPM PE PUMP	O 15	3-16 00 17-18 OURS MINS PUMPING MINUTES 32-34 60 MINUTES 32-34 35-37 FEET 35 DOF TEST 42 AR 2 AC CLOUDY	COAD 2	RAM BELOW	CATION O SHOW DISTANCE ITE NORTH BY AF		241 OM ROAD AN	
	WATER USE	2 🔲 STOCK 3 🔲 IRRIGATION	 5 ABANDONED, INS 6 ABANDONED, POC 7 UNFINISHED 5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CON 9 NO 6 BORING NAL) 7 DIAMONE 8 JETTING 9 DRIVING 	DR QUALITY DITIONING DT USED	DRILLERS REMARKS	Hun	.7 mil	e 2 NB LI		60
CONTRACTOR	ADDRESS Box 490 NAME OF DRILLER OR M. Hami SUMATURE OF GONTRA	Water Supply Stittsville BORER Iton ACTOR	/ Ltd. e, Ontario		DATA SOURCE / DATE OF INSPECTIO USD REMARKS:	74	ACTOR \$9.62 558	P. Der	12 74 P WI	

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	** 10		OG OF OVERBUR	DEN AND BE	DROC	K MATERIAL				DEPTH	· FEET
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WATE AT		RECORD	TINSIDE DIAM MATER	WALL	D'O	PTH - FEET	Ш. Ш	TERIAL AND TYPE		DEPTH TO TOP	FEET 41-44 30
000	25 ² sat	ESH ³ SULPHUR ¹⁴ LTY ⁴ MINERAL	10-11 1 CONTECL	12 NIZED /9	0 (16092	s l		NG & SEA		
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-	2 🗆 SA	LTY 4 C MINERAL ESH 3 SULPHUR 34	24-25 1 [] STEE 2 [] GALV. 3 [] CONC	ANIZED RETE		27-30		18-21 22-25 26-29 30-33	30		
	Z SA	10 PUMPING RA	4 OPEN	ION OF PUMPING	<u> </u>			LOCATION	OF WEL	.L	
Ŷ	SIATIC	25	GPM GPM	15-16 HOURS 1 9 PUMPING 2 1 RECOVER		IN DI LOT L	AGRAM B	ELOW SHOW DISTA	NCES OF WELL Y ARROW	FROM ROAD	AND
LEST	LEVEL	PUMPING 22-24 15 MINUTE		52-34 0/	1NUTES						7
DNIC	FEET	FEET SIGNAL PUMP INTAP		FEET RATEND OF TEST				140	m.		/ / /
PUMPING	RECOMMENDED PUMP TY	PUMP			46-49 GPM			$\mathcal{A} \rightarrow$	▶		
	50-53							N B			
	FINAL STATUS	1 CHATER SUPPLY 2 CBSERVATION W 3 TEST HOLE	VELL 6 ABANDON 7 UNFINISH	ED, INSUFFICIENT : ED POOR QUALITY IED	SUPPLY			S	10 mi.		
-	OF WELL /	C RECHARGE WEL DOMESTIC	5 🗌 COMMERCIAL 6 🗌 MUNICIPAL								
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	57	OTHER OTHER OTHER OTHER	6 []	BORING							
	METHOD OF DRILLING	2 [] ROTARY (CONV 3 [] ROTARY (REVEL 4 [] ROTARY (AIR)	RSE) 8	DIAMOND JETTING DRIVING							
	NAME OF WELL CON	5 AIR PERCUSSIO	IAINIA O	LICENTERIUN	YBER (DRILLERS REMA	RKS 5	8 CONTRACTOR 5	9-62 DATE RECEIV	° ∩ 1	0 9
CTOR		Main 1	Our a full	ng 30	+ T		PECTION	3644		VI	()~
CONTRAC		D d d	Mais		MBER						
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	MINISTRY	OF THE ENV	/IRONMENT		<u>тн,</u>	L		· <u>····································</u>		FORM NO. 0	9506—4—77 FORM 7

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Ontario Environment	VVA	TER W		-CORD
1 PRINT ONLY IN SPACE	S PROVIDED	1521487	NUNICIP CON.	1 1 1
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		25 26 30	<u>1</u>	
	OF OVERBURDEN AND BEDF	ROCK MATERIALS (SEE)	NSTRUCTIONS)	
GENERAL COLOUR MOST CONMON MATERIAL	OTHER MATERIALS	GENER	AL DESCRIPTION	DEPTH - FEET
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GREY LIMIESTONE) HARP	12 41
BLACIE LIMITESTOME		SOI	EV	41 50
	·			
31				
41 WATER RECORD 51	CASING & OPEN HOLE		4 65 • OF OPENING 31-33 DIAM	75 80 ETER 34-38 LENGTH 39-40
WATER FOUND KIND OF WATER DIAN	MATERIAL THICKNESS	DEPTH - FEET		INCHES FEET
36 ¹⁰⁻¹³ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10-11 1 USTEEL 12	13-16 00	TAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
2, 13-18 1 DIRESH 3 DSULPHUR 19	2 DGALVANIZED 3 DCONCRETE 4 DOPEN HOLE	$\mathcal{O}\left[\mathcal{L} \right] \left[\begin{bmatrix} \mathbf{L} \\ \mathbf{I} \end{bmatrix} \right]$		FEET
20.21	5 D PLASTIC		PLUGGING & SEA	
2 G SALTY 4 G MINERALS 6 GAS		1 50 FROM	TO MATERIAL AN	LEAD PACKER. ETC)
T PRESH 3 USULPHUR	5 DPLASTIC	27-30	"20 emu	At Orvia
30-33 1 FRESH 3 SULPHUR 34 80 2 SALTY 6 GAS	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE	26-2	9 30-33 80 JP	R#10
PUMPING TEST METHOD 10 PUMPING RATE	1-14 DURATION OF PUMPING			
THIR CONF 2 D BAILER 100 +	GPM 15-16 17-18 MINS	LC	OCATION OF WEL	L
STATIC WATER LEVEL 23 LEVEL END OF WATER LEVELS D.	1 1	IN DIAGRAM BELO	W SHOW DISTANCES OF WELL CATE NORTH BY ARROW.	FROM ROAD AND
	INUTES 45 MINUTES 60 MINUTES 45 MINUTES 60 MINUTES 4 1 20-31 4 7 32-34 7 33-37			+
	FEET FEET FEET			
IF FLOWING. J0-41 PUMP INTAKE SET AT GIVE RATE GIVE RATE GPM RECOMMENDED PUMP TYPE RECOMMENDED	FEET I CLEAR 2 CLOUDY	4		
	43-43 RECOMMENDED 46-49 PUMPING C			- W
SO-S3	FEET RATE SO GPN	1		(1#
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OF WELL A RECHARGE WELL 9		1		SE T
WATED 2 STOCK 5	COMMERCIAL MUNICIPAL	1	*	<u> </u>
	PUBLIC SUPPLY COOLING OR AIR CONDITIONING			C
0 OTHER	• D NOT USED	XWE	11	x 1
METHOD 1 CABLE TOOL 2 ROTARY (CONVENTIONAL)	BORING			A R
	DETTING 5222			U
S DATE PERCUSSION		DRILLERS REMARKS:		13919
name de weye contractor	WELL CONTRACTOR'S LICENCE NUMBER	> source	TRACTOR 59-62 DATE RECEIVED	63-65 E0
ADDRESS ADDRESS RRHY Cans	elle sin	DATE OF INSPECTION		L 0 9 1987
	0x 437	SE		
SISRUSF	UCENCE NUMBER			
SIGNATIRE OF TECHNICIAN CONTRACTOR	SUBMISSION DATE	OFFICE		
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MINISTRY OF THE ENVIRONMENT	CUPY		FOR	M NO. 0506 (11/86) FORM 9

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1 2 10	ATER RECORD	51 CASING & OPEN HOLE	RECORD	Z ISLOT NO H	31-33 DIAMETER 34-38 LENGTH 39-40
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метно	-		14 mi	lita	400'
	TION COLORY (REVER			SRICHARDSO	~ <u>59241</u>
NAME OF W	EVL CONTRACTOR	WELL CONTRACTOR			P DATE RECEIVED 63-68
# Vall	eg Drille	ng lotter 5222	DATE OF INSPEC	5222	JAN 1 6 1990
	¥ ZAB7	CARP KOA 121 WELL TECHNICIAN			
	Mall TECHNICIAN	se V-310			
O SIGNATURE	OF TECHNIC INCONTRACTO	R SUBMISSION DATE NO YR	OFF		Crs. 25
	Y OF THE ENVIRO				FORM NO. 0506 (11/86) FORM

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Env	the vironment	W	ATER		ELL I	RECC	DRD
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COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, CITY, TOWN, VI	LLAGE		10 14 BLOCK. TRACT. SURVEY.	15	LOT 25-27
OLLAWS	(RST) 28-47	ADDRESS	Hintley		2	DATE COMPLETED	48-53
Gracey	ZONE EASTING	P.O. Box 383	Stittsvill			DAY 30 MO 0	-
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		OF OVERBURDEN AND B	EDROCK MATE	RIALS (SEE 1)	NSTRUCTIONS)		
GENERAL COLOUR	COMNON NATERIAL	OTHER MATERIALS		GENER	AL DESCRIPTION	FROM	H - FEET TO
Brown	Sandy Clay	Boulders		Dry		0	8
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	TER RECORD 51	CASING & OPEN H	43 OLE RECORD	Z SIZE (S)	OF OPENING 31-:	33 DIAMETER 34-38	LENGTH 39-40
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1 1'''] FRESH 3 □SULPHUR ¹⁹] SALTY 4 □ MINERALS 6 □ GAS	4 OPEN HOLE		61		SEALING RECO	RD
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 USTEEL 2 UGALVANIZED		FROM	TO		ENT GROUT NCKER, ETC.→
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71	HOD 10 PUNPING RATE	11-14 DURATION OF PUMPING			CATION OF	W/E11	
STATIC	WATER LEVEL 25	GPM HOURS	17-18 MINS			F WELL FROM ROAD A	
LEVEL III-21	PUMPING 22-24 15 MINUTES 30 1	2 RECOVERY MINUTES 45 MINUTES 60 MINU	. LO	T LINE INDIC	CATE NORTH BY ARRON	W.	
	24-28 200 FEET 200 FEET	200 200 FEET 200	35-37 Deet				
	38-41 PUMP INTAKE SET AT	WATER AT END OF TEST	42 UDY				<u><u>19'</u></u>
SHALLOW	AP TYPE RECOMMENDED PUMP		6-49 GPM	(l		
50-53				1		\sim	
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OF WELL	3 TEST HOLE	7 UNFINISHED Dewatering			105	147	
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USE		PUBLIC SUPPLY COOLING OR AIR CONDITIONING					
	57 1 CABLE TOOL	9 🖸 NOT USED					
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CONSTRUCTIO	A D ROTARY (AIR) S AIR PERCUSSION	9 DRIVING	DRILLERS REM		c.*5	100	071
NAME OF WELL CO		WELL CONTRACTO		· · · · · · · · · · · · · · · · · · ·	BACTOR 59-62 DATE	RECEIVED	63-68 80
Capital	Water Supply Ltd	1558	O DATE OF IN		558	JUN 1 8 199	
Bex, 490	-Stittsville, Ont	THELL FECHNICIA					
SIGNATURE OF THE	ECHNICIAN/CONTRACTOR	SUBMISSION DATE					
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243 NOT		17-18 1 OSTEEL 2 OGALVANIZED	19		20-23	DEPTH SE	T AT FEET	ERIAL AND TY	PE ICEMEN	
25-28 1	FRESH 3 DSULPHUR 29 6	3 CONCRETE 4 COPEN HOLE 5 PLASTIC	26		50	10-13				
2 [] 30-33 I []	FRESH 3 SULPHUR 34 10	1 DSTEEL 2 DGALVANIZED 3 DCONCRETE 4 DOPEN HOLE			27-30	26-29				
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C FEET IF FLOWING. GIVE RATE RECOMMENDED PUMP	GPM	WATER ATTEN	D OF TEST 42							
RECOMMENDED PUMP	TYPE RECOMMENDED PUMP	43-45 RECOMMENDE PUMPING	D 46-43				55			
50-53	X 150		5 GPM		Re	5	iness t			
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OF WELL	4 🗌 RECHARGE WELL	7 UNFINISHED						¦ \	(
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	S AIR PERCUSSION			DRILLERS	EMARKS		st #57			325
NAME OF WELL CON		LICE	L CONTRACTOR'S	DATA SOURCE		S& CONT	558	ATCEIVED	2 1992	63-68 80
U V	Stittswillo		558	ω .	INSPECTIO	L	INSPECTOR	<u>vvi (</u>	<u>L</u> IJJL	
z	. <mark>Stittsville, Ont</mark>	LICI	INCE NUMBER						<u> </u>	
Art	CHNICIAN/CONTACTOR	SUBNISSION DATE		OFFICE					_	
	THE ENVIRONMEN	DAY 16 MO.		<u> </u>					<u>55.6</u>	

	Ministry of the		•	WA'	ТЕ	The ER	Ontario V	Vater Resource	RECC	RD
Ontario	Environ	IMENT	PACES PROVIDED	11	1	527	789	NUNICIP	1527789	
COUNTY OR DI	ISTRICT	2. CHECK 🗵 CORRE	TOWNSHIP BOROUGH CIT	1 2		Hun	JTLEY	BLOCK, TRACT, SURVEY	ETC WORD3 DATE COMPLETED DAY29_NO_	40.53 5 VR 92
21	T				<u>Mere</u>			BASIN CODE		
<u> </u>	T M	12 LO	G OF OVERBURDE	N AND BED	ROCK	MATER	IALS (SEE D	NSTRUCTIONS)	DEF	TH - FEET
GENERAL C	OLOUR	MOST COMMON MATERIAL	OTHER MA	TERIALS				AL DESCRIPTION	FROM	то 16
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31	ļuļ								<u>▎</u> ╻┤│╻╻╻│╽╻	
$\begin{bmatrix} 32 \\ 1 \\ 41 \end{bmatrix}$			51 CASING 8	OPEN HC		CORD	2 151	S4	31-33 DIAMETER 34-	38 LENGTH 1940
WATER FOL		KIND OF WATER	INSIDE DIAM MATERIAL INCHES	WALL THICKNESS INCHES		TH - FEET TO	SCREE	TERIAL AND TYPE	INCH DEPTH TO OF SCREEN	TOP 41-44 30
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89	15-18 1 gr	FRESH 3 SULPHUR 19	6/4 3 CONCRETE 4 OPEN HOLE 5 PLASTIC				61	PLUGGIN		CEMENT GROUT
	1 1	FRESH 3 DSULPHUR 24	1 - STEEL 2 - GALVANIZEC 3 - CONCRETE 4 - CONCRETE		68	100	FROM	10-13 00 14-17	Tement 6	
	25-28 1 0	FRESH 3 SULPHUR 29	24-25	26		. 2	7-30	18-21 22-25	EMENIC	ROUN
3	30-33 1 🗆 2 🗆	FRESH 3 SULPHUR 34	2 GALVANIZEI 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	~				26-29 30-33 80		
	UNG TEST METHO	DD 10 PUMPING RA			17-18		ÿ	LOCATION	OF WELL	
		WATER LEVEL 25	LEVELC DURING	HOURS	MINS		N DIAGRAM BI .OT LINE I	ELOW SHOW DISTANC NDICATE NORTH BY	ES OF WELL FROM RC	AD AND AK
	LEVEL 19-21	PUMPING 22-24 15 MINUTE		DIES 60 MINU	JT ES 35-37					
E TE	LOWING.	(\mathcal{O})	FEET FEET	FEET END OF TEST	FEET	4				a fe partir te La gille 🕈 F
	ERATE	GPN (YOUDY					
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OF	F WELL	A RECHARGE WEL	L DEWATERING					~~~((•,
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Ontario Ministry of Environme and Energ	ent	an a			Ontario Wate WATER Wi 15300	ELL REC	
Print only in space Mark correct box	es provided. with a checkmark, where applicable	B. 11	153	0054	Municipality 151005	Con. CON	27 23 24
County or District	loton	Township/Borough/City/T West Carle Address 1320 Richmond	ton – Au	ntley t <u>418 Ottav</u>	Con block tract s	ted	25-27 6 48-53 hth Ogyear
21 12	M 10 12	17 18	24 25		31		47
General colour	LOG OF Most common material	OVERBURDEN AND BED Other materials			i ons) description	Dept From	lh – feet To
Brown	Sandy Clay			Wet		0	4_
Gray	Sand			Wet		4	11
Gray	Gravel			Packe	d	11	
Gray	Limestone			Hard	ed & Broken	15 81	81 100
Gray			· · ·				
Water found at - feet 1 10-13 1 2 2 80-95 1 15-18 2 20-23 1 2 2 20-23 1 25-28 1 2 2 30-33 1 2 2	ER RECORD 51 Kind of water Inside diam inches Fresh 3 Sulphur 14 Salty 6 Gas Fresh 4 Minerals Salty 6 Gas Fresh 3 Sulphur 19 Salty 6 Gas Fresh 3 Sulphur 24 Salty 6 Gas Fresh 3 Sulphur 24 Salty 6 Gas Fresh 3 Sulphur 24 Salty 6 Gas Fresh 3 Sulphur 34 6 Gas Fresh 3 Sulphur 34 6 Gas Fresh 3 Sulphur 34 6 Gas Fresh 3 Gas Fresh 4 Minerals 6 Gas Salty 6 Gas 6 Gas 60 Salty 6 6 Gas	Steel 19 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic 1 Steel 2 Galvanized 3 Concrete 4 Open hole 5 Plastic	Depth – fee From O	To Material a	Annular space To 14-17 Annular space Material and ty	ALING RECORI	feet f screen 41-44 feet feet feet feet feet
	Bailer 30 GPM /ater level nd of pumping 25 Water levels during 1 22-24 15 minutes 26-26 30 minutes 29-31 80 feet 7 1 gast	Duration of pymping 17-16		diagram below show dicate north by arrow.	side Qa	om road and lot lir	ne.
If flowing give ra If flowing give ra Recommended Shallow Re-53	Deep pump setting 75 feet	Recommended 46-49 pump rate	47/57/X	ASUTEMENTS	• • • • • •		(O.C. #J
FINAL STATUS 1 Water sup 2 Observatio 3 Test hole 4 Recharge	ply 5 🗌 Abandoned, insufficient s on well 6 🗌 Abandoned, poor quality 7 🗌 Abandoned (Other)			الاست	 		Road
WATER USE Domestic Stock Industrial	 Municipal Public supply 	9 🗌 Not used 10 🗌 Other	8		I		Carp
METHOD OF C 1 Cable too 2 Rotary (cr 3 Rotary (re 4 Rotary (al	onventional) 6 🎦 Boring everse) 7 🔲 Diamond	9 Driving 10 Digging 11 Other				1838	47
Name of Well Contra		Well Contractor's Licence No.	Data source	58 Contracctor		ate received	⁶³⁻⁶⁸ 8
	Water Supply Ltd. 190 Stittsville,Onta	1558	NO Bate of in	nspection		JUL C C D	70
Name of Well Technology S. Mibler Signature of Technology	nician	Well Technician's Licence No. TOO97 Submission date day 6 mo 5 yr 98	ALL SINIW		С	SS. SS	<i>.</i> , <i>X</i>

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(07/94) Front Form 9

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Print only in spac Mark correct box	es provided. with a checkmark, where applica	ble. 11	15	5320	12	Municipality	Con. CON 1 1 1 15	1 22 23 24
County or District	TANA CARLE	Township/Borough/City/	Fown/Village	ARLI		Con block tract	survey, etc. Lo	7 25-27
	THREE CARES	Address 2054 CAI	eo R	D. R.	• •	LRP Date comp		48-53 honth year
21		Northing		RC Eleva		Basin Code		
1 2	10 1	F OVERBURDEN AND BEDR	OCK MAT	ERIALS (se	³⁰ e instruction	31 S)	Dept	47 h - feet
General colour	Most common material	Other materials STONES			General de	escription	From	То
BROWN BREV	SOL	5101123					6	6
GREY	GRAVEL	· · · · · · · · · · · · · · · · · · ·					15	18
GREY	HARD PAN						18	20
GREY	LIMESTONE						20	151
/								
						· · · · · · · · · · · · · · · · · · ·		
					<u> </u>			
31								
								75 80 75 80
41 WATE Water found at - feet	RRECORD 51 Kind of water diam	CASING & OPEN HOLE F Wall Material thickness	Depth -		Sizes of ope (Slot No.)	ening ³¹⁻³³ Dia	ameter ³⁴⁻³⁸ Leng inches	feet
0 10-13 1 4	Fresh 3 Sulphur 14 Salty 4 Minerals		From	To 13-16	Material and	d type	Depth at top	41-44
15-18 1	Fresh ³ Sulphur ¹⁹	3 Concrete 4 Open hole 5 Plastic	0	26	61 P	LUGGING & SE/		feet
20-23 1	Saity 6 Gas 17-18 Fresh 3 Sulphur 24 Minerals 1/2 1/2	1 Steel 1 Galvanized	~ / /	20-23		nnular space	Abandonm	ient
	Saity 6 Gas	3 Concrete 4 N. Open hole 5 Plastic	24	151		Material and t	type (Cement grout, be	entonite, etc.)
30.33	4 ☐ Minerals Satty 6 ☐ Gas Fresh 3 ☐ Sulphur 34 60	2 Galvanized		27-30	18-21	22-25 PORT	LAND CE	HENT
	Salty 6 Gas	4 Open hole 5 Dentic			26-29	30-33 80		
71 Pumping test m		15 16 17 19				TION OF WELL		
	Vater level 25 Water levels during	Pumping 2 Recovery		In diagram	below show o	listances of well f	from road and lot	t line.
LSJ Dick of the left of the le	$\begin{array}{c c} \begin{array}{c} \begin{array}{c} \begin{array}{c} 22\cdot24 \\ \begin{array}{c} \end{array} & 15 \text{ minutes} \\ \begin{array}{c} 26\cdot28 \\ 26\cdot28 \\ \end{array} & 30 \text{ minutes} \\ \begin{array}{c} \begin{array}{c} \end{array} & 30 \text{ minutes} \\ \begin{array}{c} \end{array} & 28 \\ \begin{array}{c} \begin{array}{c} \end{array} & 28 \\ \begin{array}{c} \end{array} & 30 \\ \begin{array}{c} \end{array} & 31 \\ \end{array} & 31 \\ \begin{array}{c} \end{array} & 31 \\ \end{array}$	-31 45 minutes 32-34 60 minutes 35-37 90 feet 90 feet		114	the /			
If flowing give ra		eet feet feet feet 42 Water at end of test 42 eet Clear Cloudy		15	> 到(
Recommended p	pump type Recommended 43	-45 Recommended 46-49 pump rate		- M	LANE			
50-53	P-Deep point solving 140 r			Ŋ	10'			
FINAL STATU ¹ Water sup ² Observation	pply 5 🗌 Abandoned, insufficien	t supply ⁹ □ Unfinished ty ¹⁰ □ Replacement well		.73	MC			ļ
³ □ Test hole ⁴ □ Recharge	7 Abandoned (Other)			QE		C		
WATER USE	55-56 5 Commercial	9 □ Not use		MMORE		R		
2 🗋 Stock 3 🔲 Irrigation 4 🗌 Industrial	6 Municipal 7 Public supply 8 Cooling & air condition	10 🗌 Other	CAL			N.		
		g						
¹ Cable tool ² Rotary (co	I 5 C Air percussion	⁹ □ Driving ¹⁰ □ Digging				λ		
³ □ Rotary (re ⁴ □ Rotary (ai	verse) 7 🗌 Diamond	11 🗆 Other		·			224	727
Name of Well Contr		Well Contractor's Licence No.	Data source		8 Contractor		ate received JUN 212	001 63-68 80
Address		m_{-4731}		of inspection	4 (3 L	JUN 212	
Name of Well Tech		COGIGO Well Technician's Licence No.		arks				
JIM . Signature of Techni	SKULL	T-2277	AULSINIM				CS	SS.ES1
Jame	s. A. Spull	Submission date day mo yr	Ī				0500 (07/0) Front Form 9

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Environment

Print only in spaces provided. Mark correct box with a checkmark, where applicable. The Ontario Water Resources Act WATER WELL RECORD 1532037

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County or District	Carleton		Fownship/Borough/Cit West Carle) 		Con bloc 2	k tract surv	ey, etc. Lo	t 25-27 7 48-53
			Address 80 Lightfo	od Place	. Kanat	<u>a ON. I</u>	<u>(2L 3L9</u>	Date completed	day n	5 01 nonth year
21			Northing		RC Elevati	on RC	Basin Code			
	L		URDEN AND BED	ROCK MAT	ERIALS (see	e instructio			Deot	n - feet
General colour	Most common material		Other materials			General	description		From	То
Brown	sand	soi	1						0	8
Grey	clay					· · · 			8	26
Grey	clay	bou	lders						26	47
Grey	limestone								47	123
			NOTE: casi at t	ng was i ime of d	left 1 f Trilling	t. abo	ce grou	nd leve	1	
31										
32										75 80
41 WAT	ER RECORD Kind of water	Inside	NG & OPEN HOLE Wall thickness	RECORD Depth	- feet	Sizes of C (Slot No.		31-33 Diamet	er ³⁴⁻³⁸ Lenç inches	gth ³⁹⁻⁴⁰ feet
at - feet 109 ⁻¹³ 1 N 2 [CTresTESTAMenterals	diam Mat inches 6 121/41 1 IXSter 2 □ Gal 3 □ Cor	el ¹² .188	From	™ 50	Material	and type	I	Depth at top	of screen 41-44 30 feet
	15-18 1 □ Fresh 3 □ Sulphur 19 4 □ 2 □ Salty 6 □ Gas 5 □		en hole		20-23	61				
	Eresh 3 Sulphur 24	¹⁷⁻¹⁸ 1 □ Ster 2 □ Gal	lvanized			Depth set a	Ma		Cement grout, b	
25-28 1 [Fresh 3 Sulphur 29	6 1/16 Cor 5 Pla	stic	50	27-30	From 10-13 50	14-17		ement (
30-33	$\Box Salty _{6} \Box Gas$	²⁴⁻²⁵ 1 ☐ Ste 2 ☐ Gat 3 ☐ Cor	lvanized ncrete			18-21	22-25 30-33 80			
1 1	G Salty 6 Gas	4 ⊡ Ope 5 ⊡ Pla	en hole Istic			26-29	30-33 80			
71 Pumping test		11-14 Duratio	on of pumping 15-16 17-18 Hours Mins			-	CATION OF			A line
Static level	Water level 25 end of pumping Water levels du		-		In diagram	rth by arrow	w distances w.	or well from	n road and lo	A MHE.
9 5 ()			tutes 32-34 00 feet 60 minutes 35-3 75 feet				$O_{\rm e} k$	Cneel	R	11
19-21 19-21 5 feet If flowing give	39.41	Water	at end of test 42	" ====				<u>Cree</u> 3		==
Recommended	GPM pump type Recommended pump setting	43-45 Reco	Clear Cloudy	19			# 114 # 114	3		
50-53		85 _{feet}	p rate 5 GPI	<u> </u>			1		1	
FINAL STATU 1 Xater su 2 Observa 3 Test hole 4 Recharg	upply ⁵ Abandoned, ir tition well ⁶ Abandoned, p e ⁷ Abandoned (C	oor quality 10	O Unfinished D Replacement well					_ _ ,	• 0	
WATER USE 1 X Formestri 2 Stock 3 Irrigation 4 Industria	ic 5 Commercial 6 Municipal n 7 Public supply	10	0 🗌 Not use 0 🗋 Other			J.		- 1		
METHOD OF 1 Cable to 2 Rotary (1 3 Rotary (1 4 XRotary (1	conventional) ⁶ Boring reverse) ⁷ Diamond	10	Driving Digging Other				15.		230	 0140
Name of Well Con Capital Address	ntractor Water Supply Ltd		ell Contractor's Licence M 1558			8 Contractor	58	59-62 Date	-	001 63-68 8
Box 49 Name of Well Tec S. Mil			ell Technician's Licence 0097		narks		<u> </u>		ିଚ	S.ES1
Signature of Toch	mician/Contractor		ubmission date ay 25mo 06yr C							
- mar	Havani h						-		0506 (07/	00) Front Form

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County or Distric	with a checkmark, where ap	Townshi	11 p/Borough/City/ WEST	-	letcn h7#67	09 K7H- erth Orn ation RC	Con block tract sur Un UM 74 3 C Date complete Basin Code ii	<u>+5</u> -050	22 23 22 23 40f / C 7203 month yes iv
							31		
General colour	Most common material		her materials		TENIALS (3	General d		Dep	oth - feet To
Grau	Clay					· · ·	· · · · · · · · · · · · · · · · · · ·	0	18'
hrown	Gravel							18'	19'
Gray	Shuite line	stone			ļ		·····	19'	260
JI									
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31		<u>_</u>		11					 _ _
32				┛└┸┸╛ ┨┨╻╻		╵╷╵╵╴╸╸			
41 WAT	14 15 21 ER RECORD 5		DPEN HOLE			Sizes of or (Slot No.)	05 Dening 31-33 Diame	ter ³⁴⁻³⁸ Le	ngth 39
Water found at - feet	Kind of water	nside diam Material nches	Wall thickness inches	From	n - feet To	(Slot No.)	nd type	inches Depth at to	fe p of screen
	□ Fresh ³ Sulphur ¹⁴ 4	10-11 1 E Steel 1 2 □ Galvanized 3 □ Concrete	2	_	13-16	S			41-44 feet
	□ Fresh ³	4 □ Open hole 5 □ Plastic	.188	0	25	61 F	LUGGING & SEALI	NG RECOR	D
20-23 1	□ Fresh 3 □ Sulphur 24	17-18 1 Steel 1 2 Galvanized 3 Concrete	9		20-23	Depth set at -	Annular space	Abandor	
25.28	□ Salty 6 □ Gas □ Fresh 3 □ Sulphur 29	4 □ Open hole 5 □ Plastic				From	To Material and type	et Gra	
2		24-25 1 □ Steel 2 2 □ Galvanized 3 □ Concrete	6		27-30	18-21	22-25 QUICK		27
1 1	□ Fresh 3 □ Sulphur 34 60 □ Salty 6 □ Gas	4				26-29	30-33 80		
Pumping test		11-14 Duration of pun 15-16 GPM Hou	nping 17-18 Mins			LOC	ATION OF WELL		•
	Water level 25 Water levels durin	A 10044	2 Recovery		In diagrar Indicate r		distances of well from	m road and I	ot line.
19-21 19-21	ena or pumping	10111111111111111111111111111111111111	60 minutes 35-37	10	indicato i				•
	260 125 6	2 feet 2 feet		טוזעווויועב					$\hat{\mathbf{U}}$
SNI feet If flowing give	GPM	Water at end of feet Clear		I.I.					N
Recommended	Pump type Recommended pump setting	43-45 Recommende pump rate	5 GPM	1					
50-53									
FINAL STATU ¹ Water su ² Observa	ipply ⁵ 🗌 Abandoned, insi		ished acement well	1					
² Observa ³ Test hole ⁴ Recharg	7 Abandoned (Oth			$\parallel \downarrow$					
WATER-USE	55-56			1/1					
1 Domesti 2 Domesti 3 Irrigation	6 🔲 Municipal	9 🔲 Not L 10 🗌 Othe		-]	C	inp Rd.		·····	
4 🗌 Industria		nditioning				H OC	1		
	CONSTRUCTION 57	9 🗆 Drivi	na	X I		in the	1 x		
² C Rotary (³ Rotary (conventional) ⁶ 🗌 Boring reverse) ⁷ 🔲 Diamond	10 🗋 Diggi 11 🗋 Othe	ng	0ttu <u>k</u>		- +-	Ce	222	8516
4 🗌 Rotary (air) ⁸ 🗌 Jetting			0			ム/木	220	1010
Name of Well Con		Well Contra 22	ctor's Licence No.		ta Irce	58 Contractor		IL 10	2001 ***
Trades to 1				l w ⁰ "	te of inspection		nspector		
Name of Well Tec	55 Calabogie	ONT KOJ Well Techni	-1HO cian's Licence No.	ISN A	marks		<u></u>		
Signature of Tech	Alf Law	T-C Submission	<u>)433</u>					CS S.	ESt
	Incidit/Contractor	Submission	va.u						

•	ario Ministry of the Environment					· <u> </u>	The	WATE	Water R WEI 1532400	L RE	+ + -
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County or District	arleton		Wes Address		etan -	^{ge} Huntle ean, On		Con block 2 2H 5P4	tract survey Date completed	y, etc. Lo 23day 10 m	7 48-53
21				Northing			vation RC	Basin Code			
	10		17 RBURDEN	AND BED	24 ROCK M/	TERIALS (s	30 See instructio	31 ms)			47
General colour	Most common material		Othe	r materials			General o	description		Dept From	n - feet To
Brown	Sand							· • • •		0	8
Gray	Hardpan							<u>.</u>		8	13.5
Gray	Limestone									13.5	170
	······					-					
	Not	te; Casi	ng was	left	l foot	above	ground le	evel			
		at t	ine of	drill	ing						
31											
32 10 14 41 WATEI				EN HOLE		<u> </u>	Sizes of or	Dening 31	-33 Diameter	34-38 Leng	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Water found at - feet	Kind of water	nside liam M	laterial	Wall thickness		n - feet To	(Slot No.)			nches	feet
			alvanized	•188	0	2295	Material ar	nd type		Depth at top o	41-44
15-18 1	Fresh 3 Sulphur 19.		oncrete pen hole astic							050000	feet
20-23 1	Fresh ³ Sulphur ²⁴	17-18 1 🗍 St 2 🗋 Gi	alvanized			20-23		Annular space		Abandonm	
25.28	Salty 6 Gas 6		pen hole astic		22.5	150	From	To Mater	ial and type (Ce		
30-33 1 🗌	A Minerals Salty 6 Gas Fresh 3 Sulphur 34 Salty 6 Gas	3 🗆 Co	alvanized oncrete pen hole		150	27-30 170	26-29	O Grow 22-25	uted - ((5)
71 Pumping test me		11-14 Durat	ion of pumpin	g Mins			LOCA	ATION OF V	VELL		
Statia Imral Wa	ater level 25 Water levels during			Recovery			n below show orth by arrow.		f well from ro	bad and lot	line.
If flowing give rat	22-24 15 minutes 30 min 26-28	nutes 45 min 29-31	nutes 52-34	0 minutes 35-37	TV:	>	-				
V 11 feet	70 feet 38 feet 55 te 38-41 Pump intake set at		8 feet	70 feet 42							
Recommended put		43-45 Rec	ommended	Cloudy 46-49		C	arpR	a(a)).د.¥ (<u>5)</u>	
Shallow (Pump setting		ip rate	5 GPM		i	as unl	1 49	,	1	
FINAL STATUS						ŧ	ا مەرى _{كى}	/ <u>-</u> -	~7	ł.	
 ¹ Water suppl ² Observation ³ Test hole 	n well ⁶ Abandoned, poor ⁷ Abandoned (Othe	quality 10	Unfinishe D Replacen			ł			\rightarrow :	1	
4 🗌 Recharge w	- •					1				1	
WATER USE 1 X Domestic 2 Stock 3 Irrigation 4 Industrial	55-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air conc	10	9 🗌 Not use 9 🗌 Other			*	louse#			1	
	ONSTRUCTION 57			· · · · · · · · · · · · · · · · · · ·		•				l	
 Cable tool Rotary (considered on the second o	erse) 7 Diamond	10	 Driving Digging Other 							2380	00 9
Name of Well Contrac			ell Contractor's	s Licence No.	ב Sou		58 Contractor	58 °	9-62 Date recei		63-68 80
Address	Water Supply Ltd.		.558			of inspection		JO spector	NOV	27 20	וטו
P.O. Box Name of Well Technic	<u>490 Stittsville</u>	e, Ontar	io K2S		SN A	arks					
S. Mille Signature of Technicia	an/Contractor	Su	T0097		N VATSINIM Ber					058.E	53
Amar	/ 1		v25 mo 1		ΨΨ						

Signature Technician/Contractor 2 - MINISTRY OF THE ENVIRONMENT COPY

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Print only in space Mark correct box	es provided. with a checkmark, where applical		153240				
County or District	Varleton	Township/Borough/City/	Town/Village n Huntley	Con block tract surve	ey, etc. Lot 25-27		
OLLAWA		Address	n Rđ., Nepean Ot	Date	48-53 Herd 12 10 01		
21	U	Northing	RC Elevation	RC Basin Code ii	day month year iii iv		
2				$ \begin{array}{c c} \\ \hline \\ 30 \\ \hline \\ 31 \\ \\ 31 \\ \hline $	47		
General colour	Most common material	Overbondely AND BEDN Other materials		General description	Depth - feet From To		
Brown	sand				0 5		
Grey	sand gravel a	nd boulders			5 18		
Grey	gravel	broken rock			18 23'6"		
Grey	Limestone				23'6' 50		
	. <u></u>						
				· · · · · · · · · · · · · · · · · · ·			
Note ca	sing was left 4 ft.	above ground leve	<u>l at time of dri</u>	illing.			
31			<u> </u>	11 11.1.1.1.1.			
32		╷╷╎╿╷╷╎╿╷╎╷	┛┖ ╵┷┻┻╦╧┛┈ ┶┾┾┾╴	┘╘╌ ╽┈╽╺╽╺╽╺╽╺ ┥┙ ┊┊╷╷╷┊╎┊╷╎╷┊╷╎╵╷			
41 WATE	15 21 R RECORD 51	CASING & OPEN HOLE		54 65 Sizes of opening 31-33 Diameter (Slot No.)	75 or 34-38 Length 39-40		
Water found at - feet	Kind of water	Wall Wall Material thickness inches	Depth - feet From To O 25 ⁻¹⁶	Material and type	inches feet Depth at top of screen 3		
	3 Sulphur 14 4 Minerals 5 Gas	1 X Steel 12 • 188 2 □ Galvanized 3 □ Concrete	0 25 ⁻¹⁶ 8		41-44 feet		
45 ¹⁵⁻¹⁸ 1 N	Orest (17 Chryng)hur 19 Salty 6 Gas 17.18	4 Open hole 5 Plastic	[61	PLUGGING & SEALIN	G RECORD		
	Fresh ³ Sulphur ²⁴ 4 Minerals	1 Steel 1 2 Galvanized 3 Concrete		Annular space Depth set at - feet Material and type (C	Abandonment Abandonment coment grout, bentonite, etc.)		
25-28 1	Fresh 3 Sulphur 29	4 X Open hole 5 I Plastic		-rom 10	Cement(5)		
20.22	Saity 6 Gas	1	27-30	18-21 22-25			
	Salty 6 Gas	4 Open hole 5 Plastic		26-29 30-33 80			
71 Pumping test me			64	LOCATION OF WELL			
Statia laural W		Pumping 2 Recovery	Indicate north	ow show distances of well from by arrow.			
S = 19-21	22-24 15 minutes 30 minutes 26-28 29-		Car	pra (0.C.*5)		
Salar de la feet de la	20.41	et 25 feet 25 feet 42					
Recommended pu	GPM fe	et Clear 🙀 Cloudy					
Shallow	pump setting	et pump rate 5 GPM			•		
50-53	S OF WELL 54				ł		
¹ Water supp ² Observation	ply ⁵ Abandoned, insufficient n well ⁶ Abandoned, poor qualit			No Building Welling Frent			
 ³ Test hole ⁴ Recharge v 	7 Abandoned (Other) 8 Dewatering			Well in front)		
WATER USE	55-56 5 🗋 Commercial	9 🗌 Not use					
2 Stock 3 Irrigation 4 Industrial	6	10 🗋 Other			5		
				Re			
¹ Cable tool ² Rotary (cor	5 📓 Air percussion	 Driving Digging 		~~~ ~~~ d	55 + 00 ⁵		
³ □ Rotary (rev ⁴ □ Rotary (air)	verse) 7 🗋 Diamond	11 Other	Tanoley	lat 2	230284		
Name of Well Contra	actor	Well Contractor's Licence No.		ontractor 59-62 Date rec	ceived 63-68 80		
Capital W	Water Supply Ltd.	1558	Source	1558 NOV			
Address Box 490,	Stittsville, ON. K	a s 1A6	Date of inspection	Inspector			
Name of Well Techni	ician	Well Technician's Licence No. TOO97	Remarks		ACO 204		
S. Mill Signature of Technic	sian/Contractor	Submission date	A Hermarks	r.1	CSS.ES1		
Afrance	in the second se	day 16 mo 10 yr 0/	2		0506 (07/00) Front Form		

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County or District	County or District Ottawa Carleton			We Address	Borough/City/ st Carl	eton -	Huntl		2	tract surve	48-53		
21		U T		157 A	bbeyhil Northing	<u>1 Dr.</u>		vation RC	K2L 2E9 Basin Code	ii	17 _{day} 03	month Oyear	
1 2		M 10			AND BEDR			see instruction	ons)			47	
General colour	Most	common materi	al	Othe	r materials			General	description		Dep From	th - f ee t To	
Brown		Soil		San	d & Gra	vel					0	13	
Gray		Limesto	one								13	48	
	R RECORI		51 C/ Inside diam inches	ASING & OP	EN HOLE F Wall thickness inches	L L L L L L L L L L L L L L L L L L L	- feet To 211-16	Sizes of c (Siot No.)		[34-38 Len inches	feet	
25-240 NC 15-18 1 2 2 20 23 1 2 2 25-28 1 2 2 30-33 1	Saity 6 Fresh 4 Saity 6 Fresh 3 Fresh 4 Saity 6 Saity 6 Saity 6 Saity 6 Saity 6 Saity 6 Saity 6	Minerals Gas Sulphur 24 Minerals Gas Sulphur 29 Minerals Gas Sulphur 34 60 Minerals	3 () 4 () 5 () 17-18 () 2 () 3 () 5 () 5 () 5 () 5 () 5 () 6 () 2 () 3 () 5 () 5 () 2 () 3 () 2 () 3 () 5 () 2 () 3 () 5 () 1 () 2 () 3 () 5 () 5 () 1 () 2 () 3 () 5 () 5 () 5 () 5 () 6 () 5 () 5 () 6 () 6 () 6 () 7	Galvanized Concrete Open hole Plastic Steel ¹⁹ Galvanized Concrete Open hole Plastic Steel ²⁶ Galvanized Concrete Open hole Plastic		21	20-23 48 27-30	61	To Materia	ll and type (C	Abandon ement grout, t	nent ventonite, etc.)	
71 Pumping test m			11-14 Du 25 GPM	uration of pumpin	g 17-18 Mins				ATION OF W			• • •	
	GPM	25 Water levels of 15 minutes 3 45 feet Pump intake set a Recommended pump setting	30 minutes 29-31 45 feet at Wa feet 43-45 p	minutes 32-34 30 feet ater at end of test	□ Recovery 30 minutes 35-37 25 feet 42 32 46-49 5 GPM			m below show horth by arrow	45		<₩-		
FINAL STATUS	ply on well	 ⁵ Abandoned, ⁶ Abandoned, ⁷ Abandoned 8 ⁸ Dewatering 	poor quality	9 🗌 Unfinishe 10 🗌 Replacer					T	Tan	sley eis Ros Ros		
WATER USE 1 X Domestic 2 Stock 3 Irrigation 4 Industrial		55-56 5 Commercial 6 Municipal 7 Public suppl 8 Cooling & air		9 🗌 Not use 10 🗍 Other						4	Ro		
METHOD OF C ¹ Cable tool ² Rotary (col ³ Rotary (rev ⁴ X Rotary (air)	nventional) verse)	57 5 X Air percussic 6 Boring 7 Diamond 8 Jetting	on	9 Driving 10 Digging 11 Other				0.0	.*5		250	58 5	
Name of Well Contra		Suppler T	ta	Well Contractor 1558	's Licence No.	A Data sour		58 Centractor	5 8 ⁵	-62 Date rec	-	⁶³⁻⁶⁸ 80	
Address		Supply L			186	O BS	of inspection		nspector		<u> </u>		
P.O. BOX Name of Well Techn S. MILLO Signature of Technic	lician	Stittsvi	11e,Onta	rio K2S Well Technician TOO97 Submission date	i's Licence No.		arks				CSS	S.ES3	
Ly ynner		11		day20 mo (JJ yr UJ								

Signature of Technician/Contractor		Submission date
Aman		day20 mo 03 yr 03
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County or District	sa Casletor		Township/Bord	ough/City/To - Co providence Orthing		Du (1	tunt(ar)	k tract surve	0 71	1 -
							ee instruct	l Lini		111	47
General colour	Most common material	1	Other ma	aterials			Genera	al description		Depti From	n - feet To
	sand	C	grave	1						0	25
grey	Cneston)					·		27	200
			· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·		
31										╶┶┶┶┶┷	┶┷┷┵╛└╢ ╷╎╷╎╎╎
	A 15 21	51 CAS	SING & OPEN	I HOLE RI Vali	43 ECORD Depth	- feet	Sizes of Sizes of Slot N		31-33 Diameter	34-38 Leng	
at - feet	Kind of water Fresh 3 Sulphur 14 Gas	diam inches M 10-11 1 € S 2 G	faterial th in		From	To 13-16	<u> </u>	al and type		inches Depth at top	feet of screen 41-44 feet
	Eresh 3 Gale 19		ppen hole lastic	88	0	<u>33</u> 20-23	61 ,		G & SEALIN		
	☐ Fresh 3 □ Sulphur 24 4 □ Minerais 3 Salty 6 □ Gas		alvanized oncrete Open hole		\cap	31	Depth set From	Annular space	e terial and type (C	Abandonm	
	☐ Fresh ³ ☐ Sulphur ²⁹ 4 ☐ Minerals 7 Salty ₆ ☐ Gas	24-25 1 🗆 S	lastic		<u> </u>	27-30	18-21	33 ¹⁷ ()enti	いて	
	□ Fresh 3 □ Sulphur 34 60 ↓ 4 □ Minerals 6 □ Gas	/ ₃⊡∠C	oncrete Open hole		31	200	26-29	30-33 80			
71 Pumping test m		11-14 Dura GPM	tion of pumping	17-18 Mins			LC	CATION OF	WELL		
Ctatia laval	Water level 25 and of pumping Water levels du		ping 🏹 P	Recovery			n below sho orth by arro	ow distances ow.	of well from	road and lot	line.
LS I Static rever	180 132 5	84" =	inutes 32-34 60 m					E.			Λ
SNI flowing give r	ate 38-41 Pump intake set at GPM		er at end of test	feet 42 Cloudy		lest	we 11	1			γ
C Shallow			np rate	46-49 GPM		- \					
50-53											
 Water sup Observati Prest hole Recharge 	on well 6 Abandoned, p 7 Abandoned (O	oor quality	⁹ Dunfinished ¹⁰ Replacement	t well			20	R	\int_{a}		
WATER USE 1 Domestic 2 Stock 3 Irrigation 4 Industrial	55-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air c	1	9 Not use				Ĺ	trub	XLI.		
METHOD OF (1 Cable too 2 Rotary (cc 3 Rotary (re 4 Rotary (ai	eventional) ⁶ Deventional) ⁶ Boring eventional) ⁷ Diamond		⁹ Driving Digging Other						Comple	248	253
Address	actor the	With		icence No.	NIN Data sour		58 Contractor	Inspector	59-62 Date rec		63-68 80
Name of Well Techn Signature of Techni	nnon Pu	rell i	Vell Technician's Li Technician's Li ubmission gate		MINISTRY USE	narks				CSS.E	ES3
Aur			ay mo	yř `						0506 (07/00) Front Form 9

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Ø	Onta	rio

Ministry of the Environment Well Tag Number (Place sticker and print number below) 1 006995

1534685

Well Record Regulation 903 Ontario Water Resources Act

> page ___ _ of _

- Instructions for Completing Form

A006995

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- . Please print clearly in blue or black ink only

Ministry Use Only

_			unty/District/M	lunicipalit	y)	T	ownship		Lot	Conces	
Ottawa RR#/Stree	Carlei et Number						West Ca City/Town/\	rleton - H		B artment/Block/Tra	2
155 Tar	asley I						Carp		· · · ·		
GPS Read	-	NAD 8 3	Zone Eas 18 42	ting 3 43 4		thing)1 74 30	Unit Make/N Garmi				Averaged
Log of C			Bedrock	J HJ H Material	s (see ins		Garmi			erentiated, specify	-
General Co	olour N	Most comr	non material		Other M	aterials	:	Gener	al Description	Dept	
Gray		Sand	y Clay					Fi11		From O	n To •91
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Jiay			SCONG		UNGAC						5 05,00
	······										
				·							
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Н	lole Diame	eter		L	Con	struction Red	ord			t of Well Yield	i
Depth	Metres	Diame	ter Inside			Wall	Depth	Metres	Pumping test method		Recovery
From	То	Centimet	res diam		aterial	thickness			sutmersible	Time Water Level	Time Water Level
0	9.29	22.5	3 centimetre	S:		centimetres	From	То	Pump intake set at -	Static	min Metres
.9.29	85.03 85.03	12:2	3			Casing			(metres) 45,72 Pumping rate -	Level 5.19	
83.21	85.03	14,5	⁹ 15.86	X Steel	Fibreglass Concrete	0.45	+ 0.45	9.29	(litres/min)22.75	1 7.05	1 9.49
	Vater Rec			Galvar					Duration of pumping	2 7.39	2 8.83
Water found at Metre	d Kin	nd of Wate	r ····	Steel	Fibreglass			 :	Final water level end		3 8.25
16.76 ⁿ Gas	Fresh Salty	Sulph Miner	11	and a second	Concrete				of pumping 10,46	3 7.62	3 8.25
Other:				Galvar Steel		· · · · · · · · · · · · · · · · · · ·			Recommended pump type.	4 7.88	4 7.98
80.77	Fresh	Sulph			Fibreglass Concrete				Shallow K Deep		- 7 70
Gas Other:	Salty Not Te:		als	Galvar	L			1	depth. 45.72 netres	5 8.08	5 7,73
m	Fresh	Sulph				Screen			Recommended pump	10 8.86	10 6.83
Gas Other:	Salty	Miner	als Outside diam	Steel	Fibreglass	Slot No.			If flowing give rate -	15 9.34	15 6.26
	f well yield,		s		Concrete		-		(litres/min)	20 9.74 25 10.06	20 5.91 25 5.82
	nd sedimen	t free		Galvar			!		If pumping discontin- ued, give reason.	³⁰ 10.23	³⁰ 5.72
Other, s	specify		15.23			Casing or Sci	reen 9.29	83.21		40 10.46	
Chlorinated	1 📐 Yes	No	14.59	Copen i	ole		83.21	85.03		50 10.46 60 10.46	
	Plug	ging and	Sealing Rec		🕅 Annula	r space 🗌 A	bandonment	<u></u>	Location of		
Depth set a From	at - Metres To	Material and	d type (bentonite	slurry, neat	cement slumy		me Placed ic metres)		w show distances of well fr		nd building.
9.29		Groute	d - Ceme	nt			3m3	Indicate north by	/ arrow. 1 * 15	5 /	
								، منطقي	•	I	
								Ronz	· · ·		
								05			
'	i		Method of	Constru	ction	/ <u></u>			Kongley		
Cable To	ool conventional		ary (air) percussion] Diamond] Jetting		Digging		1		
Rotary (r		Bori] Jetting] Driving)	
				er Use)	
Domestic	3		istrial nmercial] Public Supp Not used	bly _	Other			/	
Irrigation			nicipal		Cooling & a	ir conditioning		Audit No. 7		e Well Completed	MM DD
Water Su			were a second	atus of W	-				06995	2004	4 4 21
Observat] Recharg	e weii ied, insufficient :		Unfinished	Aband	oned, (Other)	Was the well ov package delivere	vitor 3 intornation		
Test Ho	le [ed, poor quality		Replaceme				Ministry Use		
Name of We	ell Contracto		ontractor/Te	cnnician		on ell Contractor's	Licence No.	Data Source			(0
			In Ltd.			1558				TDD	58
			umber, city etc.) :tsville,		o K25	146		Date Received	4 2004 DD Date	e of Inspection YY	YY MM DD
Name of We	ell Technicia	in (last nam	ne, first name)	<u>VII 601 1</u>	W	ell Technician's	Licence No.	Remarks	We	I Record Number	
Stantor Signalury/	Petri Technician	er /Contracto	r		Dat	TOOS6	(MM DD		58.0.55	15346	585
x All	Am	con c				2004	4 4 30				
0506E (09/03	3)		Cor	ntractor's (Сору 📃 М	inistry's Copy	Well Owr	ner's Copy 🗍	Cette fo	ormule est dispon	ible en français

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Instructions for Completing Form

Vell Tag Number (Place sticker a	nd print number below)
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Well Record Regulation 903 Ontario Water Resources Act

1534700 page ____ of ____

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Ministry of

the Environment

Address of Well I	Location (C	ounty/Dis	istrict/Municipal	lity)	Township		Lot C	Concession		
Ottawa Car RR#/Street Num 2636 Carp	ber/Name				West Carleton City/Town/Village Carp	1 - Huntley Site/C	7 Compartment/Blo	7 2 ompartment/Block/Tract etc.		
GPS Reading	NAD	Zone	Easting	Northing	Unit Make/Model	Mode of Operation:	Undifferentiated	XAver	aged	
	8 3	18	42 32 88		Garmin		Differentiated, spe	ecify		
Log of Overb	urden an	id Bedr	ock Materia	als (see instructions))					
General Colour	Most con	mmon mal	terial	Other Materials		General Description		Depth From	Metres To	
Brown	Sot	11		Stones		Packed		0	3.65	
Gray	Har	rdpan				Packed		3.65	5.48	
Gray	Limestone			Coloured Lay	ers	Medium			52.73	
······ · ······· · · ········ ·										
<u> </u>										
								•••••••••••••••••••••••••••••••••••••••		
·										
Hole Dia	ameter			Construction R	ecord		Test of Well Y	'ield		

Depth Wetres Diameter	Inside	Wall Depth	Metres	Pumping test method	Draw Down	Recovery
From To Centimetres	diam Material	thickness				Time Water Level
0 6.85 22.53	centimetres	centimetres From	То	submersible	min Metres	min Metres
0 0.03 22.33	· · · · · · · · · · · · · · · · · · ·	Casing		Pump intake set at -	Static	
6.85 52.73 15.23		Casing		(metres) 50.90 Pumping rate -	Level 6.79	
	15.86 Steel Fibreglass	0.48 + 0.45	6.85	(litres/min) 18.2	1 11.34	1 32.07
Water Record	Galvanized			Duration of pumping	² 11.75	2 31.13
Water found Kind of Water				hrs + min		
	Steel Fibreglass			Final water level end	3 12.27	3 30.82
49.37 Fresh Sulphur	Plastic Concrete			of pumping32 mttes	- 12.21	
Gas Salty Minerals Other Not Cested	Galvanized			Recommended pump	1 10 70	
Other MORE ACON	Steel Fibreglass			type.	4 12.76	4 30.77
m Fresh Sulphur	Plastic Concrete			Shallow Deep		
Gas Salty Minerals				Recommended pump	5 13.23	5 30.74
Other:	Galvanized	ļ		depth 48,76 metres		
m Fresh Sulphur		Screen		Recommended pump	¹⁰ 15.66	10 30.47
Gas Salty Minerals	Outside			rate. (littes min)	15 17.91	¹⁵ 30.21
Other:	diam Steel Fibreglass	Slot No.		If flowing give rate -		
After test of well yield, water was	Plastic Concrete			(litres/min)		- 4 7 + 7 U
Clear and sediment free	Galvanized			If pumping discontin-	44.624	
Other, specify				ued, give reason.	³⁰ 23.73	30 29.50
	NO	Casing or Screen			⁴⁰ 27.17	40 29,10
Chlorinated X Yes No	15.23 ^{Open hole}	6.05	F0 70		⁵⁰ 30.23	⁵⁰ 28.76
	13.23	6.85	52.73		60 32.15	⁶⁰ 28,53
Plugging and Sea	aling Record X Annula	ar space Abandonment		Location o		
Dopth act at Matrice		Values Dissed	In diagram belo	w show distances of well from		nd building
From To	e (bentonite slurry, neat cement slurry	(cubic metres)	Indicate north by		onnoau, iocine, a	na ballaing.
6.85 0 Grouted	- Bentonite Slurry	0.342m3			ł	
	Descource orders	0.342.03	TH TH		ł	
				1	1	
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				1 10	1	
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M	ethod of Construction				(
Cable Tool Rotary (a		Diaging		1	ł	
Rotary (conventional)		Digging		#2636	1	
	= *			, do 50	1	
Rotary (reverse) Boring	Driving			1		
	Water Use			#5 Carp	Rd.	
Domestic Industria		oly 🔄 Other		· J - P		
Stock Commer		·				
Irrigation Municipa	<u> </u>	ir conditioning	Audit No. 7		e Well Completed	MM DD
	Final Status of Well		6	01000	2008	3 22
Water Supply Recharge we		Abandoned, (Other)			e Delivered YY	
	insufficient supply		package delivere	ed? XYes No	2004	3 30
Test Hole Abandoned, p						
	ractor/Technician Informati			Ministry Use		
Name of Well Contractor	W	ell Contractor's Licence No.	Data Source	Cor	ntractor	~ ~
Capital Water Supply	y Ltd.	1558			19	58 I
Business Address (street name, numbe	er, city etc.)		Date Received	YYYX DD Date	e of Inspection YY	YY MM DD
P.O. Box 490 Stitte	ville Onterio K79	146	JUN 2	4 2004		
P.O. Box 490 Stitts Name of Well Technician (last name, fi	rst name)	LA6 ell Technician's Licence No.	Remarks	Wel	Record Number	
Miller; Stephen /	-	T0097	2			~~
Signature of Technician/Contractor	A Da	te Submitted		x * * *	15347	UU
x thunknow	$\sim l$	2004 3 31		1		
			ner's Copy	0	rmule est dispor	

8 C)nta	ario	Ministry o the Enviro		Well Ta	g Number (Pl			int number below)	1534968	and the second second	\N/~	II R	ecoro
Instructio	ns for	Comple	tina Form		AC	13760		·· · · · · · · · · · · · · · · · · · ·	~ ~ ~~~(J	· · ·			je _	of
 For use All Sec Questi All me Please 	e in the tions r ons re tre me print o	Provinc nust be garding c asureme learly in l	e of Ontari	full to avoid is application e reported k ink only.	d delays on can b to 1/10	s in process be directed t th of a metro	ihg. to th	Further	instructions an	I lease retain for futu d explanations are av ment Coordinator at Ministry Us N CON	ailabl 416-	e on the b -235-6203	3.	this form.
Ottava C RR#/Street N 152 Reis GPS Readin	umber Roa	/Name	Zone Easti		North		Cit C	it Car y/Town/V Larp iit Make/M	-	Site/Compa			ract et	
	ľ.	8 3	10 12	21 20	50	17 43 4		arnin		·	lifferen erentia	ited, specify _	Aver	aged
Log of Ove	· ·		on material		Other Ma	`	–		Genera	al Description		De	oth	Metres
Brown		San	1		Stone							En En	om	то 1.82
Gray			ipan			·							.82	3.04
Gray Gray		Sand	i & Grave Estone	el	Brown	Layers						3	.04 .87	4.87
· · · · · · · · · · · · · · · · · · ·										· · · · · · · · · · · · · · · · · · ·				
Hole	Diam	eter			Cons	truction Rec	prd			Tes	t of \	Nell Yield		
Depth From	Metres To	Diamete Centimetre	Inside	Materi	al	Wall thickness		Depth	Metres	Pumping test method		raw Down Water Leve		ecovery Water Leve
	6.40		centimetres			centimetres		From	То	submersible Pump intake set at -	min Statio	Metres	min	Metres
6.40 4	5.11	15.3	11	Steel	-ibreglass Concrete	Casing 0.48	÷	0.45	6.40	(metres) 30,48 Pumping rate - (litres/min)	Level	1.95	1	2.22
Water found at Metres	er Rec Kir	ord d of Water	_	Galvanized						Duration of pumping3hrs + min	2	2.91	2	2.18
42.67 Gas	Fresh	Sulphu		Steel F Plastic C Galvanized	Concrete					Final water level end of pumping	3	2.97	3	2.10
Gas	Fresh	sted . Sulphu		Steel F	Fibreglass Concrete					Recommended pump type. Shallow Deep Recommended pump	4	3.00	4	2.10
Other: m [Gas [Fresh	Sulphu		Galvanized		Screen				depth. 22.86 etres Recommended pump rate. 36 estmin)	10 15	3.06	10 15	2.04
Other:	ell yield.	water was	diam	Steel F Plastic C Galvanized	Concrete	Slot No.				If flowing give rate - (litres/min)	20 25	3.10	20 25	2.03
Clear and		t free				asing or Sci	reen			If pumping discontin- ued, give reason.	30 40	3.10	30 40	2.00
Chlorinated	Yes	No	15.39	Open hole	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		\uparrow	6.40	45,11		50 60	3.11	50 60	1.99
[Plua	ging and	Sealing Reco		Annula	space		donment		Location		3.11	00	1,99
Depth set at - I From		F	type (bentonite			vetc Volui	ne F ic me	Placed etres)	In diagram below Indicate north by	v show distances of well fr	om ro		and bu	ilding.
6.40	0	Groute	i - Bent	onite SI	urry	0.2	2m3	<u> </u>		arrow.				1
									2					4
					······································				Q-Reis	Bà		•		
Cable Tool		🕅 Rotai			o n amond			gging	3	7 200		d'		
Rotary (con	1		ercussion g	Je			T '	her	9	Re Pers	5 7	-		
Domestic	 		strial		ublic Supp	ly [Ot	her						k ا
Stock		Comi			ot used ooling & ai	r conditioning			Audit No. 7	127/1 Da	e Wel	Completed	(Y	MM DD
🔀 Water Supp	и г	Recharge		tus of Well	nfinished	Aband		d. (Other)	4	IJI4I (ner's information Date	e Deli	200 vered		8 24 MM DD
Observation		Abandone Abandone	ed, insufficient s ed, poor quality	supply 🗌 De	ewatering eplacemen	t well		, (-,	package delivere	d? Yes No		200		8 25
	Contract		ontractor/Te	chnician Inf		n ell Contractor's	Lice	nce No.	Data Source	Ministry Us Co	e On ntracto		<u>e</u> =	
Name of Well (بأ سد ا				1558			Data Davaland		e of In	Ispection	55	58 MM DD
Name of Well (Capital Bushess Addre	Wate ess (stre	r Supp	mber, city etc.)						Date Received	YYYY MM DD Dai	.6 01 11	opection y	YYY	
Capital Business Addre				Ontario	K2S 1	A6 Il Technician's	Lice	nce No		1 0 2004	5			
	490 lechnicia Step	Stit an (last name		Ontario	K2S 1 We	A6 II Technician's T0097 Submitted yyyy 2004		VM DD	Remark	1 0 2004	5	ord Number		· .

କ୍ତି (Intario	Ministry of	Well Tag Number (P	ace sticker and pr	int number below)			Record
				574	1	Regulation 903 Ontar		ources Act
	ns for Comp e in the Provi	-	L i		al document. P	lease retain for future refe		01
 Quest 	ions regarding	completing this applicat	ion can be directed	to the Water		d explanations are available ment Coordinator at 416-23		f this form.
		nents shall be reported blue or black ink only.	d to 1/10 th of a metr			Ministry Use Only	1.4851	
Well Own	er's Informat	ion and Location of V	Well Information	MUN			LOT	C71
RR#/Street		CARLETON	7	Hun City/Town/Y	JTLEY Illage	Site/Compartment	Block/Tract	
GPS Readir	-	Zone Easting	Northing	Unit Make/M		e of Operation: Undifferentia		raged
Log of Ov	8 3 erburden an	d Bedrock Materials (5017086 see instructions)	MASE		Differentiated		
General Cold	ur Most com	mon material	Other Materials		Genera	I Description	Depth From	Metres To
	. GRF	WEL	у. 1 1 м				4.26	4.06
GREY	BLACK	LIMESTONE					3.18	24.38
· · · · · ·							-	
						······································	· · ·	
			A				· ·	
						••••••••••••••••••••••••••••••••••••••	· ·	
Ho Depth	e Diameter Metres Diame	ater Inside	Construction Re Wall	cord Depth	Metres	Test of We Pumping test method Drav		Recovery
From	To Centim				То	JUDIUM min	/ater Level Time Metres min	
0 0	4.00 1.05		Casing			Pump inteke set Static (metree) Static Level		1 34
		88 Steel		0	6.70	(litres/min)		4.09
Water found	ter Record Kind of Wat		Fibreglass		0,10	hrs +_0_ min	2	4.03
	Fresh Sulp	hur Plastic Galvanize				Final water level end 3 of purpoints metres		3.92
Dither:	Fresh Sulp	Steel	Fibreglass			Recommended pump 4	$\frac{3}{2}$	
Gas Other	Salty ESTE	Plastic]Concrete ed			depth 21, 3 metres	5,76 5	3.81
 IIm I⊡ Gas	Fresh Sulp	arats Outsido	Screen			Recommended pump 10 rate. (litres/mih) 15	- 1 0 15	3.12
Other:	vell yield, water w	as diam				If flowing give rate - 20 (litres/min) 25	30 20 34 25	3.58
Clear and	ecify		No Casing or So	reen		If pumping discontin- ued, give reason. 30 40	.31 30 .43 40	
Chlorinated		Open hol		6.09	24.38	50 60	.57 50	
	L	d Sealing Record		Abandonment	-	Location of Well		
From	To	nd type (bentonite slurry, neat co	(cut	me Placed bic metres)	In diagram below Indicate north by	v show distances of well from road arrow.	, lot line, and bi	
691	Ο Νέπ	T CEIVENT 2	surry .	927		1 .	C	
					l b	Reio Pri	re	
					Carp Kean	Reis Pru		
Cable Too		Method of Construct	ion Diamond [Digging	E C	anda	Ju Ju	
Rotary (co		· · · · · · · · · · · · · · · · · · ·	Jetting [Driving —	Other		C THE	17-1K	m
X Domestic		Water Use	Public Supply [Other		1 AR	L'	
Stock			Not used	· · · · · · · · · · · · · · · · · · ·	Audit No. Z		Sompleted	MM - PD
🖌 Water Su	ply 🗌 Rechar	Final Status of We		doned, (Other)	Was the well ow	I JUO4 /ner's information Date Deliver	200 4 1	
Observatio	Abando	ned, poor quality	Dewatering Replacement well	·	package delivere		0004	60
Name of Well		Contractor/Technician I	Well Contractor's	Licence No.	Data Source	Ministry Use Only Contractor	111	9
HIK Ka	Contractor CK DLILL ress (street name,	humber city etc.)	1119		Date Received		ection YYYY	MM DD
Name of Well	Technician (last na		Well Technician's	Licence No.	NOV 1 Remarks	6 2004 Well Record	l Number	
Signature of	Hasar Technician/Contrac		Date Submitted			1 ····	53518	88
0506E (09/03)	- Cup / /	Contractor's Co	ppy 📋 Ministry's Copy	Well Owl	ner's Copy	Cette formule	est disponible	en français
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Instruction	s for Co	ompleting	g Form			A0136	63	2 	1535575	page _	of
 For use All Section Question All metric 	in the P ions mu s ns regar re meas	rovince o st be com ding comp	f Ontario pleted in f pleting this shall be	full to avoi application reported	d delays on can b	in processi	ng. Further i o the Water	nstructions an Well Manage	Please retain for future refer d explanations are available of ment Coordinator at 416-23 Ministry Use Only	on the back of 35-6203.	f this form.
Well Owne	r's Info	rmation a	and Loca	tion of W	/ell Info	ormation			ON	LOT	
Ottawa	Carlet	OB					West Ca	rleton-Hu	ntlev 8	, ,	
RR#/Street N	umber/Na	ame				l	City/Town/Vi		Site/Compartment/	Block/Tract el	с.
GPS Reading		D Zone		g ,	Nort	ning	Carp Unit Make/M	odel Mod	e of Operation: 🗌 Undifferentiat	ted 🐰 Aver	aged
Log of Ove	8 rburda					17450	Garmin		Differentiated	, specify	
General Colour	÷	t common n			Other Ma	<u> </u>		Genera	al Description	Depth	Metres
brown	soi	1		eto	nes		10	ose		From 0	To 3.35
light b			oil	BLG	ALCO		10	0.96		3.35	6.09
gray	hard	-					De	cked		6.09	7.61
gray		estone		dar	k lay	ers				7,61	83,20
											
Hole	Diamete	ur l			Cons	truction Red	ord		Test of We	ell Yield	
		Diameter	Inside		Cona	Wall	Depth	Metres			Recovery
From		Centimetres	diam	Mater	ial	thickness	From	То] , , , , , 	Vater Level Time Metres min	e Water Level Metres
09	•44	22.75	Centurnettes			Casing			Pump intake set at - Static (metres) 45.71 Level		
9.44 8	3.20	15.39		Steel	Fibreglass		1		Pumping rate - 1	5.23 1	5.54
				Plastic		0.48	+.60	9.44	(litres/min) 45.5 Duration of pumping 2	5 45 2	5.34
Water found at Metres	er Record Kind c	d of Water		Galvanize		0,40	• • • •	7444	<u>2</u> hrs + min	5.45 2	J.J.
l m []Fresh	Sulphur		Plastic	-					5.58 3	5,31
11 658	Salty] Minerals	-	Galvanize	d				Recommended pump 4	5.66 4	5.27
81.07	Fresh	 Sulphur		Steel Plastic	Fibreglass				Shallow TDeep		
Gas Other: Not Test	Salty	Minerals		Galvanize					depth. <u>45.71</u> etres	5.74 5	5.23
m	Fresh	Sulphur				Screen				5.92 10	5.08
Gas Other:	Salty	Minerals	Outside diam	Luna	Fibreglass	Slot No.				6.02 15 6.16 20	4.99
After test of we				Plastic Galvanize	,	-			(litres/min) 25	6.15 25	4.81
Clear and s		ee			No (Casing or Sc	reen		ued, give reason.	6.18 30 6.21 40	4.83
Chlorinated	Yes	No		YOpen hole					50	6.23 50	4.74
A			15,39				9.44	83.20	Location of Well	6.25 60	4.71
Depth set at - M		ng and Sea iterial and type			Ment slurry	() etc Volu	Abandonment ime Placed	In diagram belo	by show distances of well from road		uilding.
From 9.44 0	10					(cur	pic metres)	Indicate north b	by arrow.		
9.44 0	/	Grouted	Dento	uite oi	urry					l r	× pitTes
									1 R		
			athed of	Constructi	0.0	· · ·		6		J#15	<u> </u>
Cable Tool		Rotary (a			Diamond		Digging	*	Tensley Br		
Rotary (con		Air perci	ussion		letting Driving	. · · · [Other	Ö	Dey 1	his is	
			Wate	er Use	, in a second					Jos +	•
Domestic Stock		Industria			Public Sup Not used	ply	Other			1 70	
Irrigation		Municipa	al		Cooling & a	air conditioning		Audit No. Z	27087	Completed YYYY	MM DD
Water Supr	oly 🗆	Recharge we		tus of Wel □ เ	l Jnfinished	Aban	doned, (Other)		owner's information Date Delive	2005 ered YYYY	MM DD
Observation	n well	Abandoned, Abandoned, j	insufficient s	upply 📋 (Dewatering Replaceme	I		package deliver		2005	05 03
Test Hole	······································			chnician I	nformati	on		Detric	MinIstry Use Only		
Name of Well (Capital		. Q1	w T+.1		M	/ell Contractor's 1558	s Licence No.	Data Source	Contractor	558	
Business Addr	ess (street	name, numb	er, city etc.)			1558		Date Received	6 ZUUD MM DD Date of Ins	pection YYYY	MM DD
Box 490 Name of Well) Stit Technician	tsville (last name, fi	irst name)	<u>rio K23</u>	5 1A6 ^	/ell Technician'	s Licence No.	Remarks		rd Number	
Miller Signature	Step	hen	·			TOO97 ate Submitted YY	A/				
X PUL	y Mm	1.1	· · ·			2005	<u>5 05 05 </u>				
0506E (09/03)			Coi	ntractor's C	ору 📋 👖	viinistry's Cop	y∐ Well Ov	vner's Copy 📋	Cette formule	est disponible	- en trançais

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🕅 Ontario	Ministry of the Environment	Well Tag	036014	r below)	Regulation 903 On	Well Record
Instructions for Completin	ng Form	ADZ	6014		1536096	
• For use in the Province	of Ontario only This	s document is a p	ermanont logel	document P	J Jease retain for future and	page of
		ia delavs in nroco	eeina Furthor in	ontructions on		
 All metre measurement 	s shall be reported			vvell Manager	nent Coordinator at 416	-235-6203.
 Please print clearly in blue 	ie or black ink only.				Ministry Use On	
Well Owner's Information	and Location of V	vell Information	MUN			LOT
The Martin A Comment						
RR#/Street Number/Name	EIC D.	10N	City/Terrin/Villa	age C	Site/Compartme	nt/Plock/Tract etc.
GPS Reading NAD Zop	Easting -	Northing		TKP		
8 3	<u>3 A23064</u>	1501736				tiated Averaged ted, specify
Log of Overburden and Be General Colour Most common		See instructions Other Materials)			Denth
SAND	× CPA 1-			Genera	Description	Depth Metres From To
Clin 1	LIME STO	NF			······	0 liab
GRENI	JME STA	NET SA	NO STA	NFN	NIXEN	36.57 45.72
						210,- 1 42, 10
			· · · · · · · · · · · · · · · · · · ·			
	~				· · ·	
Hole Diameter	<u> </u>	Construction R			r	
Depth Metres Diameter	Inside	Wall	Depth	Metres	the second se	Vell Yield aw Down Recovery
From To Centimetres	diam Materi			To	C. P.D. MO Time	Water Level Time Water Level
045.195,24		Casing			Pump interes set at Static	Metres min Metres
					(metres) Level Pumping rate - 1	4.23 1 26.44
Water Record				7,31	(litres/min	
Water Record Water found at Kind of Water		Fibreglass		11		
2 m Syphur					Final water level end 3	7.38 3 23.14
Gas Safty Mingrals					Recommended pump 4	8,89 4 22 25
│	Steel F	Fibreglass Concrete			type Shallow X Deep	
	Galvanized		-		deptrmetres	0.00 5 01.00
m Fresh Sulphur		Screen			Recommended pump 10	4,59 10 7,70
Other:	diam Steel F	i			(litresimn) 15 If flowing give rate - 20	20,32 20 256
After test of well yield, water was					(litresthin) 25 a If pumping discontin- 30	22 32 25 11.63
Other, specify		No Casing or S			If pumping discontin- ued, give reason. 30 40	24.30 30 10.65 26.87 40 8.83
Chlorinated Yes No	Open hole		671	4572	50	27 91 50 7 09
Plugging and Sea	Laling Record	CAnnular space	Abandonment		Location of We	279 60 527
	e (bentonite slurry, neat cem	pent slurn/) etc Vol	lume Placed	In diagram below		
	CEMENT <	Sulfy .	227	Indicate north by a	show distances of well from roa arrow. BES 2301 READ	× 100
				ارمد ا	325 231	1100
				1 24	PER E	
				01	port	TANSLE! DR.
M	ethod of Constructio	<u> </u>		Et		L'INTER ST
Cable Tool Rotary (a	ir) 🗌 Dia	amond	Digging	7 22		
Rotary (conventional) Rotary (reverse) Boring		tting iving –	Other	P	\backslash	
	Water Use			Ro	$\frac{1}{2}$ $\sum_{n=1}^{\infty}$ $\frac{1}{2}$	
Domestic Industrial	cial 🗌 No	blic Supply ot used –	Other	<u> </u>	J \	
Irrigation Municipa	Final Status of Well	ooling & air conditioning	· 7	Audit No. Z	30843	Completed
Water Supply Recharge wel	l 🗌 Un			Was the well own	er's information Date Deliv	
Observation well Abandoned, in Test Hole Abandoned, p		watering		package delivered		
Well Conti	ractor/Technician Inf	ormation		Data Source	Ministry Use Only Contracto	
INK WOR OF	RILLING (Well Centractor				1119
Businers Address (street name numbe	r, city etc.)	OUTKA	M d La	Date Received	2005 Date of Ins	pection YYYY MM DD
Name of Well T)chnician (last hame, fir	stane)	Well Technician	'sLicence No.	Remarks		rd Number
Signature/of technician/Contractor	QUINNU	Dat e Sub mitted	TY, MAL DDA		14 10 m	
x 4 5 5 6 5 (09/03)	Contractor's Cop			r's Conv 🗖	- A A A A A A A A A A A A A A A A A A A	est disponible en frar
	CONTRACTOR'S COP				Celle Iomule	ost disponible en nar

	Ministry of the Environment	Well Taç A 03	6038	oer below)	Reg 1536327	Well Record
Instructions for Completin	na Form	AO3	60	38	1000027	of
 For use in the Province of All Sections must be con Questions regarding com All metre measurement Please print clearly in blue 	of Ontario only. Thi npleted in full to avo pleting this applicat s shall be reported e or black ink only.	id delays in processir ion can be directed to I to 1/10 th of a metre	nanent lega ng. Further i o the Water	I document. Pl nstructions and Well Manager	d explanations are availab	ele on the back of this form. -235-6203.
Well Owner's Information		Vell Information				
RR#/Street Number/Name GPS Reading NAD Zon 813 Log of Overburden and Be	8 4 23 94 edrock Materials (Northing 5017468 see instructions)	City/Fown/Vi	odel Mode	of Operation: Undiffere	ntiated Averaged
General Colour Most common	Material XGrey (Other Materials	re	Genera	I Description	Depth Metres From To 5,49 5,49 [8,29
						· · · · · · · · · · · · · · · · · · ·
Hole Diameter Depth Metres Diameter From To Centimetres	Inside Mate	Construction Reco	ord Depth	Metres	Pumping test method	Well Yield Iraw Down Recovery e Water Level Time Water Level
0 1829 1491	centimetres	Casing	From	То	Subrum Imministration Pump intake set Stati (metres) Leve Pumping rate 1 (litres/min) 1	Metres min Metres
Water Record Water found at Metres Kind of Water at m Fresh Sulphur Gas Salt Minerals Other:	Steel	Fibreglass Concrete d	0	7.01	Duration of pumping 2 hrs + min Final water level end 3 of pumping metres Recommended pump 4	1.94 2 1.38 8,08 3 1.27 2.17 4 1.20
Gas Salty Minerals	Outside	Concrete d Screen			type. Shallow Abeep Recommended pump 5 depth. 5, ormetres Recommended pump 10 rate. (litres/min) 15	
After test of well yield, water was	diam Steel Galvanize		en		If flowing give rate - 20 (litres/min) 25 If pumping discontin- ued, give reason. 30 40	2 49 20 68 2 50 25 3 50 30 3 51 40
Chlorinated Yes No	Open hole	9	6.40	18.29	50 60	
From Io	aling Record e (bentonite slurry, neat co Cenet (ment slumy) etc Volum	andonment le Placed metres)	Indicate north by	Location of W y show distances of well from re arrow.	
Cable Tool Rotary (Rotary (conventional) Rir perc Rotary (reverse) Boring	Water Use	Diamond	Digging Other	CRAD	TANSLE	ROAD
	rcial al (Final Status of Wel ell insufficient supply	Jnfinished Abando Dewatering	Other		/ner's information Date De	ivered xyy MM DD
Name of Well Contractor	tractor/Technician I Ritting er, city etc.)	Well Contractor's L	19	Data Source Date Received MAY	19 2000	
Signature of Mechnician/Contractor X / Contractor 0506E (09/03)	DAN	Date Submitted YYYY		ner's Copy		ıle est disponible en français

	/linistry of the Environment	A 0434:	23 umber below)	1536645 Regulation 903 Untari	Well R	
Instructions for Completin	g Form	A043	423	,	page _	of
 For use in the Province of All Sections must be compared to the province of the province of	of Ontario only. This doc pleted in full to avoid de pleting this application c s shall be reported to 1	lays in processing. F an be directed to the /10 th of a metre.	Further instructions and Water Well Manager	lease retain for future refere d explanations are available o ment Coordinator at 416-23 Ministry Use Only	n the back of 5-6203.	this form.
					IOT	
Address of Vien Lacation (County, RR#/Street Number/Name	- Cor let	City.	Marter (e	to bile/comparts		
GPS Reading NAD Zon 813 Log of Overburden and Be	8 423210	5017454	Meke/Model Mode	e of Operation: Undifferentiate		aged
General Colour Most common		r Materials	Genera	al Description	Depth From	Metres
	and a Clar	1			\bigcirc	4,88
Grey	line store	2			4.88	15.24
	• · · · · · · · · · · · · · · · · · · ·					
				· · · · · · · · · · · · · · · · · · ·		
Hole Diameter		onstruction Record		Test of We	ll Yield	
Depth Metres Diameter From To Centimetres	Inside diam Material	Wall thickness	Depth Metres		Down F ater Level Time	Recovery
0 15,24 15,23	centimetres	Casing	From To	Pump intake set of Static (metres)	Metres min	
	5.88 Steel Fibres Plastic Concr Galvanized		0 701	Pumping rate - 1 (litres/min)	86 1	1.84
Water Record Water found Address Kind of Water	Steel	plass	- (*	Final water level and 3	77 2 08 3	1,10
Gas Sap Minerals				Recommended pump 4	214 4	1.55
Gas Suff Minerals	Steel Fibre			Recommended pemp 5	218 5	1.505
m Fresh Sulphur	Outoido	Screen		Recommended pump 10 rate. (litres/mm) 15	234 10 234 15	1.41
After test of well yield, water was	diam Steel Fibre			If flowing give rate - 20 (jures/min) 25	236 20 238 25	1.35
Other, sperify		No Casing or Screen		If pumping discontin- ued, give reason. 30 40	39 30 2.41 40	1.34
	Spen hole	6	40 15.24	50 60	43 50 2,43 60	1.30
Plugging and Se	aling Record			Location of Well w show distances of well from road	lot line, and b	
6,40 0 Nad	Cenet Slu	114 . 22	Indicate north b	- 87	97 16	
				+ 160 Ree	Y	
	lethod of Construction		- Ar	in Ree	esek	ad
Cable Tool Rotary	cussion Jetting		· · · · · · · · · · · · · · · · · · ·	#160		
Stock Comme		Supply Otr	ner			
Irrigation Municip	al Coolin Final Status of Well	g & air conditioning	Audit No. Z	4861/ 6	ed	0728
Weter Supply Recharge w Observation well Abandoned, Test Hole Abandoned,	insufficient supply	a second and a second sec	, (Other) Was the well of package deliver	ed?	006=	0804
Well Compactor	tractor/Technician Inform	nation WelkContractor's Licer		Ministry Use Only Contractor	111	9
Business Address (streetmame, numt	ver, city etc.)	Y KOADZ		0 7 2006 Date of Insp Well Record	ection _{YYYY}	MM DD
	ers ken					
X KUrrey 0506E (09/03)	Contractor's Copy	Ministry's Copy	Well Owner's Copy	Cette formule	est disponible	en français

	Ministry of the Environment	Well Т Д 0434	97	umber below)	1536723	Well R	Act
Instructions for Completin	ng Form	A0434	97	5 ^{- 1}			
 All Sections must be cor 	npleted in full to avo pleting this applicati s shall be reported	id delays in processing. on can be directed to th	Further in	nstructions and	ease retain for future refer d explanations are available nent Coordinator at 416-23 Ministry Use Only	on the back of	f this form.
Well Owner's Information	and Location of V	Vell Information	MUN		DN DN	LOT	
				,			
RR#/Street Number/Name	arlets	· · · · · · · · · · · · · · · · · · ·	//Jown/Vil	lage O	Site/Compartment	/Block/Tract et	
GPS Reading NAD Zor		Northing Un	t Make/M		of Operation: Undifferentia		aged
8⊤3 (i Log of Overburden and B	drock Materials (110	2010m	Differentiated		
General Colour Most common	material	Other Materials			I Description	Depth From	Metres
Gre	y line	store	nde	275		6.40	73,15
· · · · · · · · · · · · · · · · · · ·							
· \$ ^{\$} ,							
Hole Diameter		Construction Record			Test of We	ell Yield	
Depth Metres Diameter	Inside diam Mate	Wali	Depth	Metres	Pumping test method Drav	w Down F	Recovery Water Level
From To Centimetres	centimetres	centimetres	From	То	Pump ingke set at- Static	Metres min	
	Steel	Casing Fibreglass			(metres) C Level	347 1	3.17
Water Record	15 ⁵ Plastic Galvanize	-1.0	$\mathbf{o}_{\mathbf{r}}$	12 ³⁴	(litres/min) Duration of pumping 2	3.66 2	2.13
Water found at Metres Kind of Water m Sulphur	Steel	Fibreglass	·		Final water level end 3	3,70 3	
Gas Other:	Plastic Galvanize	d			of pumping metres Recommended pump 4	375 4	
Gas Salty Minerals	Steel	·			type. Shallow Deep Recommended pump 5	5	
Other:	Galvanize	Screen			depth. Imetres Recommended pump 10	3,80 10	
Gas Salty Minerals	Outside diam Steel Plastic	Fibreglass Slot No.			rate. (litres/min) 15 If flowing give rate - 20	3.80 15 3.84 20	
After test of well yield, water wae-	Galvanize				(litres/min) 25 If pumping discontin- ued, give reason. 30	385 25 3,85 30	· · · · · ·
Other, ports 20		No Casing or Scree	73	7215	40 50	3,85 40 3,86 50	
Chlorinated No	Popen hole		donment	73,15	60 .	3,86 60	
Plugging and Se Depth set at - Metres From To	pe (bentonite slurry, neat ce		Placed	In diagram below Indicate north by	Location of Well v show distances of well from road		
11.73857 Net	- Cenert S	Turry - 130	a	N	arrow.	Θ	Ű
8,69 0 Berte	mte sic	VIY - Je	<u>8</u>	4	151	1.00	
				E	• '	KIN	
	Method of Construct			50			
Cable Tool Rotary Rotary (conventional) Rir per Rotary (reverse) Boring	cussion	Diamond Diamon	gging ther	2 A	Reis	Drive	2
Stock		Public Supply O	ther		-	æ	2
Irrigation Munici	Final Status of Wel				48666	2006	0708
	, insufficient supply	Unfinished Abandone Dewatering Devalesement woll	d, (Other)	Was the well ov package delivered	vner's information bd? Dres No	2006	(A)
	ntractor/Technician	Replacement well nformation Well Contractor's Lice	nce No	Data Source	Ministry Use Only Contractor		9
Business Address (street name, num	ILLING CO	LAD (15		Date Received	YYYY MM DD Date of Ins		
Name of Well Technician (last pamer	CHMOND	Well Technician's Lic	ZO ence No.	OCT_	1 1 2005 Well Base	rd Number	
Signature of Technician/Contractor	DAN	Date Submitted					
0506E (09/03)	Contractor's Co	ppy'⊡* Ministry's Copy	Well Owr	ner's Copy	Cette formule	est disponible	en français

(🔊 Ontario	Ministry of the Environment	Well Tag Mumber (5	5265	mber below)	Regulation 903 Onta	Nell Record
Instructions for Completi	ing Form	Aos	526	ร		page of
• For use in the Province	of Ontario only. This	s document is a perm	nanent lega	document. Pl	a ease retain for future refe	
					l explanations are available esk (Toll Free) at 1-888-	
 All metre measuremer Please print clearly in bl 		to 1/10 th of a metre.	·	•	Ministry Use Only	/
Address of Well Location (Count	y/District/Municipality)	Tio	wnship	Carl	Lot	Concession
RR#/Street Number/Name	Corrier	and the second s	City(Town/Vil	lage	Site/Compartmen	t/Block/Tract 60
# 106 Ker	S Kerre	((Unit Make/M	\supset	plan Site/Compartment Plan 4M -74-5 of Operation: Undifferentia	
813	8 422.867	50170199	Ma	gellon	Differentiate	
Log of Overburden and E General Colour Most common	-	Other Materials		General	Description	Depth Metres
Grei	1 Sand					From To
Grey	Linest	se				8,84 73,15
		•			Manufering and	
				44 m 47 m		
	٦		-			
Hole Diameter Depth Metres Diameter	Inside	Construction Reco	Depth	Metres	Test of W Pumping test method Dra	Vell Yield
From To Centimetres		rial thickness centimetres	From	To		Water Level Time Water Level Metres min Metres
0 73,15 1520		Casing			Pump intake set at - Static	and the second
	Steel	Fibreglass				4.72 1 16.86
Water Record	15. Plastic Galvanized		,48	10.67	Duration of pumping 2	6.09 2 15,55
Water found	Steel		· · · · · · · · · · · · · · · · · · ·	10.	Final water level and 3	
Gas Salty Minerals					of pumping metres	
Other:		Fibreglass			Recommended pump 4 type.	8,14 4 13.72
Gas Salty Minerals	Plastic Galvanized				Recommended promp 5	8,94 5 13.00
other m Fresh Sulphur		Screen			Recommended pump 10	1211 10 10,39
Gas Salty Minerals	Outside Steel	Fibreglass Slot No.			rate. (litres/min) 15 If flowing give rate - 20	14-30 15 8,63
After test of well yield, water was	Plastic Galvanized				(litres/min) 25	17.18 25 6.43
Ochandestanding trep of		No Casing or Scre	en		If pumping discontin- ued, give reason- 40	18,11 30 5,67
	'Sopen hole	-	10.06	73,15	50	9.86 50 4.09
Plugging and S	ealing Record		andonment		Location of Well	2017 60 3,67
Depth set at - Metres Material and ty From To	pe (bentonite slurry, neat cer	ment slurn() etc Volum	e Placed metres)	In diagram below Indicate north by	show distances of well from road	
10.06 7.01 Need	-Cerrest S	lurry 1	816	indicate north by	. (4	
7.01 0 Bar	tonite 5(woy ac	245		1Km-7x	1,05
		<u> </u>		$ \circ $		
				6		X
	Method of Construction		Discis	all ter		leis
Rotary (conventional) 🔀 Air per	rcussion	etting	Digging Other	Te.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	och
Rotary (reverse) Boring	Water Use	riving				
Stock	ial P	ublic Supply	Other		$i \rightarrow i$	
Irrigation	pal C	ot used ooling & air conditioning		Audit No.	65135 Date Well	Completed
	Final Status of Well			lleen	UNTUN C	>>>>7 U (057)

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Abandoned, (Other)

ation Well Contractor's Lic

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C Date Submitted

Well Technician

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's Licence No.

Water Supply

Test Hole

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0506E (08/2006)

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Observation well

Well Contractor

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of Well Fechnician (last name, fr We of Technician/Contractor

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Recharge well

Abandoned, insufficient supply Abandoned, poor quality

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Well Contractor/Technician Information

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etc

stiname)

Unfinished

NON

Dewatering
Replacement well

Was the well owner's information package delivered?

Data Source

Date Received YYYY M SEP 1 7 2007 Remarks

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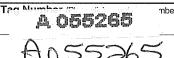
Date of Inspection

Well Record Number

Ministry Use Only

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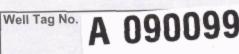
093680 7141759 Below) Well Ministry of lecord Ontario the Environment Regulation 903 Ontario Water Resources Act 3680 mperial Measurements recorded in:
Metric Page of Well Owner's Information E-mail Address First Name Last Name / Organiz F 0 Address (Street Postal Cod Ma ber/Name) rovince Ð ve NOC 1 ib D Well Location Address of Well Location (Street Number/Name 4 0 Ø DA County/District/Mur inality Province Postal Code Ontario 6 0 Municipal Plan and Sublot Number Other 741 50 NAD 83 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) Most Common Material General Colour Other Materials General Description From 40 V (10 Na 1 00 anora 500 Annular Space **Results of Well Yield Testing** After test of well y ype of Sealant Used (m³/R³) Depth Set at (m/ft) water was Draw Down Recovery (Material and Type) Time Water Level (min) (m/ft) Time Water Level nd free 7.8 (min) (m/ft) \rightarrow Ł 41 Static If pumping 1124" ed, give re Level 16.8 112'8" 82.6 1 Pump in ake set at (m 222'6" 2 16' 4 -0 3 688" Pumping rate (il in / GPM) Method of Construction Well Use 2 0 81 3" 4 34 Cable Tool Diamond Public Commercial Not used -Duration of pumpi Livestock Dewatering Rotary (Conventional) Jetting Municipal 5194 hrs + O min 50 5. Driving 2 Rotary (Reverse) Test Hole Monitoring al water level end of pumping (m/ft) Air percussion Digging Irrigation Cooling & Air Conditioning 18" 10 43 10 ing give rate (Vmin / GRM) Industrial Other, specify Other, specify 59 15 464 15 f flo Construction Record - Casing Status of Well 20 RI 4 Recommended pump depth (n/ft) Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Wall Thickness Inside Depth (m/ft) Water Supply 2584'5 Replacement Well (cm/in) 25 73'3' 40 From То (cm/in) Test Hole nded pump rate 18'4" e 4 30 30 91 Recharge Well +2' 52 -188 (Vmin/GPM) 10 Dewatering Well 73'5" 52' 40 13'6" 400 4 60 Observation and/or KGEM Well production (Vmin 5 Monitoring Hole 50 053 50 8 2" Alteration fected? (Construction) 24 60 604 Abandoned, Insufficient Supply Yes 🗌 No Map of Well Location Construction Record - Screen Abandoned, Poor Please provide a map below following instructions on the back Outside Depth (m/ft) Water Quality Material Slot No. Diameter Galvanized, Steel) Abandoned, other, (cm/in) From To specify Other, specify Water Details Hole Diameter Depth (m/ft) Water found at Depth Kind of Water: Fresh XUntested Diameter From (cm/in) 48 (mt) Gas Other, specify То (3) Nater found at Depth Kind of Water: Fresh Ontested 160 6 (m(ft)) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Business Name of Well Contractor Well Contractor's Licence No. ¥ Lock (((3 NG Municipality Comments: 1 Cetmon 1 8 Postal Code Busine Loffe Ministry Use Only 740 No, Name of nician (Last Name, First Name 08235 H PC ß 4 AL SER MI 10 Sol 2 6 \$100B 0201 -(No C **Ministry's Copy** @ Queen's Printer for Ontario, 2007

093598 7141771 Ministry of Well T Below) rd Ontario the Environment Regu Act 093598 Measurements recorded in: 🗌 Metric Imperial Page Well Owner's Information First Name Last Name / Organization Well Constructed lla Durrell ovince, Postal Corf totalings 00 by Well Owner hone No. (inc. area code) 965 Modile KOR all 144 ve Well Location Address of Well Location (Street Number/Name) Lot Concession oto County/District/Municipa 8 Re NE #9 ard er City/Town/Village Postal Code Province to Ontario 00 Municipal Plan and Sublot Numbe asting Other NAD 8 3 8422847 5017220 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (10th) General Colour Most Common Material Other Materials General Description From say (0' lars Drat A 19' mests 32. 30 6 Re Annular Space **Results of Well Yield Testing** er test of well vield, water was ype of Sealant Used Draw Down Depth Set at (n/ft) olume Placed Recovery (Material and Type) Time Water Level Time Water Level Othe (m/ft) PESTE (min) (m/ft) 96 (min) 01 un Statie 34 contin 92'6" If pumping 9174 1 1 891 Pump intake set at (n(//t) 3'8" 2 76'4" 2 80 3 '2" 371'6" ng rate (Vmin / GPM) 16 Method of Construction Well Use 8 U.S. 469'2" 19'4" Diamond 4 Cable Tool Public Commercial Not used Duration of pumping Rotary (Conventional) Jetting Comestic Municipal Dewatering hrs +O 55944 min 525'3" Rotary (Reverse) Driving Livestock Monitoring Test Hole Digging Irrigation Final water level end of pumping (m/ft) Boring Cooling & Air Conditioning 10 27 10 48' 6" Air percussion Industrial 48'4" If flowing give rate (I/min / GPM) Other, specify Other, specify 15 15 357 **Construction Record - Casing** Status of Well Water Supply Replace 2058'4 20 C 31 Recommended pump depth (6/11) Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Inside Wall Depth (m/ft) Diamete (cm/in) Thickness 5'6" Replacement Well 256 7'2" 25 From To 74) (cm/in) Test Hole commended pump rate ç stel 3070 191 Recharge Well 30 12'5 188 54 0 Dewatering Well 6 (1 405 2'5 40 34 nola Observation and/or 54 Nell production (I/min (GPM) 6 Monitoring Hole 212 Alteration (Construction) 50 3 50 9 nfected? C. 60 Abandoned, Insufficient Supply OYes 🗌 604 No Construction Record - Screen Map of Well Location Abandoned, Poor Outside Depth (m/ft) Water Quality Please provide a map below following instructions on the back Material (Plastic, Galvanized, Steel) Diameter (cm/in) Slot No Abandoned, other, From To specify Other, specify Water Details **Hole Diameter** Water found at Depth Kind of Water: Fresh Ontested Depth (m/ft) Diameter (cm/in) 7 (m(ft)) Gas Other, specify From To De ((Water found at Depth Nind St. Specify 1 320 6 Water found at Depth Kind of Water: Fresh Untested Zeis Drive (m/ft) Gas Other, specify Well Contractor and Well Technician Information Well Contractor's Licence No Number/Name) 1119 KD ING Municipality Comments 40 ICHMOND NOO # C es Postal Code Business E-mail Address Well owne Ministry Use Only ackage D information Audit No. 2 108268 echnician (Last Name, F 7009 (023 age URCE 217 ered Date Work Con MAR 2 2 2010 Contract 009122 No 010000 Ministry's Copy

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Ontario Measurements recorded in: 🗶 Metric 🗌 Imperial

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Concession Tress of Well Location (Street Number Name) Township HUNTLET Lot 8 2 City/Town/Village County/District/Municipality Province Kon ILO Ontario cipal Plan and Sublot Num Other Mun UTM Coordinates Z NAD 8 3 18 423 302 50 17349 PART BLOCK 10, PLAN 4M-745 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft From T General Description Most Common Material Other Materials General Colour 0,00 1.22 SANDY GAM BLAUN SIT. SALAS 1.22 Coll CREY SAND, GRAVEL BOULSORS. 6,10 7.30 SPE 73287 SHACE RE LINESTERE **Results of Well Yield Testing** Annular Space Depth Set at (m/ft) From To Volume Placed (m³/ft³) After test of well yield, water was: Draw Down Recovery Type of Sealant Used Clear and sand free Time Water Level Time Water Level (Material and Type) (m/ft) (m/ft) (min) Other, specify (min) 0.96 CE Static Level If pumping discontinued, give reason Ą 180 19.83 1 1 260 2 SOM 3,47 3 3 16.18 Well Use Method of Construction Om 4 4 17.38 Public Commercial Not used Cable Tool Diamond Rotary (Conventional) Rotary (Reverse) Jetting Domestic Municipal AS min+6h hrs + O 5 5 16,60 Driving Livestock Test Hole Monitoring Boring Digging Irrigation Cooling & Air Conditioning Final w 8.44 10 10 13.76 1663 Air percussion Industrial Other, specify Other, specify 15 15 10,50 ate (I/min / GPM) **Construction Record - Casing** Status of Well Bas 20 20 Inside Diameter (cm/in) Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Wall Water Supply Depth (m/ft) Recon led pump depth (m/ft) 6.30 Thickness (2001 Replacement Well 25 25 From To (cm/in) Test Hole Steel ASE9 Recommende 4.18 0,48 +0,46 1.17. 46 30 5.98 30 Recharge Well (Vmin / GPV) Dom. Dewatering Well 2066 40 40 Well production (Vmin / GPM) Observation and/or Monitoring Hole 11 50 1,55 50 9.0 Alteration fected? (Construction) 60 D. 96 60 Abandoned, Insufficient Supply No No Yes Construction Record - Screen Map of Well Location Abandoned, Poor Please provide a map below following instructions on the back Outside Water Quality Depth (m/ft) Material (Plastic, Galvanized, Steel) Diameter Slot No. Abandoned, other, From To (cm/in) specify Other, specify 10 KA K Water Details Hole Diameter Water found at Depth Kind of Water: Fresh Untested Depth (m/ft) Diameter From To (cm/in) 9Xp 15,55 7.32 /ater found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Business Nar ce No DRILLING INC Busin Com ents WE ARCHES DR PANAM enter dolling C Delle hot Ministry Use Only Well owner's nformation Audit No z103676 delive red Kyes JUN 0 8 2010 20 UBG No 0506E (12/2007) © Queen's Printer for Ontario, 2007 Ministry's Copy

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Ontario 7164962 Well Tag No Vell Record Ministry of A117443 the Environment Regulation 903 Ontario Water Resources Act Measurements recorded in: 📈 Metric Imperial Page of Well Owner's Information First Name Nonstruction MANAGEMENT LA Well Constructed by Well Owner Address (Street Number/N Municipality Province KALO (613) STAT BRIDE Well Location Address of Well Location (Str PROAD. Lot Township Concession 7. HUNTE City/Town/Village County/District/Municipa OTTAWA CARIETON. DALLO Province Ontario UTM Coordinates 2 Municipal Plan and Sublot Number 279 3016886 Other NAD 83 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) General Colour Depth (m/ft) Most Common Material Other Materials General Description FRAK Jans 20 TIL R Sont BOULDERS SHARE LINESTRA KP Annular Space **Results of Well Yield Testing** Depth Set at (m/ft) Type of Sealant Used Volume Placed (m³/ft³) After test of well yield, water was: Draw Down Recovery (Material and Type) Time Water Level X Clear and sand free Time Water Level Other, specify (min) (m/ft) (min) (m/ft) 0.16 Static 1.76 If pumping discontinued, give reason Level 1 1 oump 2 2 6 m(100' 94 3 3 Method of Construction Well Use Public Domestic BI 4 4 Cable Tool Diamond X Commercial Not used Rotary (Conventional) Jetting Municipal Dewatering 5 Driving 5 Livestock Rotary (Reverse) Test Hole Monitoring Boring Digging Cooling & Air Conditioning end of pumping (m/ft) 10 9.68 10.0 Air percussion Other, specify Other, specify 10,71 15 15 4 n / GPM) **Construction Record - Casing** Status of Well 20 20 Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Inside Wall Depth (m/ft) Water Supply Replacement Well (m/ft) Diamete (cm/in) Thickne 25 25 From То (10) (cm/in) Test Hole Stel ASE9. 0.48+.91 KEB Recharge Well 30 2.07 30 376 6.H Om /10 Dewatering Well 40 40,3.6 Observation and/or Monitoring Hole 50 3. to na 10 50 Alteration (Construction) 60 60 Jol Abandoned, Insufficient Supply Yes Yes No Construction Record - Screen NIA Map of Well Location Abandoned, Poor Outside Diameter Please provide a map below following instructions on the back Material (Plastic, Galvanized, Steel) Water Quality Dept (m/ft) Slot No. Abandoned, other, (cm/in) From To specify Other, specify Hole Diameter Water Details Water found at Depth Kind of Water: Fresh Untested Depth (m/ft) Diamete (m/ft) Gas Other, specify 15,24 6.4 17.6 ound at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested Caronnal (m/ft) Gas Other, specify Well Contractor and Well Technician Informatio Business Name of Mer Canter BRILLING INC. 4875 19, 157 PHUE ARCHES DR. PAKENAM ents Com Stand antive believer. Well owner information Ministry Use Only First Name) STURY Audit No. package z 1 32972 delivered Yes JUL C 8 2011 No 1.6000 Ministry's Copy

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_7181767 Well Tag No. " ...'ell Record A117486 Ministry of Ontario the Environment Regulation 903 Ontario Water Resources Act Page of 🔲 Imperial Measurements recorded in: K Metric Well Owner's Information Last Name Dog Bar CNTACIO IM First Name E-mail Address Well Constructed by Well Owner Mailing-Address Province area code (inc, REEME DIE Well Location Concession -7 Address of Well Location (Street Number(Name) "HUNTLEY WEST CARLED County/District/Municipality Province Village KUA ILO Ontario UTM Coordinates | Zo Municipal Plan and Sublot Number HALTS 55+56 PVAN 4R RETS SLIDIVISION 21 FAD +321 NAD 8 3 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) General Colour Most Common Material Other Materials **General Description** From SANDY CHA RONSA an CHI-SAM. Der 7711 SøtALE 5123 **Results of Well Yield Testing** Annular Space Depth Set at (m/ft) Type of Sealant Used Volume Placed After test of well yield, water was: Draw Down Recovery Clear and sand free (Material and Type) (m3/ft3) Time Water Level Time Water Level (min) Other, specify (m/ft) (m/it) (min) If pumping discontinued, give reason: 83 Static Level 1 1 Pump intake set at m/ft) 2 2 'AO' 3 3 Method of Construction Well Use Commercial Municipe (m) DIAM 4 4 Cable Tool Rotary (Conventional) Diamond Public Not used uration of pumping Jetting Domestic Dewatering \boldsymbol{C} 5 5 min Rotary (Reverse) Driving Livestock Test Hole Monitoring et pumping (m/ti) Final y Boring Digging 🗌 Irrigation Cooling & Air Conditioning level enc 10 10 Industrial 65/m Other, specify Other, specify 15 15 give N/R **Construction Record - Casing** Status of Well 20 20 Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Wall Thicknes (cm/in) Depth (m/ft) Water Supply Inside nded pu (m/ft Diamete (cm/in) Replacement Well to 2m 25 25 То From Test Hole 0.46 30 301 A 589 30/ Recharge Well PM Dewatering Well 40 40 Observation and/or Monitoring Hole 50 50 Alteration ed? (Construction) 60/ 60 Abandoned, Insufficient Supply 🖌 Yes Map of Well Location Construction Record - Screen Abandoned, Poor Water Quality ase provide a map below following instructions on the back. Outside Diameter Depth (m/ft) Material (Plastic, Galvanized, Steel) Slot No Abandoned, other, From (cm/in) То specify KEBRI 7 Other, specify Hole Diameter Water Details Depth (m/ft) Water found at Depth Kind of Water: Fresh Untested Diameter (cm/in) AVa + (m/ft) Gas 3B D.C found at Depth Kind of Water: Fresh Unite (m/ft) Gas Children (Materia) 10° Л Ĭ(6 found at Depth Kind of Water: resh Unteste (m/ft) Gas Other, specify Well Contractor and Well Technician Information WILLING IN pents PREACHES Well owner's information package delivered Ministry Use Only Dat Audit No z149063 🗶 Yes MAY 2 9 2012 🗋 No

CA Ontario the Environment	ell Tag No. (Place Sticker al Tag#: A12		on 903 Ontario Water Resources Act
Measurements recorded in: Metric Infimperial			Page of
Well Owner's Information First Mame Last Name / Organization		E-mail Address	
CRAWF INVESTMENTS			Well Constructed by Well Owner
Mailing Address (Street Number/Name)	Municipality	Province Postal Cod	
3038 LARP RO	CARP	ONT HOR.	160 613 83 93232
Well Location			
Address of Well Location (Street Number/Name)	Township	Lot 8	Concession
2710 CARP RO	HUNTLEY	0	
County/District/Municipality	City/Town/Village		Province Postal Code Ontario
UTM Coordinates Zong, Easting Northing	Municipal Plan and Suble	ot Number	
NAD 8 3 18 4 2 3 0 13 0 5 0 1 168 3			Building D.
Overburden and Bedrock Materials/Abandonment Sealing		back of this form)	
General Colour Most Common Material	Other Materials	General Description	on Depth (<i>pn/ft</i>) From To
BROWN SAND		PACKED	
	Conce o	· · · · · · · · · · · · · · · · · · ·	
	STONES	HARDPA	
GREY LIMESTONE		BROKEN	2027
Annular Space		Results of V	Vell Yield Testing
Depth Set at (<i>m/ft</i>) Type of Sealant Used	Volume Placed	After test of well yield, water was:	Draw Down Recovery
From To (Material and Type)	(pa*/ft3)	Clear and sand free	Time Water Level Time Water Level
0 20 GROWT TYPE 10	9 6 bags	Other, specify	(min) (m/ft) (min) (m/ft) Static (14.0)
	80 lb	If pumping discontinued, give reasor	Level S 17.7
		of the operation of the	1 14,7 1 102
	21 1	Pump intake set at (m/ft)	21482 61
		22	
Method of Construction W	ell Use	Pumping rate (I/min / GPM)	3 199 3 5
mounou of conditioners	Commercial Not used	1.5.	4 150 4 5
Rotary (Conventional)	Iunicipal Dewatering	Duration of pumping hrs + min	5 149 5
	est Hole Donitoring Cooling & Air Conditioning	Final water level end of pumping (m/	
Boring Digging Irrigation C	Jooning & Air Conditioning	149	10 14 9 10
Other, specify Other, specify		If flowing give rate (I/min / GPM)	15 17 15
Construction Record - Casing	Status of Well		20 20
Inside Open Hole OR Material Wall Depth (m/fi Diameter (Galvanized, Fibreglass, Thickness		Recommended pump depth (m/ft)	
Diameter (Galvanized, Fibreglass, (chn/in) Concrete, Plastic, Steel) (cnn/in) From	To Replacement Well	18	25 11 25
64 STEEL 188 0 2	4 Recharge Well	Recommended pump rate	30 1, 30
04 71-1-C 100 C A	Dewatering Well		40 40
	Observation and/or Monitoring Hole	Well production (Hmin / GPM)	
	Alteration	Disinfected?	50 4 50
	(Construction)	Ves No	60 149 60
Construction Record - Screen	Insufficient Supply	Map of V	Well Location
Outside Donth (m/fi	Abandoned, Poor Water Quality	Please provide a map below followin	
Diameter I and the Stot No.	To Abandoned, other,		
	specify		
	Other, specify		
Water Details	Hole Diameter		
Water found at Depth Kind of Water: Fresh Advicested	Depth (<i>m/ft</i>) Diameter	00	
(<i>m</i> /ft) Gas Other, specify			
Water found at Depth Kind of Water: Fresh Untested	2763		
(<i>m/ft</i>) Gas Other, specify		400	
Water found at Depth Kind of Water: Fresh Untested			
(m/ft) Gas Other, specify			γ ()
Well Contractor and Well Technician Inf Business Name of Well Contractor	Well Contractor's Licence No.		
PLUMBING UILLAGE	6 5 7 4		
Business Address (Street Number/Name)	Municipality TAWA	Comments: CAR	PROAD
BOX 329 CARP	CHPLEJON		
Province Postal Code Business E-mail Address			
ONT KOHILO		Well owner's Date Package Delive	
Bus. Telephone No. (inc. area code) Name of Well Technician (Last I	Name, First Name)	delivered	
61173445550 51MM S	>KUSE	Date Work Complete	1 01 0 A 4
Well Technician's Licence No. Signature of Technician and/or Contract		No 201206	DT JUN 1 4 2012
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	miniou y o oopy		

Æ.	Ministry of the Environment		Well Tag No. (Place Sticker and/or Print B	⁸⁶ Well Record		
OP Ontario			A102665	Regulation 903 Ontario Water Resources Act		
Measurements recorded in	n: 🗌 Metric	Imperial		Page of		

Address of Well Locatio	n (Street Number/Name)	1 Towns	Ship UNTLE	7 B		Concession		
County/District/Municip		City/To	own/Village	(CARI	1	Province Ontario	Postal Code	
UTM Coordinates Zone			ipal Plan and Sublot		1802000	Other S11 PA	b 71.71	
NAD 8 3 7	1423232501 Irock Materials/Abandonment	7 / 88 4 Sealing Record (s	ee instructions on the i	back of this form)	NP TA/	SAT TWA		
General Colour	Most Common Material	Other M		Gene	eral Description		Depth (#//ft) From To	
BROWN	SAND			20-1	OSE		0 10	
			STONES				14 60	
GRET L	IMESTONE							
	Annular Space	2			estated all the state of the second	ell Yield Testing	Recovery	
Depth Set at (#1/ft) From To	Type of Sealant Us (Material and Type		Volume Placed	After test of well yield		Time Water Lev		
0 20	GROUT T	YPE#10 1	Olys Solly	Other, specify If pumping discontinu	ed, give reason:	(min) (mt/ft) Static 844	10.6	
						Level 3. (1 11,6		
				Pump intake set at ((m t/ft)	2 13	2 3.3	
				Pumping rate (min	/ GPM)	3 14	3 12.3	
Method of Co	Diamond Dublic	Well Use	Not used	Duration of pumping	1	4 14.1	6 4 11.7	
Rotary (Conventional) Jetting Domestic	Municipal	Dewatering Monitoring	hrs +	min	5 15.0	5 11.4	
Boring	Digging Irrigation	🗋 Cooling & Ai	r Conditioning	Final water level end	or pumping (m/n		10 10.4	
Other, specify	Other, sp	ecify	Status of Well	If flowing give rate (I	77477 / GPM)	15 19.0 20 19 0	20 9.24	
Inside Open Hol			Water Supply	Recommended pun	np depth (mn/ft)			
(cth/in) Concrete,	Plastic, Steel) (en/in) Fro	io –] Test Hole	Recommended pun	np rate	25 20. 30 20.		
67 50	FEL .188 C] Recharge Well] Dewatering Well	(Manin / GPM)		40 20.5		
			Observation and/or Monitoring Hole	Well production (##	n / GPM)	50 20.4	Aug. (1999)	
			(Construction)	Disinfected?			6 60 8.6	
C	onstruction Record - Screen		Insufficient Supply Abandoned, Poor	Please provide a ma		Vell Location	e back	
Diameter (Plastic Ga	faterial alvanized, Steel) Slot No. Fr	Depth (<i>un/ft</i>)	Water Quality] Abandoned, other,	Please provide a ma	T-1-1-	PELS	ROAD	
(cin/in) (Fildelo, Ci			specify .			8	- Tri	
			Other, specify		120		A.	
	Water Details		Diameter			WELL		
Water found at Depth	Kind of Water: Fresh	From	n/ft) Diameter To (mn/in)		1	WELL		
Water found at Depth	Kind of Water: Fresh Un		202 64		1	1		
(@//ft) [_]Gas Water found at Depth	G Other, <i>specify</i>	ested 20	60 6"			इ. इ.		
(@ 1/ft) 🗌 Gas	Other, specify	inician Information	<u> </u>					
Business Name of We	ell Contractor	Well C 6	ontractor's Licence No.					
Business Address (St	reet Number/Name)	Munic 07	Comments:	<u>nese (1997)</u> -				
BOX 429	CARP ONT Postal Code Business E-m	CA	REFTON					
ONI	201411410		-+ Nlamas	information	e Package Delive	Audit No		
6138391	s area code) Name of Well Techn 5550 $S1740$	R SICU	SE	package delivered Date	011201	01 7	115821	
Well Technician's Licenc	ne No. Signature of Technician and	l/or Contractor Date S		Ves No	0120l	016 Receive	2 7 2012	

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Well ID		Environme	ent map
Well ID Number: 7214932		Technical	documentation: Metadata
Well Audit Number: Z180930		record	
Well Tag Number: A157570			

Well Location

Address of Well Location	2770 CARP RD
Township	HUNTLEY TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
	NAD83 — Zone 18
UTM Coordinates	Easting: 423066.00
	Northing: 5017685.00
Municipal Plan and Sublot Number	
Other	

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

Overburden and Bedrock Materials Interval

General	Most Common	Other	General	Depth	Depth
Colour	Material	Materials	Description	From	To
BRWN	FILL	GRVL	HARD	0 ft	23 ft

Annular Space/Abandonment Sealing Record

Depth	Depth	Type of Sealant Used	Volume
From	To	(Material and Type)	Placed
0 ft	10 ft	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	Monitoring
HSA	

Status of Well

Observation Wells

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Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	13 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2 inch	PLASTIC	13 ft	23 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7238

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

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Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	23 ft	8 inch

Audit Number: Z180930

Date Well Completed: November 20, 2013

Date Well Record Received by MOE: January 17, 2014

	ntario Minist		Well Ta	g No. (Place Sticker a	na/or Print Below)	723357	l	Nell R	
Measureme	the Er	vironment Aetric 🗌 Impe	erial	A123489	Tag#: A123	489 tiol	n 903 Ontario I Pa	<i>Water Res</i> ge	ources A
	er's Information				.		1 4	JO	
First Name		ast Name / Orga	nization		E-mail Address				
Crawf Mailing Add	Investments ress (Street Number/Na	me)	P	Municipality	Province	Postal Code	Telephor	ne No. (inc.	ell Owner area code)
<u>3038</u> C; Well Loca	arp Road			Carp	Ontario	KOA 1I	-0 613 2	223 119)7
	tion Well Location (Street Nu	mber/Name)		ownship		Lot	Concess	sion	
	arp Road			West Carleton	- Huntley		Desident		<u> </u>
-	Carleton		(City/Town/Village Carp			Province Ontario	Postal	Code
	nates Zone Easting 8 3 1 8 42309	Northin	ng M 17003	Aunicipal Plan and Suble	ot Number		Other	l	
NAD Overburde				rd (see instructions on the	back of this form)				
General Co	lour Most Comr	non Material	Oth	er Materials	Genera	al Description		Dep From	th (<i>m/ft)</i> To
Brown	Soil		Stor	les	Wet			0	1.21
Grey	Till				Packe	ed		1.21	6.09
Grey	Grave				Packe			6.09	
Grey	Limes	stone	Darl	c Layers	Mediı	1M		7.61	68.57
		Annular Spa	ICE		R	esults of We	ell Yield Testii	ng	
Depth Sel From	at (<i>m/ft)</i> To	Type of Sealant (Material and Ty		Volume Placed (m ³ /ft ³)	After test of well yield, w		Draw Dowr Time Water L		ecovery Water Leve
9.44	0 Grouted		Bentonite	.43m ³	Other, specify		(min) (m/ft,) (min)	(m/ft)
					If pumping discontinued	l, give reason:	Level 3.25		
					Pump intake set at (m,	/#1)	1 3.45		4.12
					30.47	<i>ny</i>	2 3.5		4.01
Meth	od of Construction		Well Us	e	Pumping rate (I/min / G	iPM)	3 3.6		3.97
Cable Too	onventional)	Public	ic Municip		Duration of pumping		4 3.64		3.90
Rotary (R		Livesto	ck 🐹 Test Ho		Final water level end of		5 3.68		3.87
X Air percus	sion	🗌 Industri	al	a Air Conditioning	4.45	paniping (new	10 3.8		3.73
Other, sp	Construction R	Other, s		Status of Well	If flowing give rate (I/m	in / GPM)	15 3.90		3.70
Inside Diameter	Open Hole OR Material (Galvanized, Fibreglass,	Wall Thickness	Depth (<i>m/ft</i>)	X Water Supply	Recommended pump	depth (m/ft)	20 3.94		3.64
(cm/in)	Concrete, Plastic, Steel)	(cm/in)	From To	Replacement Well	15.23 Recommended pump	rate	25 3.99		3.61
15.86	Steel	.48 +	.45 9.44	Recharge Well	(l/min / GPM) 45.5		30 4.0		3.58
				Observation and/or Monitoring Hole	Well production (I/min)	/ GPM)	40 4.00		3.54
				Alteration (Construction)	Disinfected?		50 4.5		3.51
				Abandoned, Insufficient Supply	X Yes No		60 4.4	5 60	3.49
Outside	Construction R	ecord - Screen	Depth (<i>m/ft</i>)	Abandoned, Poor Water Quality	Please provide a map t		ell Location instructions on th	ne back.	
Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	From To	Abandoned, other,	5				
				· · · · · · · · · · · · · · · · · · ·	N 1				
				Other, <i>specify</i>			L		
1	Water De		the second se	lole Diameter		1	#2710		
	d at Depth Kind of Wate		ntested Dep From	th (<i>m/ft)</i> Diameter To (<i>cm/in</i>)				-	
Water found	d at Depth Kind of Wate	r: 🗌 Fresh 🔀 U	ntested 0	9.44 15.86		i []			
66.44m	/ft) Gas Other, spo d at Depth Kind of Wate	r: Fresh III	ntested 9.44	68.57 15.23			4	1	
	(ft) Gas Other, spe					Torolling			
Rueineen Ma	Well Contractor	or and Well Teo	chnician Informa	tion ell Contractor's Licence No.	CAR	PRA	0.6.45	L	
	1 Water Supply	Ltd.]	5 5 8					
Business Ac Box 49	Idress (Street Number/Na	ime)		unicipality Stittsville	Comments:				
BOX 49 Province	Postal Code	Business E-r		DITTER					******
Ontari			ce@ capital		information	ckage Deliver	ed Mi Audit N	nistry Use	
	ne No. <i>(inc. area code)</i> Ni 3 3 6 1 7 6 6	ame of Well Tech Miller,		rirst Name)	package 2 0 delivered Date W	1 4 0 9 ork Completed	18	~18	8563
6 1 3 8									
1 1	an's Licence No. Signature		nd or Contractor Da	te Submitted 0 1 4 0 9 1 ె8	X Yes	1 4 0 9		^	

7247944



Well Location

Address of Well Location	2826 CARP ROAD
Township	HUNTLEY TOWNSHIP
Lot	009
Concession	CON 02
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	CARP
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 422710.00 Northing: 5017334.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	CLAY	STNS		0 ft	13 ft
GREY	SNDS			13 ft	200 ft
	SNDS			200 ft	211 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant UsedVolume(Material and Type)Placed	
0 ft	44 ft	2 BAGS CEMENT	
		HEAVY DRIVE SHOE	
		5 BAGS QUICK QROUT	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Test Hole



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Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
6 inch	STEEL	0 ft	44 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To	

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 2558

Results of Well Yield Testing

After test of well yield, water was	CLOUDY
If pumping discontinued, give reason	
Pump intake set at	155 ft
Pumping Rate	5 GPM
Duration of Pumping	1 h:0 m
Final water level	16.45 ft
If flowing give rate	
Recommended pump depth	175 ft
Recommended pump rate	3 GPM
Well Production	
Disinfected?	Y



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Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1	18.1 ft	1	19.7 ft
2	18.3 ft	2	19.2 ft
3	18.6 ft	3	18.9 ft
4	18.85 ft	4	18.7 ft
5	19.05 ft	5	18.5 ft
10	19.65 ft	10	17.9 ft
15	20.1 ft	15	17.6 ft
20	20.4 ft	20	17.25 ft
25	20.55 ft	25	17.1 ft
30	20.7 ft	30	17 ft
40	21 ft	40	16.85 ft
45		45	
50	21.15 ft	50	16.75 ft
60	21.25 ft	60	16.76 ft

Water Details

Water Found at Depth	Kind
50 ft	Untested
155 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	44 ft	25.4 inch

Audit Number: Z199203

Date Well Completed: August 06, 2015

Date Well Record Received by MOE: September 10, 2015

7247945

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Well ID		Environmen	it map
Well ID Number: 7247945 Well Audit Number: Z199204 Well Tag Number: A162801		Technical do record	ocumentation: Metadata
This table contains information	n from the original well record and any subsequent updates.		

Well Location

Address of Well Location	2826 CARP ROAD
Township	HUNTLEY TOWNSHIP
Lot	009
Concession	CON 02
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	CARP
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 422990.00 Northing: 5017873.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	CLAY	STNS		0 ft	16 ft
GREY	SNDS			16 ft	200 ft
	SNDS			200 ft	

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	44 ft	2 BAGS CEMENT	
		4 BAGS HOLE PLUG	
		HEAVY DRIVE SHOE	
		5 BAGS GROUT	

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	Method of Construc	tion & Well Use		
	Method of Construction	Well Use		
	Rotary (Convent.)	Test Hole		

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
6 inch	STEEL	0 ft	44 ft

Construction Record - Screen

Outside	Material	Depth	Depth
Diameter		From	To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 2558

Results of Well Yield Testing

After test of well yield, water was	CLOUDY
If pumping discontinued, give reason	
Pump intake set at	105 ft
Pumping Rate	5 GPM
Duration of Pumping	1 h:0 m
Final water level	13.95 ft
If flowing give rate	
Recommended pump depth	175 ft
Recommended pump rate	3 GPM
Well Production	
Disinfected?	Y

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Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1	16.4 ft	1	14.6 ft
2	16.7 ft	2	14.2 ft
3	16.85 ft	3	14.1 ft
4	17 ft	4	14.05 ft
5	17.25 ft	5	14.02 ft
10	17.45 ft	10	13.98 ft
15	17.5 ft	15	13.97 ft
20	17.53 ft	20	13.96 ft
25	17.53 ft	25	13.95 ft
30	17.53 ft	30	13.95 ft
40	17.53 ft	40	13.95 ft
45		45	
50	17.53 ft	50	13.95 ft
60	17.53 ft	60	13.95 ft

Water Details

Water Found at Depth	Kind
125 ft	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 ft	44 ft	25.4 inch

Audit Number: Z199204

Date Well Completed: August 06, 2015

Date Well Record Received by MOE: September 10, 2015



Appendix 2

• Laboratory Certificates of Analysis - Groundwater

Environment Testing

Client: Attention: PO#:	Paterson Group 154 Colonnade Rd South Nepean, ON K2E 7T7 Mr. Russell Chown 9511		Report Number: Date Submitted: Date Reported: Project: COC #:	1700977 2017-01-20 2017-01-22 PH3158 61826
Invoice to:	Paterson Group	Page 1 of 2		

Dear Russell Chown:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

🛟 eurofins

	Dragana	Digitally signed by Dragana Dzeletovic DN: cn=Dragana Dzeletovic,
	Dzeletov	o=Exova Canada Inc., ou=Exova Canada Inc., email=dragana.
APPROVAL:	ic	dzeletovic@exova.com, c=CA Date: 2017.01.22 12:17:19 -05'00'
	Dragana Dzeletovi Team Leader, Mic	

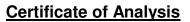
All analysis is completed in Ottawa, Ontario (unless otherwise indicated).

Eurofins Ottawa is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on our CALA scope of accreditation. It can be found at http://www.cala.ca/scopes/2602.pdf.

Eurofins (Ottawa) is certified and accredited for specific parameters by OMAFRA, Ontario Ministry of Agriculture, Food and Rural Affairs (for farm soils). Licensed by Ontario MOE for specific tests in drinking water.

Eurofins (Mississauga) is accredited for specific parameters by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required.



Environment Testing

Client:	Paterson Group
	154 Colonnade Rd South
	Nepean, ON
	K2E 7T7
Attention:	Mr. Russell Chown
PO#:	9511
Invoice to:	Paterson Group

eurofins

Report Number:	1700977
Date Submitted:	2017-01-20
Date Reported:	2017-01-22
Project:	PH3158
COC #:	61826

				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1278246 Water 2017-01-19 TW1-WS1	1278247 Water 2017-01-19 TW1-WS2
Group	Analyte	MRL	Units	Guideline		
Microbiology	Heterotrophic Plate Count	0	ct/1mL		0	1
Others	Escherichia Coli	0	ct/100mL	MAC 0	0	0
	Faecal Coliforms	0	ct/100mL		0	0
	Faecal Streptococcus	0	ct/100mL		0	0
	Total Coliforms	0	ct/100mL	MAC 0	0	0

Guideline = ODWSOG

* = Guideline Exceedence

All analysis completed in Ottawa, Ontario (unless otherwise indicated by ** which indicates analysis was completed in Mississauga, Ontario). Results relate only to the parameters tested on the samples submitted. Analytical Method: AMBCOLM1 additional QA/QC information available on request. 146 Colonnade Rd. Unit 8, Ottawa, ON K2E 7Y1 MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Page 2 of 2

Environment Testing

Client: Attention: PO#:	Paterson Group 154 Colonnade Rd South Nepean, ON K2E 7T7 Mr. Russell Chown 9511		Report Number: Date Submitted: Date Reported: Project: COC #:	1700994 2017-01-20 2017-01-27 PH3158 61826
Invoice to:	Paterson Group	Page 1 of 6		

Dear Russell Chown:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

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APPROVAL:

Rebecca Koshy Project Manager

All analysis is completed in Ottawa, Ontario (unless otherwise indicated).

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Environment Testing

Client:	Paterson Group
	154 Colonnade Rd South
	Nepean, ON
	K2E 7T7
Attention:	Mr. Russell Chown
PO#:	9511
Invoice to:	Paterson Group

1700994
2017-01-20
2017-01-27
PH3158
61826

Group	Analyte	MRL	Units	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D. Guideline	1278301 Water 2017-01-19 TW1-WS1	1278302 Water 2017-01-19 TW1-WS2
Calculations	Hardness as CaCO3	1	mg/L	OG 100	431*	428*
	Ion Balance	0.01			1.01	0.99
	TDS (COND - CALC)	1	mg/L	AO 500	734*	728*
General Chemistry	Alkalinity as CaCO3	5	mg/L	OG 500	250	255
	Cl	1	mg/L	AO 250	194	190
	Colour	2	TCU	AO 5	7*	8*
	Conductivity	5	uS/cm		1130	1120
	DOC	0.5	mg/L	AO 5	2.9	2.6
	F	0.10	mg/L	MAC 1.5	0.24	0.28
	N-NO2	0.10	mg/L	MAC 1.0	<0.10	<0.10
	N-NO3	0.10	mg/L	MAC 10.0	<0.10	<0.10
	рН	1.00		6.5-8.5	7.77	7.81
	SO4	1	mg/L	AO 500	46	45
	Turbidity	0.1	NTU	AO 5.0	2.4	2.1
Metals	Ca	1	mg/L		118	117
	Fe	0.03	mg/L	AO 0.3	0.40*	0.38*
	К	1	mg/L		5	5
	Mg	1	mg/L		33	33
	Mn	0.01	mg/L	AO 0.05	0.04	0.04
	Na	2	mg/L	AO 200	64	60
Nutrients	Organic Nitrogen	0.08	mg/L	OG 0.15		0.08
	Total Kjeldahl Nitrogen	0.1	mg/L		0.1	0.2
Phenols	Phenols	0.001	mg/L		<0.001	<0.001
Subcontract	N-NH3	0.01	mg/L		0.10	0.12
	S2-	0.02	mg/L	AO 0.05	0.05	0.06*

Guideline = ODWSOG

* = Guideline Exceedence

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Environment Testing

Client:	Paterson Group	Report Number:	1700994
	154 Colonnade Rd South	Date Submitted:	2017-01-20
	Nepean, ON	Date Reported:	2017-01-27
	K2E 7T7	Project	PH3158
Attention:	Mr. Russell Chown	COC #:	61826
PO#:	9511		
Invoice to:	Paterson Group		

Group	Analyte	MRL	Units	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D. Guideline	1278301 Water 2017-01-19 TW1-WS1	1278302 Water 2017-01-19 TW1-WS2
Subcontract	Tannin & Lignin	0.1	mg/L		0.1	0.2

Guideline = ODWSOG

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* = Guideline Exceedence

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Environment Testing

Client:	Paterson Group
	154 Colonnade Rd South
	Nepean, ON
	K2E 7T7
Attention:	Mr. Russell Chown
PO#:	9511
Invoice to:	Paterson Group

🛟 eurofins

 Report Number:
 1700994

 Date Submitted:
 2017-01-20

 Date Reported:
 2017-01-27

 Project:
 PH3158

 COC #:
 61826

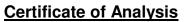
QC Summary

Ar	nalyte	Blank	QC % Rec	QC Limits
Run No 320773	Analysis/Extraction Date 20	17-01-20 Analyst C	_F	
Method C SM2130B				
Turbidity		<0.1 NTU	98	70-130
Run No 320826	Analysis/Extraction Date 20	17-01-20 Analyst S	КН	
Method M SM3120B-	3500C			
Calcium		<1 mg/L	98	90-110
Potassium		<1 mg/L	97	87-113
Magnesium		<1 mg/L	98	76-124
Sodium		<2 mg/L	109	82-118
Run No 320837	Analysis/Extraction Date 20	17-01-23 Analyst A	ET	
Method C SM4500-N	03-F			
N-NO2		<0.10 mg/L	100	80-120
N-NO3		<0.10 mg/L	97	80-120
Run No 320840 Analysis/Extraction Date 2017-01-23 Analyst K_A				
Method EPA 200.8				
Iron		<0.03 mg/L	101	91-109
Manganese		<0.01 mg/L	100	92.9-107
Run No 320843	Analysis/Extraction Date 20	17-01-20 Analyst K	_A	

Guideline = ODWSOG

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Environment Testing

Client:	Paterson Group
	154 Colonnade Rd South
	Nepean, ON
	K2E 7T7
Attention:	Mr. Russell Chown
PO#:	9511
Invoice to:	Paterson Group

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Report Number:	1700994
Date Submitted:	2017-01-20
Date Reported:	2017-01-27
Project:	PH3158
COC #:	61826

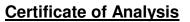
QC Summary

Analyte	Blank	QC % Rec	QC Limits
Method SM 4110			
Chloride	<1 mg/L	102	90-110
SO4	<1 mg/L	107	90-110
Run No 320889 Analysis/Extraction Date 20	17-01-23 Analyst A	ET	
Method C SM4500-H+B			
Alkalinity (CaCO3)	<5 mg/L	99	90-110
Conductivity	<5 uS/cm	99	90-110
F	<0.10 mg/L	108	90-110
рН	6.31	99	90-110
Run No 320929 Analysis/Extraction Date 20	17-01-24 Analyst A	ET	
Method C SM5310C			
DOC	<0.5 mg/L	102	84-116
Run No 320951 Analysis/Extraction Date 20	17-01-25 Analyst A	ET	
Method C SM2120C			
Colour	<2 TCU	100	90-110
Run No 321087 Analysis/Extraction Date 20	17-01-26 Analyst S	DC	
Method SUBCONTRACT P			
N-NH3	<0.01 mg/L	98	
Phenols	<0.001 mg/L	92	

Guideline = ODWSOG

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Environment Testing

Client:	Paterson Group
	154 Colonnade Rd South
	Nepean, ON
	K2E 7T7
Attention:	Mr. Russell Chown
PO#:	9511
Invoice to:	Paterson Group

🛟 eurofins

Report Number:	1700994
Date Submitted:	2017-01-20
Date Reported:	2017-01-27
Project:	PH3158
COC #:	61826

QC Summary

Analyte	Blank	QC % Rec	QC Limits
S2-	<0.02 mg/L	98	
Tannin & Lignin	<0.1 mg/L	100	
Total Kjeldahl Nitrogen	<0.1 mg/L	97	
Run No 321160 Analysis/Extraction Date 20	017-01-27 Analyst S	СМ	
Method C Ion Balance			
Ion Balance			
Method C SM2340B			•
Hardness as CaCO3			
Method C SM2540			
TDS (COND - CALC)			
Method C SM4500-Norg-C	•		
Organic Nitrogen			

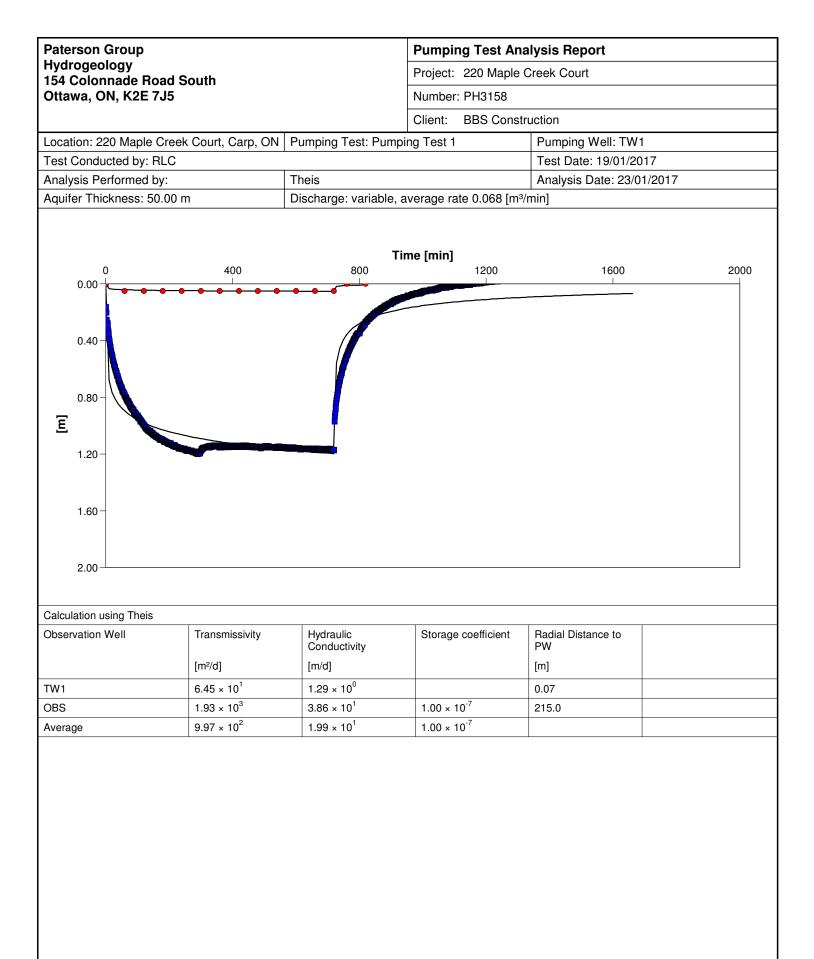
Guideline = ODWSOG

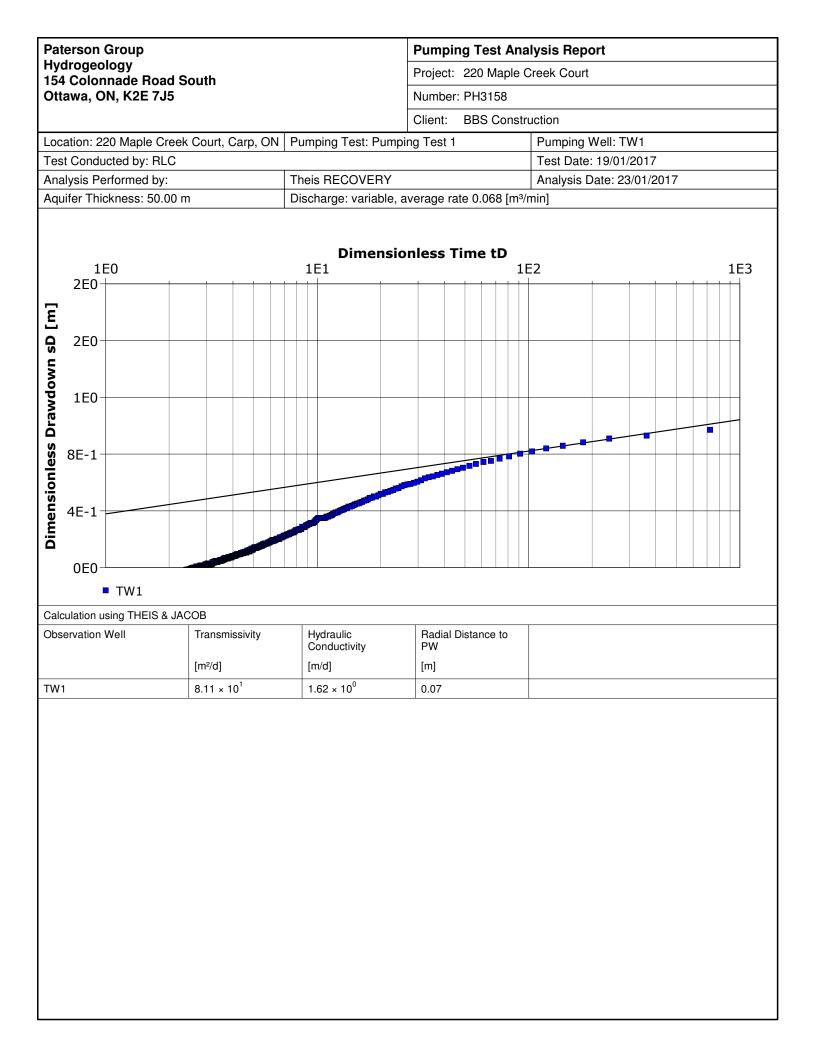
* = Guideline Exceedence

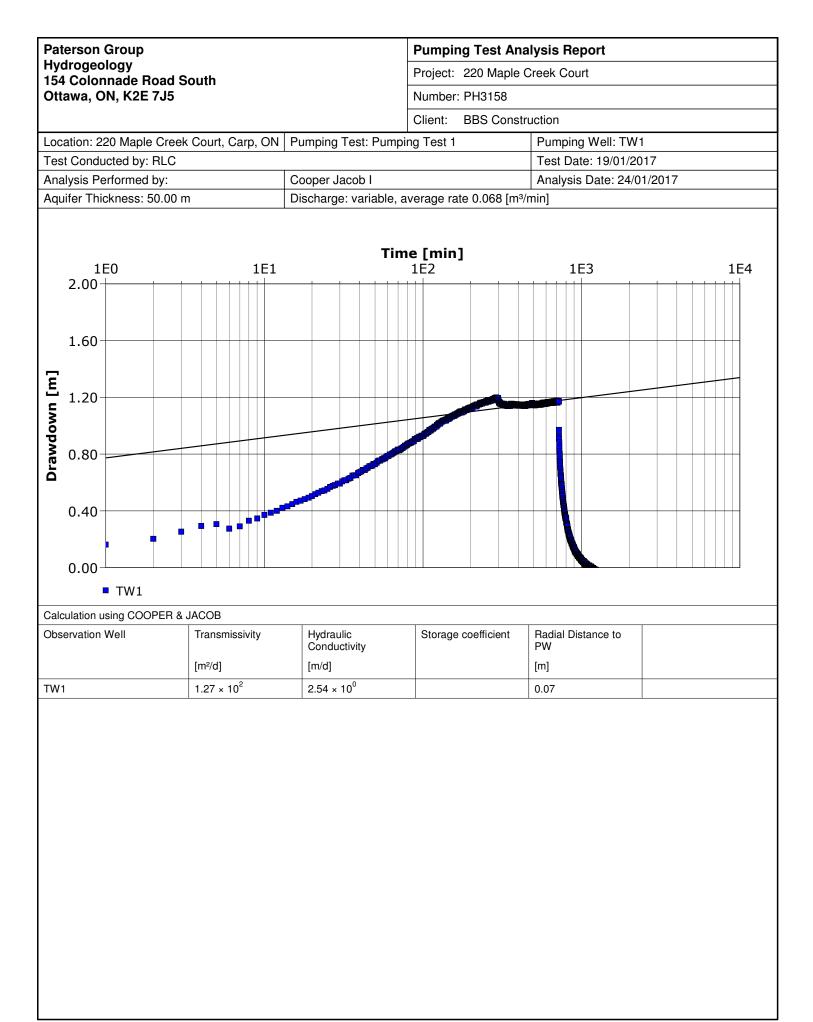
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Appendix 3

- Aquifer Analysis
- Langlier Saturation Index / Ryznar Stability Index Calculations
- Offsite Well Owner Interviews







	terson Group				Pumping	g Test Ana	lysis Re	port		
-	drogeology 4 Colonnade Roac	I South			Project: 2	220 Maple C	reek Cou	rt		
-	Ottawa, ON, K2E 7J5			Number: F	PH3158					
					Client: E	3BS Constru	uction			
Loc	ation: 220 Maple Cre	ek Court, Carp, ON	Pumping Tes	st: Pumpi	ng Test 1		Pumpinę	g Well: TW1		
Tes	st Conducted by: RLC)					Test Da	te: 19/01/20	17	
Aqı	uifer Thickness: 50.0	0 m	Discharge: va	ariable, a	verage rate	e 0.068 [m³/r	nin]			
	Analysis Name	Analysis Performed by	Analysis Date	Method	name	Well		T [m²/d]	K [m/d]	S
1	Theis		23/01/2017	Theis		TW1		6.45 × 10 ¹	1.29×10^{0}	
2	Theis		23/01/2017	Theis		OBS		1.93 × 10 ³	3.86 × 10 ¹	1.00 × 10 ⁻⁷
3	Theis RECOVERY		23/01/2017	Theis Re	ecovery	TW1		8.11 × 10 ¹	1.62×10^{0}	
4	Cooper Jacob I		24/01/2017	Cooper a	& Jacob I	TW1		1.27 × 10 ²	2.54×10^{0}	
							Average	5.51 × 10 ²	1.10 × 10 ¹	1.00 × 10 ⁻⁷
								1		

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patersongroup 210 & 220 Maple Creek Drive PH3158

TW1	inputs				
рН	7.81	А	0.19		
TDS	728	В	2.34		
Hardness	428	С	2.23		
Alkalinity Temp.	255 11.9	D	2.41		
remp.	11.9	pHs =	7.192664254		
Langli	er Saturation Index (LSI) C	alculation	(Langlier, 1936)		
	LSI = pH - pHs	A = (Log10 [TDS] -	1) / 10		
	pHs = (9.3 + A + B) - (C + D)	B = -13.12 × Log10	(oC + 273) + 34.55		
	Where:	C = Log10 [Ca2+ as			
		5			
		D = Log10 [alkalinit	v as CaCO31		
		D = Log10 [alkalinit	y as CaCO3]		
		D = Log10 [alkalinit LSI	· -		
LSI	Effect				
LSI 0.5 to 2	Effect Water is super saturated and tends to precipitate	LSI	= 0.6		
-		LSI	= 0.6 cale forming but non-corrosive)		
0.5 to 2	Water is super saturated and tends to precipitate	e a scale layer of calcium carbonate (s a scale layer of calcium carbonate (slig	= 0.6 cale forming but non-corrosive)).	
0.5 to 2 0 to 0.5	Water is super saturated and tends to precipitate Water is super saturated and tends to precipitate	e a scale layer of calcium carbonate (s a scale layer of calcium carbonate (slig rbonate. A scale layer of calcium carb	= 0.6 cale forming but non-corrosive) thtly scale forming and corrosive onate is neither precipitated nor).	

Ryznar	Stability Index (RSI) Calculation	on	(Ryznar,		
	RSI = 2(pHs) - pH				
		R	SI =	6.6	
RSI	Effect				
<5.5	Heavy scale will form				
5.5 to 6.2	Scale will form				
6.2 to 6.8	No scale or corrosion				
6.8 to 8.8	Water is aggresively corrosive				
>8.5	Water is very agressively corrosive				

patersongroup	Wa	ter Well / Septic S	System Insp	ection Log	
Address:	205 MAPLE	CREEK CourtProject	Number:	PH3158	
Name of Property Owner		SANTO 1			
Date of Inspection:		Owner	telephone No:	613-836-	- 5388
Paterson Rep:	24/JAN/17 RLC			12:00 Noon	
				12.00 / 00.00	
Well Details					
Is well casing exposed a	bove ground surface ?	(Ø/N	L	ength of stickup:	0.44m
Does owner have a copy	y of the 'water well record'	? Y N Try to obt	ain a copy or get data	ails (take a photo)	
How old is the well?	? In wh	at year was the house bui	lt ?		
Depth of well? ' man	<u>55'</u> Dept	n of well casing ?	D	iameter of casing:	4" 6" ./)other ?
Who drilled the well?	No inducat	Von on car	c	heck well cap for driller ID	
		D	<u> </u>		
Water Quality	4				
Taste ?	good			(Can	dank)
Odour?	good			<u> </u>	atos)
Colour ?	<u>Sood</u> -	no color	سى	·	
Hardness ?	normal				
History of bacteria testin	ig?				
Any other water quality r	related comments or issue	s?			
Water treatment details:	(Aid not for	us on this)	h.		
SAMPLING DETAILS:					
	Copy of results to well ov	vner? (get contact details / ema	ail address)	<u> </u>	
	Temp pH	Cond	TDS		с.
Water Quantity		,			
Size of pump in well ? Pumping rate ?	NO INFO	Type of	f pump ?		
Depth of pump in well ?			h	as owner ever seen it layed	out on surface ?
	ed comments or issues ?	Kla			
Has the well ever run dr			····		
	, ·				
Septic System	draw location on sketch	uck intervious	- dic r	ret focus or	reptuc system
Class 4? Tertiary treatment?			_		the-
· ·	oblems with the septic sys	tem? Y/N			
		Ĺ	ノ -	· · · · · · · · · · · · · · · · · ·	
		<u></u>			
Environmental Concer	ns no.c.	A		0	
Surface water ?	none -	vac tucks	across of vi	al i	
Septic System ?			· · ····-		
Land use ?				-	
Neighbouring properties	;?			ł.	· .
	ntamination (onsite and off	site) ?			trac
			the second se	logistics cen	u 25
Please sketch the site layout s	showing well location and location) of septic system - on reverse s	de		
			Santo Pe	corella	santo@o-l-c.c
I					tel: 613 836 538

All dimensions in metres (m) unless 205 Maple Creek Court Carp, ON Canada KOA 1LO tel: 613.836.5388 www.o-l-c.ca

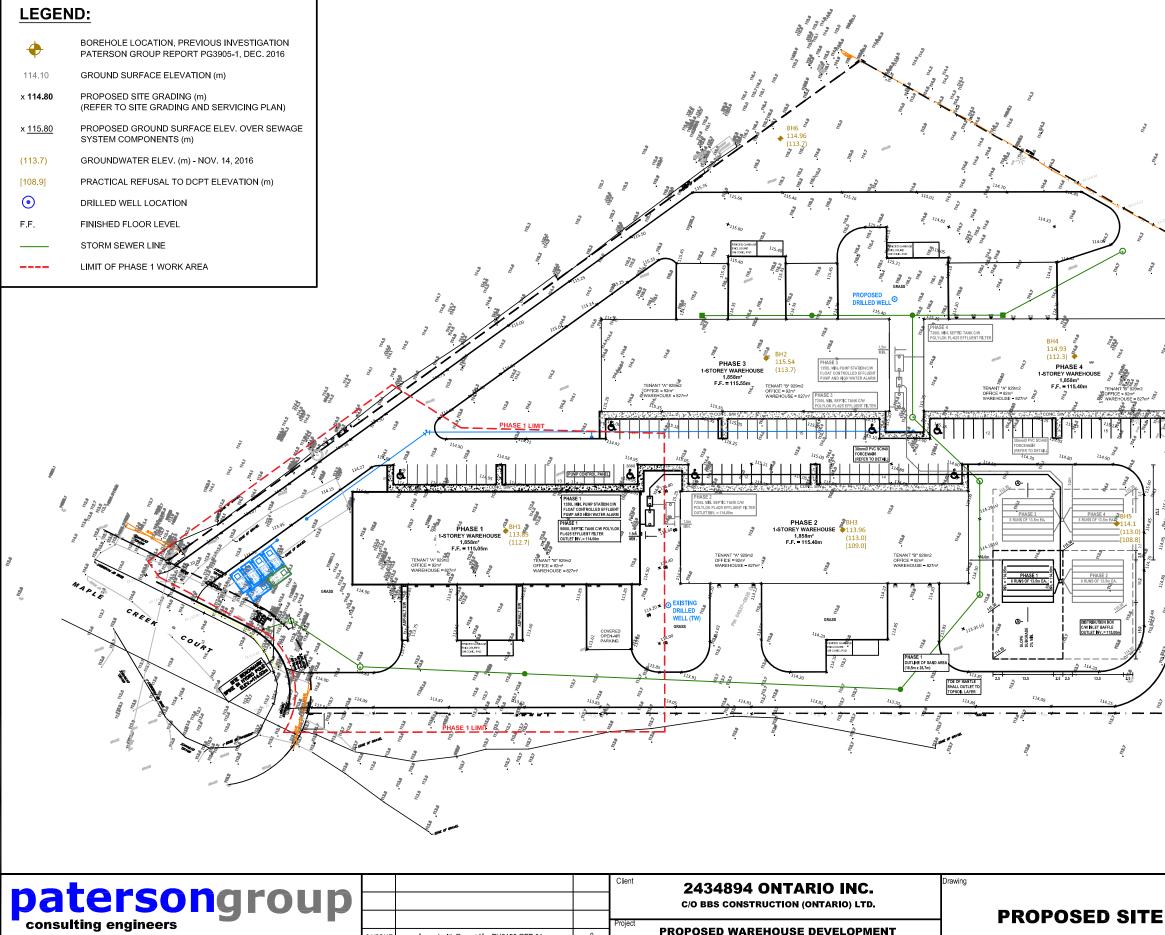
 $\mathcal{F} \cong \mathcal{F}_{\mathcal{F}}$

patersongroup					spection Log	
Address:	<u>210 MAREC</u> m: <u>N</u> <u>18/JAN/17</u>	EEK COUR	$\tau_{\tau_{\star}}$ Project Nu	imber:	PH315	8
Name of Property Owne	r: A	CM SER	RVICES	_	CHRIS	
Date of Inspection:	18/JAN/17	· •	Owner tele	phone No:	613-913-	7493
Paterson Rep:	R		-	Time onsite:	12:25 pu	
					<u>- 12 = 2 pr</u>	
Well Details						
Is well casing exposed a	above ground surface ?		Y / N		Length of stickup:	
Does owner have a cop	y of the 'water well recor	rd'? Y/N	Try to obtain	a copy or get d	latails (take a photo)	
How old is the well ?	In v	what year was tł	he house built ?)		
Depth of well?	Ďe	pth of well casin	ıg ?		Diameter of casing:	
Who drilled the well?					check well cap for driller -	ID
Water Quality						
Taste ?					A	
Odour ?	PONT	DS	INK	$\sim \omega$	1762	•••
Colour ?		Not-	hoor	ed	No.	
Hardness ?	•		~ 4	î	1	
History of bacteria testir		NØ	PU	MA		
÷	related comments or iss	ues?	· · · · · · ·	1		
Mater tractment details						<u> </u>
Water treatment details SAMPLING DETAILS:			50.4	17 LE		
SAMELING DETAILS.	Copy of results to well	NT				
	Temp pl		act details / email a	TDS		•
Water Quantity			· · · · · · · · · · · · · · · · · · ·			
Size of pump in well ?			Type of p	Imp ?		
Pumping rate ?				•		
Depth of pump in well ?					has owner ever seen it l	ayed out on surface ?
Any water quantity relat	ed comments or issues	?				
Has the well ever run d	y ?					
Septic System	draw location on sketch					
Class 4 ? Tertiary treatment	2					
Have there been any pr	oblems with the septic s	system ?	Y / N			
Environmental Conce	rns	TRAN	SFER	STA	TION	
Surface-water?		, , ,				
Septic System ?						
Land use ?				Kris N	orric	
Neighbouring properties	3?					
Potential sources of col	ntamination (onsite and	offsite) ?		Cell: 613.9		
Please sketch the site layout	showing well location and loca	tion of septic systen	n - on reverse side	Fax: 613.8		
			4		hydrovac.com hydrovac.com	
D.1	All	dimensions in me	atres (m) unless c			🕑 24 hour service



Appendix 4

• Drawing No. PH3158-2– Proposed Site Development Plan



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Rev.

Issued with Report No. PH3158-REP.01

Description

	01/02/17
154 Colonnade Road, Ottawa, Ontario K2E 7J5	Date

PROPOSED WAREHOUSE DEVELOPMENT 210 & 220 MAPLE CREEK COURT OTTAWA, ONTARIO

PROPOSED SITE

Scale: Drawn by: 1:1000 Date: 02/2017 Checked I 02/2017	HV
E LAYOUT PLAN Drawing no.: PH3158	