Geotechnical Engineering

**Environmental Engineering** 

**Hydrogeology** 

Geological Engineering

**Materials Testing** 

**Building Science** 

Archaeological Services

# patersongroup

# **Phase I-Environmental Site Assessment**

1104 Halton Terrace and 1150 Old Carp Road Ottawa, Ontario

**Prepared For** 

Novatech Engineering

# **Paterson Group Inc.**

Consulting Engineers 154 Colonnade Road South Ottawa (Nepean), Ontario Canada K2E 7J5

Tel: (613) 226-7381 Fax: (613) 226-6344 www.patersongroup.ca March 18, 2019

Report: PE4576-1



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# **EXECUTIVE SUMMARY**

# Assessment

Paterson Group was retained by Novatech Engineering to conduct a Phase I-Environmental Site Assessment (ESA) for the properties located at 1104 Halton Terrace and 1150 Old Carp Road, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the subject site and Phase I Study Area and to identify any environmental concerns with the potential to have impacted the Phase I Property.

According to the historical research, the Phase I Property has never been developed and was historically used as an agricultural field. Historical land use of the neighbouring properties was for residential and agricultural purposes. No potentially contaminating activities were identified with the historical use of the subject site or surrounding lands.

Following the historical research, a site visit was conducted. The subject site is currently vacant. No potential environmental concerns were noted with the current use of the Phase I Property. Neighbouring properties in the Phase I Study Area consist of vacant lands to the north, residential to the west and south, and commercial to the east. No potentially contaminating activities were identified on the Phase I Property or in the Study Area. Therefore, no areas of potential environmental concern with respect to the Phase I Property were identified.

Based on the results of the assessment, it is **our opinion that a Phase Il-Environmental Site Assessment is not required for the subject property.** 



# 1.0 INTRODUCTION

At the request of Novatech Engineering, Paterson Group (Paterson) conducted a Phase I-Environmental Site Assessment (Phase I-ESA) of the property located at 1104 Halton Terrace and 1150 Old Carp Road, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I-ESA by Mr. Mark Bissett with Novatech Engineering. The head office is located at 200-240 Michael Cowpland Drive, Ottawa, Ontario. Mr. Bissett can be reached by telephone at (613) 254-9643.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all of our findings and results of the environmental conditions at this site.

This Phase I-ESA report has been prepared in general accordance with the requirements of Ontario Regulation (O.Reg.) 153/04, as amended, under the Environmental Protection Act, and also complies with the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I-ESA 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 others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.



# 2.0 PHASE I PROPERTY INFORMATION

Address: 1104 Halton Terrace and 1150 Old Carp Road,

Ottawa, Ontario

Legal Description: Parts 1, 2, and 3 on Plan 4R20188 and Block 101 on

Plan 4M1280, in the City of Ottawa

Location: The site is located on the southwest corner of where

Carp Road transects with Halton Terrace, in the City of Ottawa, Ontario. Refer to Figure 1 - Key Plan in

the Figures section following the text.

PIN: 04526-1109 and 04526-1306

Latitude and Longitude: 45°21' 25.97" N, 75° 56' 11.66" W

**Site Description:** 

Configuration: Irregular

Area: 2.75 Hectares (approximately)

Zoning: Development Reserve Zone

Current Use: The subject site is currently vacant and undeveloped

land.

Services: The subject site is situated in an area where adjacent

lands are currently serviced by private wells and

sewage systems.



# 3.0 SCOPE OF INVESTIGATION

e scope of work for this Phase I – Environmental Site Assessment was as lows:
Determine the historical activities on the subject site and study area by conducting a review of readily available records, reports, photographs, plans, mapping, databases, and regulatory agencies;
Investigate the existing conditions present at the subject site and study area by conducting site reconnaissance;
Conduct interviews with persons knowledgeable of current and historic operations on the subject property, and if warranted, neighbouring properties;
Present the results of our findings in a comprehensive report in general accordance with the requirements of O.Reg. 269/11 amending O.Reg. 153/04 made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
Provide a preliminary environmental site evaluation based on our findings;
Provide preliminary remediation recommendations and further investigative work if contamination is suspected or encountered.



# 4.0 RECORDS REVIEW

# 4.1 General

# **Phase I-ESA Study Area Determination**

A radius of approximately 250 m was determined to be appropriate as a Phase I study area for this assignment. Properties outside the 250 m radius are not considered to have impacted the subject land, based on their significant distance from the site.

# First Developed Use Determination

Based on an aerial photograph from 1976, the subject site has never been developed.

# **Fire Insurance Plans**

Fire Insurance Plans (FIPs) are not available for the subject area.

# **City of Ottawa Street Directories**

There are no city directories for the subject site and study area.

# **Chain of Title**

Paterson did not request a Chain of Title for the subject site as it was determined that sufficient information was gathered from other sources, such as personal interviews, aerial photographs and previous engineering reports.

# **Environmental Reports**

Paterson Group has conducted environmental and geotechnical investigations in the immediate vicinity of the subject site. Based on a review of our files, no potential environmental concerns were identified on the subject site or neighbouring lands.

# Survey Plan and Plan of Subdivision

No survey plan or plan was available for review.



# 4.2 Environmental Source Information

#### **Environment Canada**

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on March 11, 2019. The subject site and adjacent properties were not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I study area.

# **PCB** Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located within the Phase I study area.

# Ministry of the Environment, Conservation and Parks (MECP) Instruments

A request was submitted to the MECP Freedom of Information (FOI) office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MECP issued instruments for the site. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

#### **MECP Submissions**

A request was submitted to the MECP FOI office for information with respect to reports related to environmental conditions for the property. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

# **MECP Incident Reports**

A request was submitted to the MECP FOI office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MECP for the site or adjacent properties. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.



# **MECP Waste Management Records**

A request was submitted to the MECP FOI office for information with respect to waste management records. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

# **MECP Coal Gasification Plant Inventory**

The Ontario Ministry of Environment document titled "Municipal Coal Gasification Plant Site Inventory, 1991" was reviewed to reference the locations of former plants with respect to the site. No Municipal Coal Gasification Plant Sites are located within the Phase I study area.

# **MECP Brownfields Environmental Site Registry**

A search of the MECP Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Records of Site Condition (RSCs) were filed for the subject property or properties within the Phase I ESA study area.

# **MECP Waste Disposal Site Inventory**

The Ontario Ministry of Environment document titled "Waste Disposal Site Inventory in Ontario, 1991" was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. There are no former waste disposal sites located within 1 km of the Phase I study area.

# Areas of Natural Significance

A search for areas of natural significance and features within the Phase I study area was conducted on the website of the Ontario Ministry of Natural Resources (MNR) on March 11, 2019. The search did not reveal areas of natural significance within the Phase I study area.

# Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on March 12, 2019, to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. No records are listed in the TSSA registry for the subject site or the adjacent properties. A copy of the TSSA correspondence is included in Appendix 2.



# City of Ottawa Landfill Document

The document entitled "Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa", was reviewed. There are no closed landfill sites within the vicinity of the Phase I study area.

# **City of Ottawa Historical Land Use Inventory (HLUI)**

A search of the City of Ottawa's Historical Land Use Inventory (HLUI) database was conducted as part of this assessment. At the time of issuance of this report, the HLUI search results had not been received. A copy of the HLUI request form is provided in Appendix 2.

# 4.3 Physical Setting Sources

# **Aerial Photographs**

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. Based on the review, the following

1976	The subject site appears as agricultural land at this time. The
	surrounding lands appear as farmsteads and agricultural fields.
	March Road and Old Carp Road are present at this time.

- No significant changes are apparent to the subject site. Neighbouring lands appear unchanged from the previous photograph, with the exception of some soil disturbances occurring to the east, on a property across March Road.
- The subject site appears unchanged from the previous photograph. Pre-development activities are apparent on the adjacent properties to the east, west and south of the subject site. A residential development further south is present at this time.
- No significant changes are apparent to the subject site. Halton Terrace is present in this photograph. New residential developments can be seen to the east, west and south. Some commercial developments can also be seen to the east across March Road.
- The subject site and surrounding area appear unchanged from the previous photograph.

Laser copies of selected aerial photographs reviewed are included in Appendix 1.

Report: PE4576-1 March 18, 2019



# **Topographic Maps**

Topographic maps were obtained from Natural Resources Canada – The Atlas of Canada website and from the City of Ottawa website. The topographic maps indicate that the regional topography in the general area of the site slopes down in a northly direction towards Shirley's Brook. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

# **Physiographic Maps**

The Ontario Geological Survey publication 'The Physiography of Southern Ontario, Third Edition' was reviewed as a part of this assessment. According to the publication, the site is situated within the Ottawa Clay Plain physiographic region.

# **Geological Maps**

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area consists of interbedded sandstone and dolomite, of the March Formation. The surficial geology in the western and eastern part of the site consists of exposed Paleozoic bedrock and offshore marine sediments, respectively, with a drift thickness ranging from 0 to 2 m, respectively.

#### **Water Well Records**

A Well Record search was conducted on March 11, 2019 for all drilled wells within 250 m of the subject site. The well record search returned eighteen (18) well records, all of which were domestic wells from the late 1960s to 2008. One domestic well was identified at the residence on the western portion of 1150 Old Carp Road. Copies of the well records have been included in Appendix 2.

#### **Water Bodies**

Shirley's Brook is the closest body of water located approximately 325 m south of the Phase I Property.

# **Areas of Natural Significance**

No areas of natural significance were identified in the Phase I Study Area.



# 5.0 INTERVIEWS

# **Property Owner Representative**

Novatech Engineering was contacted via email as part of this assessment. Novatech Engineering is the consultants representing the property owner, Village at the School Yard Inc., for future residential and commercial developments. The land had been used for agricultural purposes in the past and is now vacant. Novatech Engineering is not aware of any potential environmental concerns with respect to the subject or adjacent properties. The current property owner was unavailable for an interview.

# 6.0 SITE RECONNAISSANCE

# 6.1 General Requirements

The site visit was conducted on March 12, 2019. Weather conditions were sunny with a temperature of approximately -3°C. Ms. Mandy Witteman from the Environmental Department of Paterson conducted the site assessment. In addition to the site, the uses of neighbouring properties within the Phase I Study Area were also assessed at the time of the site visit.

# 6.2 Specific Observations at Phase I Property

# **Site Features**

The subject property is vacant and undeveloped land. At the time of the visit, the ground surface was covered in snow.

Site drainage consists primarily of infiltration. The site topography appeared to be somewhat at grade with Halton Terrace and Old Carp Road.

The regional topography slopes down in a north-easterly direction towards Shirley's Brook.

No underground utilities were noted on-site. No drains or private sewage systems were observed at the subject property at the time of the site visit. No evidence of current or former railway or spur lines was observed on the subject property at the time of the site visit. No areas of stained snow or unidentified substances were observed on-site at this time.



# **Buildings and Structures**

There is one unutilized shed on the subject site.

# **Neighbouring Properties**

An inspection of the neighbouring properties was conducted from publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

☐ North -	Old Carp Road, followed by vacant land;
☐ South -	Halton Terrace, followed by residential dwellings;
□ East -	Halton Terrace, followed by vacant land and a stormwater management pond;
□ West -	Residential dwellings, followed by Dunollie Crescent.

The current use of the immediately adjacent properties is not considered to pose an environmental concern to the Phase I Property. No properties within the Phase I Study Area are occupied by potentially contaminating activities. Current land use in the Phase I Study Area is illustrated on Drawing PE4576-2 – Surrounding Land Use Plan in the Figures section of this report.



# 7.0 REVIEW AND EVALUATION OF INFORMATION

# 7.1 Land Use History

Based on the available historical records, the Phase I Property has never been developed. No potential environmental concerns were noted with the historical and current land use.

# Potentially Contaminating Activities and Areas of Potential Environmental Concern

No potentially contaminating activities (PCAs) were identified on the Phase I Property or within the Phase I Study Area. Therefore, no Areas of Potential Environmental Concern (APECs) were identified on the subject site.

### **Contaminants of Potential Concern**

No Contaminants of Potential Concern (CPCs) were identified on the subject site.

# 7.2 Conceptual Site Model

# **Geological and Hydrogeological Setting**

Based on the information from the Geological Survey of Canada, the overburden thickness is estimated to be in the order of 0 to 2 m, which consists of exposed Paleozoic bedrock and offshore marine sediments. Bedrock consists of interbedded sandstone and dolomite of the March Formation.

Groundwater flow is interpreted to be in a north-easterly direction towards the Shirley's Brook.

# **Existing Buildings and Structures**

An unutilized shed is located on the southwest corner of the Phase I Property.

# Water Bodies and Areas of Natural Significance

No water bodies or areas of natural significance were identified on the Phase I Property or within the Phase I Study Area.

# **Drinking Water Wells**

There are no potable water wells on the subject site. Eighteen (18) domestic well records were identified within the study area, one of which was located on the adjacent property to the west.



# **Neighbouring Land Use**

Neighbouring land use in the Phase I Study Area consists of vacant land, residential dwellings and some commercial retailers.

# Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, PCAs were not identified on the Phase I Property or within the Phase I Study Area. Therefore, no APECs are present on the Phase I Property.

#### Contaminants of Potential Concern

As per Section 7.1 of this report, no Contaminants of Potential Concern (CPCs) were identified on the Phase I Property.

# Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I-ESA is considered to be sufficient to conclude that there are no APECs on the subject site. A variety of independent sources were consulted as part of this assessment, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.



# 8.0 CONCLUSIONS

# Assessment

Paterson Group was retained by Novatech Engineering to conduct a Phase I-Environmental Site Assessment (ESA) for the properties located at 1104 Halton Terrace and 1150 Old Carp Road, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the subject site and Phase I Study Area and to identify any environmental concerns with the potential to have impacted the Phase I Property.

According to the historical research, the Phase I Property has never been developed and was historically used as an agricultural field. Historical land use of the neighbouring properties was for residential and agricultural purposes. No potentially contaminating activities were identified with the historical use of the subject site or surrounding lands.

Following the historical research, a site visit was conducted. The subject site is currently vacant. No potential environmental concerns were noted with the current use of the Phase I Property. Neighbouring properties in the Phase I Study Area consist of vacant lands to the north, residential to the west and south, and commercial to the east. No potentially contaminating activities were identified on the Phase I Property or in the Study Area. Therefore, no areas of potential environmental concern with respect to the Phase I Property were identified.

Based on the results of the assessment, it is **our opinion that a Phase Il-Environmental Site Assessment is not required for the subject property.** 



# 9.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04, as amended, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA 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 others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Novatech Engineering. Permission and notification from Novatech Engineering and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Mandy Witteman, M.A.Sc.

Mark S. D'Arcy, P.Eng.

# M. S. D'ARCY 90377839

#### **Report Distribution:**

■ Novatech Engineering

Paterson Group



# 10.0 REFERENCES

# **Federal Records**

Air photos at the Energy Mines and Resources Air Photo Library.

National Archives.

Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).

Natural Resources Canada – The Atlas of Canada.

Environment Canada, National Pollutant Release Inventory.

PCB Waste Storage Site Inventory.

## **Provincial Records**

MECP Freedom of Information and Privacy Office.

MECP Municipal Coal Gasification Plant Site Inventory, 1991.

MECP document titled "Waste Disposal Site Inventory in Ontario".

MECP Brownfields Environmental Site Registry.

Office of Technical Standards and Safety Authority, Fuels Safety Branch.

MNR Areas of Natural Significance.

MECP Water Well Record Inventory.

Chapman, L.J., and Putnam, D.F., 1984: 'The Physiography of Southern Ontario, Third Edition', Ontario Geological Survey Special Volume 2.

# **Municipal Records**

City of Ottawa Document "Old Landfill Management Strategy, Phase I -

Identification of Sites.", prepared by Golder Associates, 2004.

Intera Technologies Limited Report "Mapping and Assessment of Former Industrial Sites, City of Ottawa", 1988.

geoOttawa: City of Ottawa electronic mapping website.

City of Ottawa Historical Land Use Inventory (HLUI) Database

# **Local Information Sources**

Personal Interviews.

# **Public Information Sources**

Google Earth.

Google Maps/Street View.

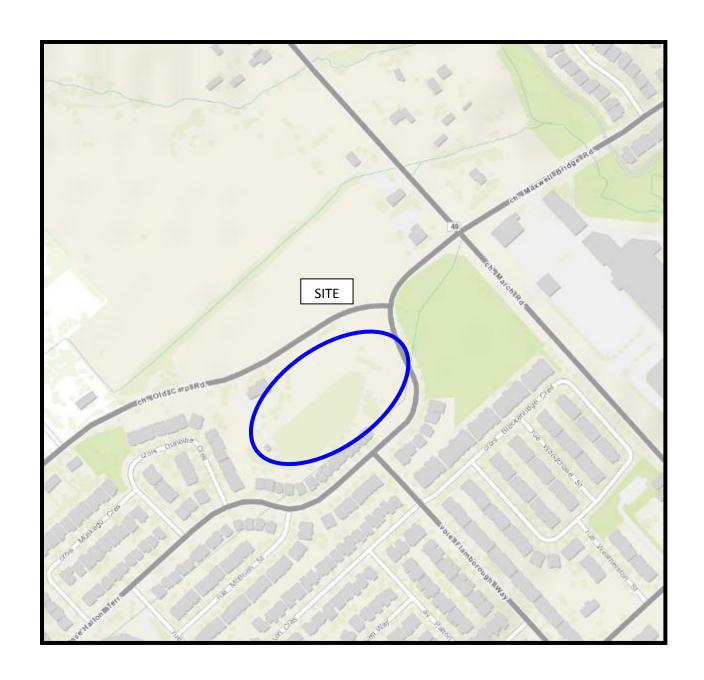
# **FIGURES**

FIGURE 1 – KEY PLAN

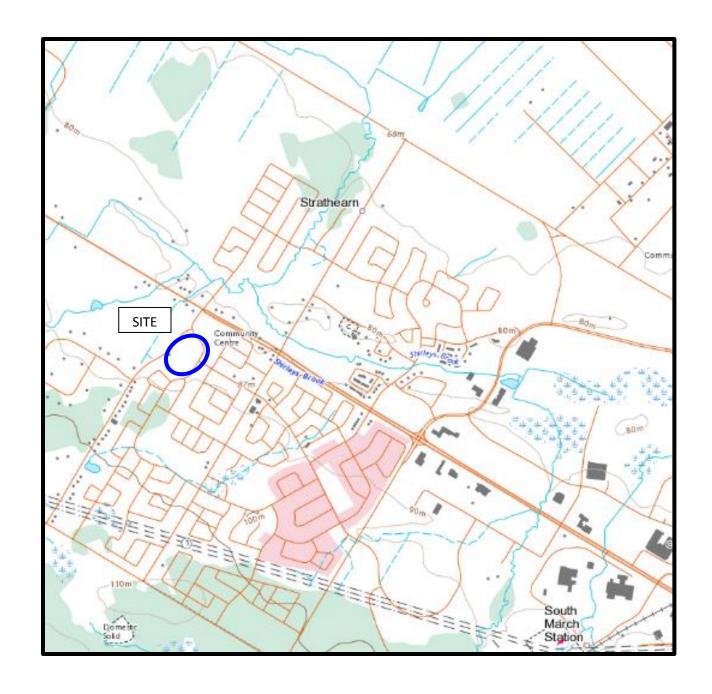
FIGURE 2 – TOPOGRAPHIC MAP

**DRAWING PE4576-1 – SITE PLAN** 

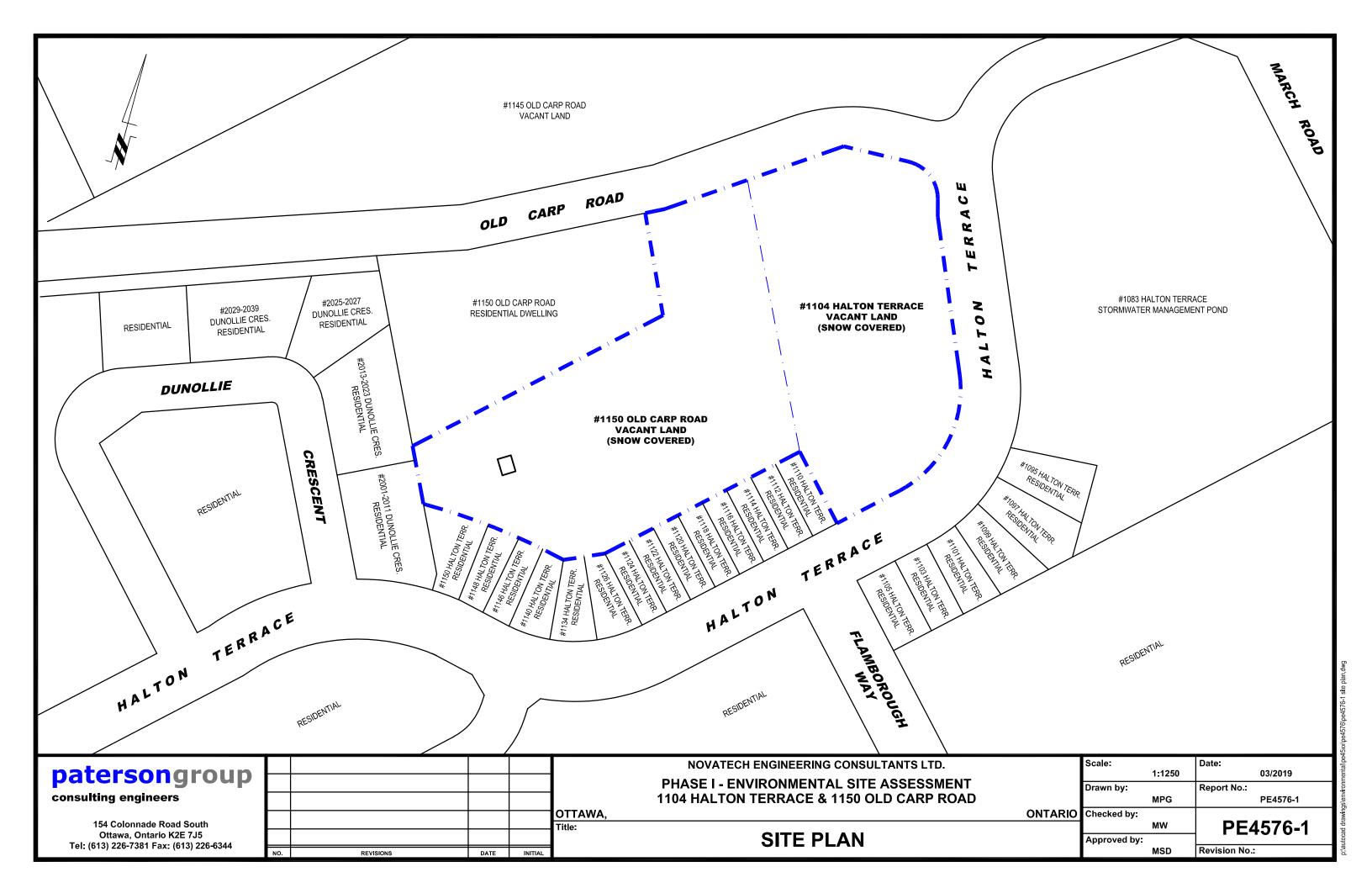
**DRAWING PE4576-2 – SURROUNDING LAND USE PLAN** 

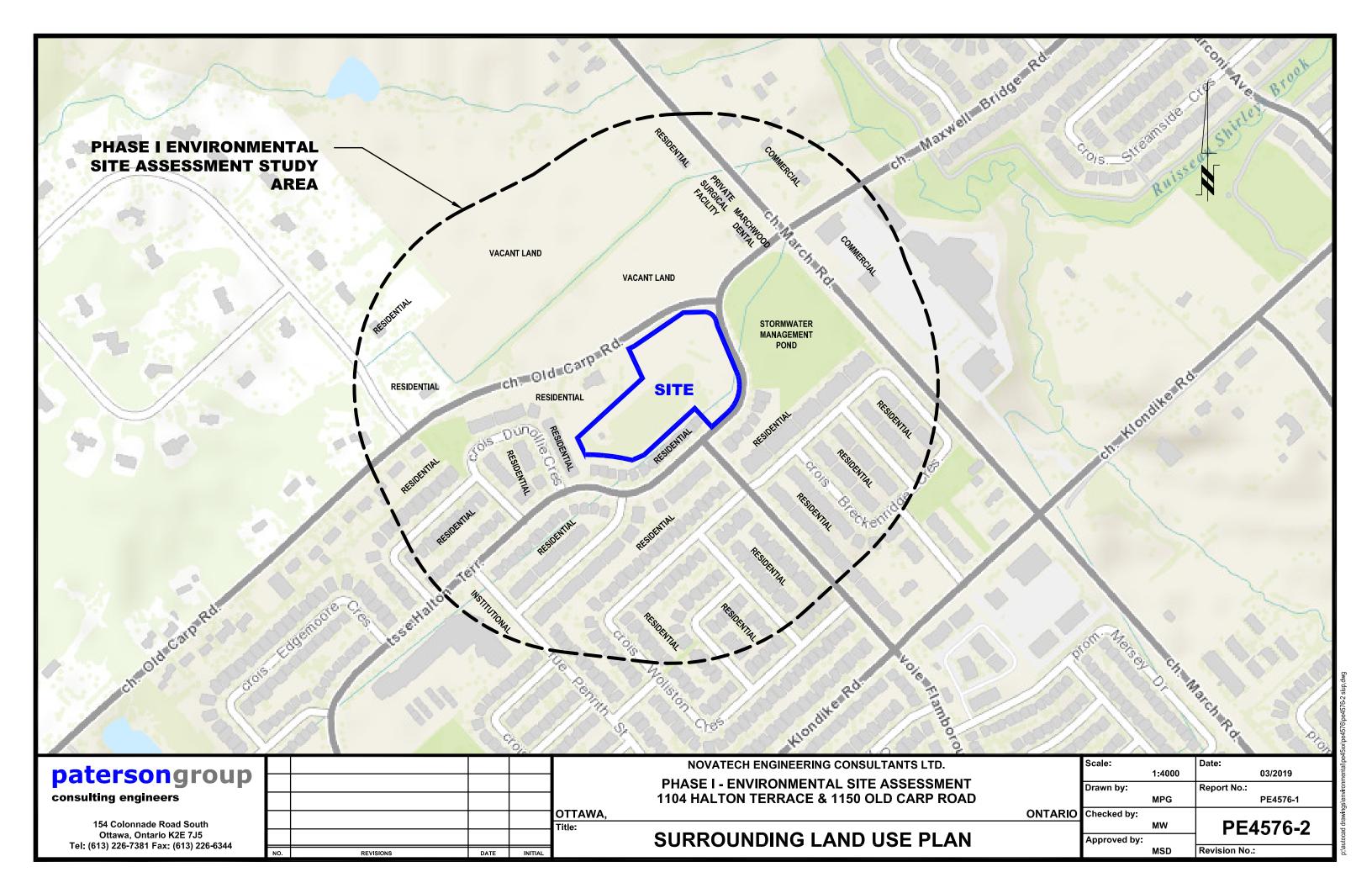


# FIGURE 1 KEY PLAN



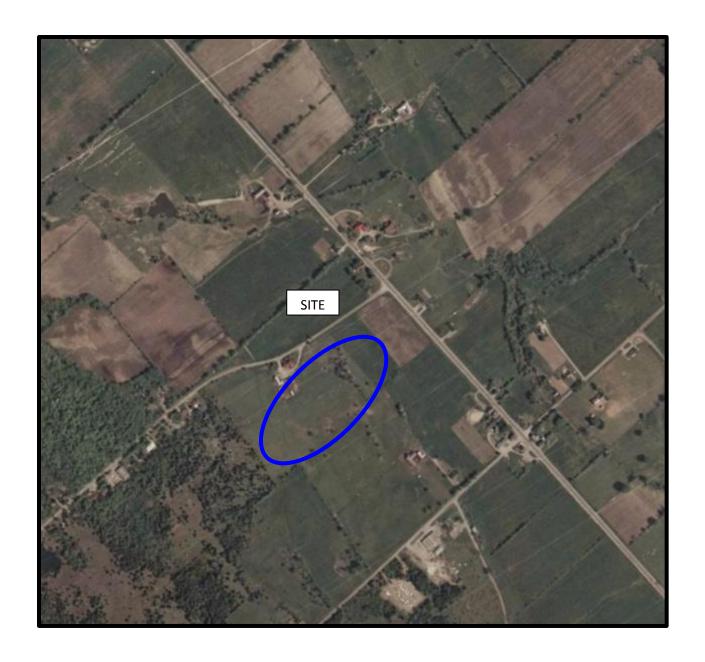
# FIGURE 2 TOPOGRAPHIC MAP





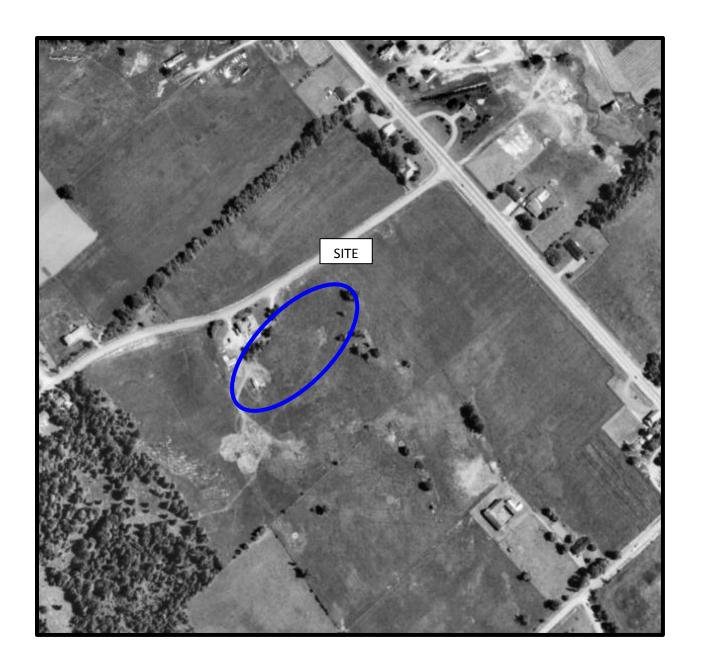
# **APPENDIX 1**

AERIAL PHOTOGRAPHS
SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH 1976

patersongroup \_\_\_\_

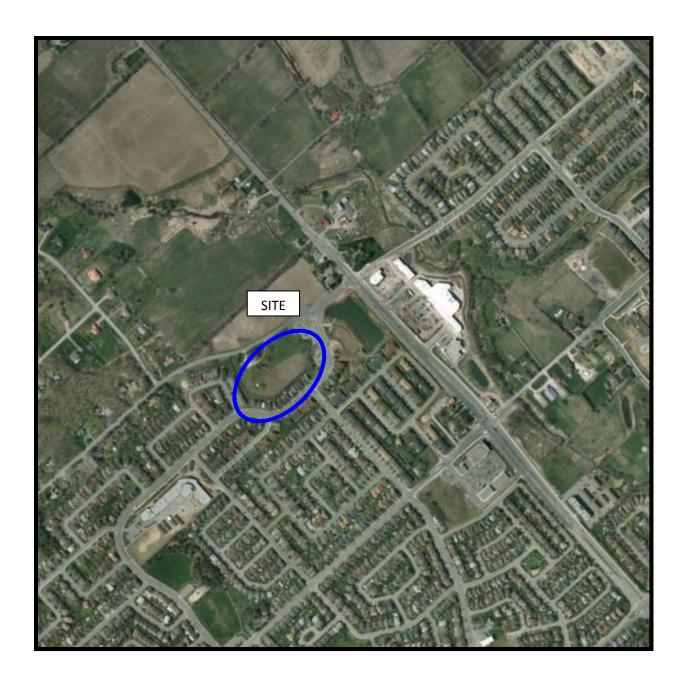


AERIAL PHOTOGRAPH 1991

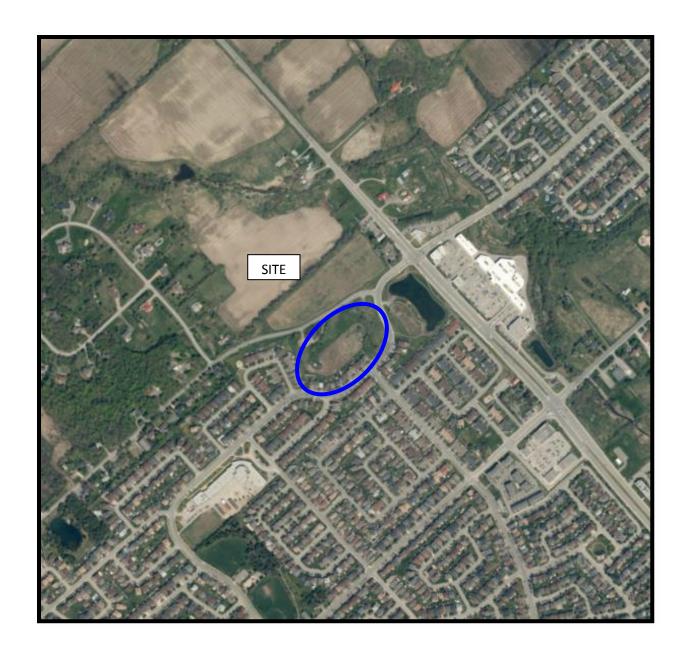
patersongroup \_\_\_\_\_



AERIAL PHOTOGRAPH 2002



AERIAL PHOTOGRAPH 2011



AERIAL PHOTOGRAPH 2017

# **Site Photographs**

PE4576

1104 Halton Terrace and 1150 Old Carp Road, Ottawa, ON

March 12, 2019



Photograph 1. View of the subject site, taken from Old carp Road, looking east.



Photograph 2: View of the subject site, taken from Old Carp Road, looking south.

# **Site Photographs**

PE4576

1104 Halton Terrace and 1150 Old Carp Road, Ottawa, ON

March 12, 2019



Photograph 3: View of the subject site, taken from Old Carp Road, looking west.



Photograph 4: View of the subject site, taken from Halton Terrace, looking west.

# **APPENDIX 2**

MECP FREEDOM OF INFORMATION

TSSA CORRESPONDENCE

HLUI RESPONSE

MECP WELL RECORDS



# Freedom of Information Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on completion and use of this form. Our fax no. is (416) 314-4285.

completion and use of this form			Reministra					
	Requester Data		For Ministry Use Only					
Name, Company Name, Mailing Address and	Date Request Received							
Mandy Witteman Paterson Group Inc.								
154 Colonnade Road								
Ottawa, ON K2E 7J5		Fee Paid  ACCT CHQ	VISA/MC   CASH					
Email address: mwitteman@p	oatersongroup.ca	a noon a one a	7.07 VIII - 07.011					
Telephone/Fax Nos.								
Tel. 613-226-7381	Your Project/Reference No. PE4576-1	Mandy Witteman	CNR ER N					
Fax 613-226-6344	FE4370-1 _	16	□ SAC □ IEB □ Ē	AA □ EMR □ SWA				
Request Parameters								
Municipal Address / Lot, Concession, Geog	graphic Township (Municipal	address essential for cities, towns or region	ons)					
1104 Halton Terrace and 1150 Old Carp Road, Ottawa ON (One Site /one project								
Present Property Owner(s) and Date(s) of Own								
Novatech Enginee	_							
Previous Property Owner(s) and Date(s) of Ow	mership							
Present/Previous Tenant(s): (d applicable)								
Search Parameters  Files older than 2 years may require \$60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.  Specify Year(s) Requested								
Environmental concerns (Ge	eneral correspondenc	e, occurrence reports, abatement	)	all				
Orders				all				
Spills		4.0		all				
Investigations/prosecutions	➤ Owner AND tena	nt information must be provided	\$1.00 m - 10 m -	all				
Waste Generator number/cla	asses			all				
Certificates of Approval ➤ Proponent information must be provided  1985 and prior records are searched manually. Search fees in excess of \$300.00 could be incurred, depending on the types and years to be searched. Specify Certificates of Approval number(s) (if known). If supporting documents are also required, mark SD box and specify type e.g. maps, plans, reports, etc.								
-878-1-44			SD	Specify Year(s) Requested				
air - emissions				1986-present				
water - mains, treatment, ground k	evel, standpipes & elevate	d storage, pumping stations (local & boost	er)	1986-present				
sewage - sanitary, storm, treatme	1986-present							
waste water - industrial discharge	1986-present							
waste sites - disposal, landfill site	1986-present							
waste systems - PCB destruction	1986-present							
pesticides - licenses	1986-present							

A \$5.00 non-refundable application fee, payable to the Minister of Finance, is mandatory. The cost of locating on-site and/or preparing any record is \$30.00/hour and 20 cents/page for photocopying and you will be contacted for approval for fees in excess of \$30.00.

0026 (05/02) Page 1 of 1

# **Mandy Witteman**

From: Public Information Services <publicinformationservices@tssa.org>

Sent: March-12-19 11:53 AM To: Mandy Witteman

Subject: RE: Search Records Request (PE4576)

Good morning Mandy,

Thank you for your request for confirmation of public information.

We confirm that there are no records in our database of any fuel storage tanks at the subject addresses.

For a further search in our archives please complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx? mid =392 and email the completed form to publicinformationservices@tssa.org or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Although TSSA believes the information provided pursuant to your request is accurate, please note that TSSA does not warrant this information in any way whatsoever.

Kind regards,

Sarah



# Sarah Quibell | Public Information Agent

Facilities 345 Carlingview Drive Toronto, Ontario M9W 6N9

Tel: +1-877-682-8772 | Fax: +1-416-231-6183 | E-Mail: squibell@tssa.org

www.tssa.org





From: Mandy Witteman < MWitteman@Patersongroup.ca>

Sent: March 12, 2019 11:51 AM

To: Public Information Services <publicinformationservices@tssa.org>

Subject: Search Records Request (PE4576)

Good morning,

Could you please complete a search of your records for underground/aboveground storage tanks, historical spills or other incidents/infractions for the following addresses in Ottawa, ON:

Halton Terrace: 1104, 1083, 1054,

Old Carp Road: 1150, 1145

March Rd: 895, 905, 830, 846, 886

Thank you

Cheers,

Mandy Witteman

# patersongroup Solution Oriented Engineering

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Tel: (613) 226-7381 Fax: (613) 226-6344 Cell: (403)-921-1157

Email: mwitteman@patersongroup.ca

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March 11, 2019 File: PE4576-HLUI

City of Ottawa 110 Laurier Avenue W Ottawa, Ontario K1P 1J1

Subject:

**Authorization Letter, HLUI Search** 

**Phase I-Environmental Site Assessment** 

151 Chapel Street Ottawa, Ontario

Dear Sir,

Please consider this letter as confirmation that Paterson Group has been retained to conduct a Phase I-Environmental Site Assessment at the aforementioned property.

With this letter, the property owner authorizes the City of Ottawa and other regulatory bodies to release, to Paterson Group, information requested for the purpose of completing an environmental assessment of the property.

Name of Company/Property Owner:

Name of Representative/Owner

Signature of Representative/Owner

Date

Vilage Af the Schoolyand Inc

1 March 12/19.

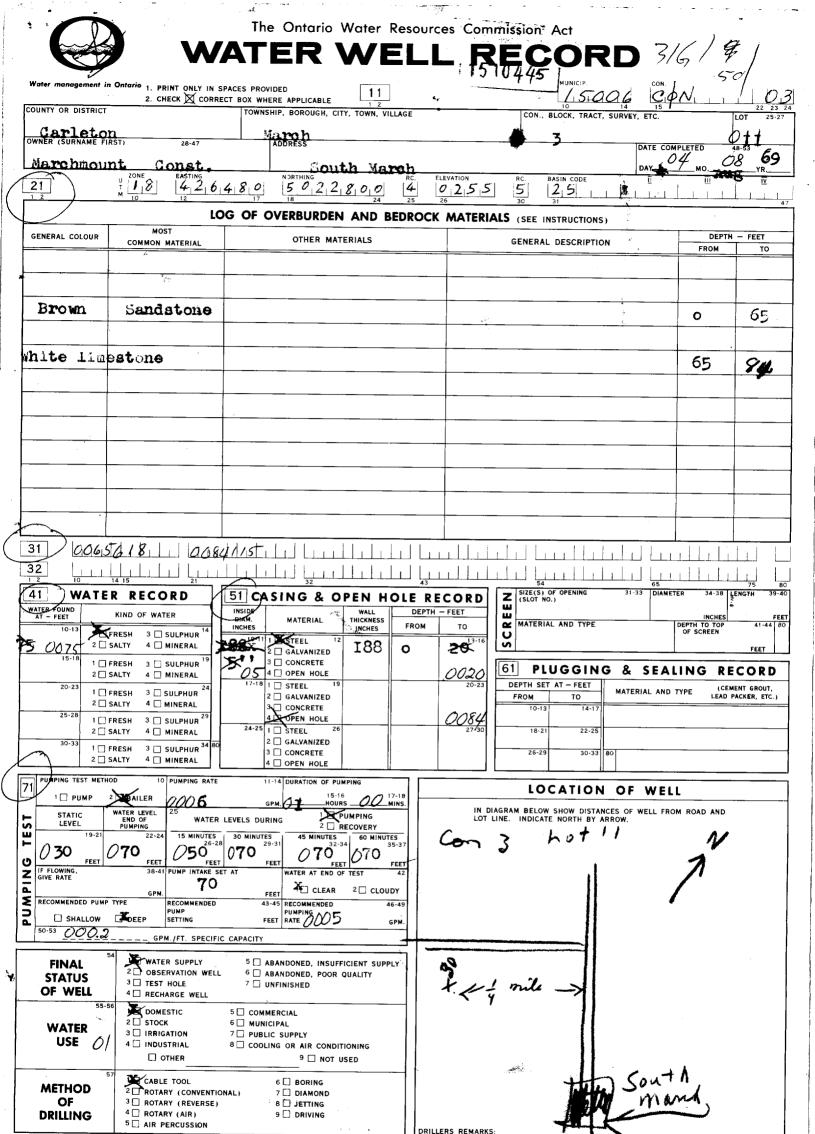
[18/2 42651610 E 5 R 15 012 219 40 The Ontario Water Resources Commission Act 14R 02610 RESOURCES COMMIS Township, Village, Town or City March Pt. of 11 Date completed 28 May year) ess South March, Ont. **Pumping Test** Casing and Screen Record Static level 71 Inside diameter of casing 15 of 5 Test-pumping rate 5 GPM G.P.M. 15 Total length of casing Pumping level 171 nil Type of screen Duration of test pumping 1 Hour nil Length of screen Water clear or cloudy at end of test clear nil Depth to top of screen Recommended pumping rate 5 GPM G.P.M. 511 Diameter of finished hole feet below ground surface with pump setting of. **Water Record** Well Log Depth(s) at Kind of water From То (fresh, salty, which water(s)Overburden and Bedrock Record sulphur) found 01 11\* Clay 11\* Red Granite **Location of Well** For what purpose(s) is the water to be used? In diagram below show distances of well from New Home road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? Upland Drilling or Boring Firm Blair Phillips Drilling Co. Ltd. Address Ottawa Licence Number 1815 Name of Driller or Borer J. Moore Address Kars, Ont. S. More 28 May 1965 (Signature of Licerson) Form 7 15M-60-4138

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388A  UTM 18 42 412 16 14 13 10 E  Co. 15 R 5 10 12 13 1 1 10 15 N Ontario Water Res  Elev. 14 R 10 12 16 10 WATER WE	LL	REC	Act DRD	JAN 17 III	S64 STER MISSION
Basin   2,5   CarleTon County or District CarleTon Lot /2	Date con	npleted	23 (day	May month Hve 01	/963 year)
Casing and Screen Record	<u></u> -		Pumpin		
Inside diameter of casing 6'/4"	Stati	c level		15	
Total length of casing 20'	Test	-pumping ra	ite	5,	G.P.M.
Type of screen 170.18	Pum	ping level		40,	,
Length of screen	Dura	ation of test	oumping	/ hr	
Depth to top of screen	Wat	er clear or cl	oudy at end o	f test c/eq	<i>.</i>
Diameter of finished hole	Rec	ommended 1	oumping rate	5	G.P.M.
Diameter of finished hote	with	pump settir	ng of 5	o feet belo	w ground surface
Well Log				Wate	r Record
Overburden and Bedrock Record		From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
clay & broken rock		0	12		
himestone		12 38	38	60	Fresh
Sand STone					
For what purpose(s) is the water to be used?  house  Is well on upland, in valley, or on hillside? Upland  Drilling or Boring Firm  Mchean Water Supply Ltd.  Address 1532 Raven Hve  Ollawa, Onl.  Licence Number 1090  Name of Driller or Borer H. Scharf	Roce Bet Lo	In diagra road and d ween	um below sho l lot line. In	of Well w distances of we ndicate north by	ell from arrow.
Address Date May 23 163 ComcLen			¥ = 17.2 17.2 ← OT 2.2 ← OT	WY 17	v RP →
(Signature of Licensed Drilling or Boring Contractor) Form 7 15M-60-4138	_		2 CH	, nen (1	
OWRC COPY					

GROUND WATER BRANCH UTM 1/8/2 41216161610 E (05 R 501212191210 N FEB 20 1932 Ontario Water Resources Commission Act ONTARIO WATER DSOURCES COMMISSION ...Township, Village, Town or City... Date completed /2Con. **Pumping Test** Casing and Screen Record Static level .... Inside diameter of casing.... Test-pumping rate Total length of casing. Pumping level Type of screen Duration of test pumping..... Length of screen. Water clear or cloudy at end of test Depth to top of screen Recommended pumping rate Diameter of finished hole with pump setting of..... feet below ground surface **Water Record** Well Log Kind of water Depth(s) at From which water(s) (fresh, salty, d Bedrock Record た found sulphur) 16 32 Location of Well For what purpose(s) is the water to be used? In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? Drilling or Boring Firm Licence Number.... Name of Driller or Borer. S. MARCH Address (Signature of Licensed Drilling or Boung Contractor) Form 7 15M Sets 60-5930 OWRC COPY C\$\$.58



NAME OF WELL CONTRACTOR

Saunde s ell Drilling 3480

Address

Artiori r

NAME OF DRILLER OR BORER

LICENCE NUMBER

LICENCE NUMBER

SIGNATURE OF CONTRACTOR

SUBMISSION DATE

DAYA

HO (11) C VE CO

DATE OF INSPECTION

DATE OF INSPECTION

INSPECTOR

S9-62 DATE RECEIVED

63-68 80

4724 210170

REMARKS:

### The Ontario Water Resources Commission Act

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## WATER WELL RECORD

Water management in Ontario 1. PRINT ONLY IN SPACE  2. CHECK ◯ CORRECT B  COUNTY OR DISTRICE	OX WHERE APPLICABLE	1511444 / 15 9	96 COM 1 22 23 24
Carleten	TOWNSHIP BOROUGH, CITY, TOWN, VILLAGE	3 9 COM., BLOOK TRACT,	4 911
	PR# 7, C	) ava	DATE COMPLETED 7 48-1
	2622880 PC	ELEVATION RC BASIN CODE	<u> </u>
LOG	OF OVERBURDEN AND BEDROO	CK MATERIALS (SEE INSTRUCTIONS)	47
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM TO
			1
grey day			0/6
			1/ 50
while sandalm			16 58
			.
31 100/6/205 1 1 1905/8/	18	<u> </u>	
32			
WATER RECORD 5	CASING & OPEN HOLE		65 75 80 31-33 DIAMETER 34-38 LENGTH 39-40
FEET KIND OF WATER	AM. MATERIAL THICKNESS CHES INCHES FROM	TO MATERIAL AND TYPE	NCHES   FEET
2 SALTY 4 MINERAL 15-18 1 FRESH 3 SULPHUR 19	10-11 Defect 12 2 Galvanized 3 Goodrete	0027	FEET
2 SALTY 4 MINERAL	4 OPEN HOLE 700 0	20-23 DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT,
1   FRESH 3   SULPHUR	2 ☐ GALVANIZED 3 ☐ CONCRETE DEOPEN HOLE	7058 FROM TO 10-13 14-17	LEAD PACKER, ETC.)
2 SALTY 4 MINERAL	24-25 1 STEEL 26 2 GALVANIZED	27-30 18-21 27-25	1
30-33 1 FRESH 3 SULPHUR 34 80 1 3 SALTY 4 MINERAL	3 ☐ CONCRETE 4 ☐ OPEN HOLE	26-29 3G-33	80
71 PUMPING TEST METHOD 10 PUMPING RATE	11-14 DURATION OF PUMPING 15-16 17-18 GPM HOURS MINS	LOCATION	OF WELL
STATIC WATER LEVEL 25 END OF PUMPING WATER LEVE	1 Danierius	IN DIAGRAM BELOW SHOW DISTAND LOT LINE. INDICATE NORTH BY A	CES OF WELL FROM ROAD AND RROW.
15-21 22-24 15 MINUTES 26-28	9 MINUTES 45 MINUTES 32-34 60 MINUTES 35-37		
FEET FEET FEET FEET FEET AT GIVE RATE GOVERNMENT OF THE FEET FEET FEET FEET FEET FEET FEET	FEET FEET FEET WATER AT END OF TEST 42		
RECOMMENDED PUMP TYPE RECOMMENDED	FEET CLEAR 2 CLOUDY  43-45 RECOMMENDED 46-49 PUMPING A A A A A A A A A A A A A A A A A A A		Bouth 10
50-53  OQ 2. 3 GPM./FT. SPECIFIC CA	FEET RATE OO GPM.		The state of the s
FINAL 54	5 ABANDONED, INSUFFICIENT SUPPLY	Tay 1	# 11 V
STATUS  OF WELL  2 OBSERVATION WELL  3 TEST HOLE  4 RECHARGE WELL	6 ABANDONED, POOR QUALITY 7 UNFINISHED		_
55-56 Lapomestic 5[	☐ COMMERCIAL		3 ///
WATER  3 ☐ IRRIGATION  7 [ 4 ☐ INDUSTRIAL  8 [	☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING	2.6	
OTHER	9 O NOT USED	1	
METHOD  OF    METHOD   1   Method   2   ROTARY (CONVENTIONAL   3   ROTARY (REVERSE)	6 DORING 7 DIAMOND 8 DIETTING		
DRILLING  4   ROTARY (AIR)  5   AIR PERCUSSION	9 DRIVING	PRILLERS REMARKS:	
Well contrictor Well	Dailboa Ricence NUMBER	DATA 58 CONTRACTOR 59 SOURCE 1 3644	-62 DATE RECEIVED 63-69 80
o Harry // (ans four f		SOURCE 3644  Date of Inspection Inspector	081071
NAME OF DIFFILLER OR BORER	LICENCE NUMBER	REMARKS:	In a
O SIGNATURE OF CONTRACTOR	SUBMISSION DATE		
well town	DAY MO VY YR	5	Carrier Wil

#### MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act R WELL RECORD 319/5d ONTARIO 512244 2. CHECK 🗵 CORRECT BOX leter 2671 4 290 4 26 JAN 12, 1975 44 LOG OF OVERBURDEN AND BEDROUR MATERIALS (SEE INSTRUCTIONS) MOST COMMON MATERIAL DEPTH - FEET GENERAL COLOUR OTHER MATERIALS GENERAL DESCRIPTION 62 Note: AAKKOLA. 00621218 WATER RECORD CASING & OPEN HOLE RECORD 51 DEPTH - FEET KIND OF WATER 41-44 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 0020 STEEL GALVANIZED 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 3 CONCRETE 4 OPEN HOLE 61 **PLUGGING & SEALING RECORD** - FEET 1 STEEL 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC 2 GALVANIZED FROM то 3 CONCRETE 4 OPEN HOLE 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 4-25 1 STEEL 27-30 2 GALVANIZED 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 30-33 CONCRETE 30-33 OPEN HOLE LOCATION OF WELL WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. PUMPING RECOVER PUMPING TEST 1 CLEAR 2 D CLOUDY 111 RECOMMENDED PUMP TYPE RECOMMENDE 11/ & DEEP **M** WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY FINAL 2 OBSERVATION WE 3 TEST HOLE 4 RECHARGE WELL OBSERVATION WELL 6 ABANDONED POOR QUALITY STATUS 7 UNFINISHED LOT 12. OF WELL 1 DOMESTIC 5 COMMERCIAL STOCK REGATION 6 MUNICIPAL 7 PUBLIC SUPPLY WATER USE 4 | INDUSTRIAL 8 COOLING OR AIR CONDITIONING 9 D NOT USED OTHER 6 D BORING 7 DIAMOND 8 DETTING 9 DRIVING 1 CABLE TOOL **METHOD** 2 ROTARY (CONVENTIONAL) ROTARY (REVERSE) OF DRILLING

DATE OF INSPECTION

REMARKS

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☐ AIR PERCUSSION

### MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

WELL RECORD 1514388 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE TOWNSHIP BOROUGH, CITY, TO Carleton 3 March DATE COMPLETED мо.\_10 # 1 Kanata, Ontario 30 74 0188 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST GENERAL COLOUR OTHER MATERIALS DEPTH - FEET COMMON MATERIAL GENERAL DESCRIPTION FROM ΤO **fill** 0 3 white sandstone 3 137 white sandstone granite 137 140 0003 01 1 0137118 1 014011821 WATER RECORD 51 **CASING & OPEN HOLE RECORD** SIZE(S) OF OPEN SCREEN KIND OF WATER DEPTH - FEET WALL THICKNESS MATERIAL AND TYPE FROM tο 41-44 FRESH 3 SULPHUR
SALTY 4 MINERAL 0075 1 STEEL
2 GALVANIZED 00 22 188 n 1 TRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE 61 **PLUGGING & SEALING RECORD** 7/8 GOPEN HOLE 138 22 140 DEPTH SET AT - FEET 1 FRESH 3 SULPHUR 24
2 SALTY 4 MINERAL STEEL MATERIAL AND TYPE 2 GALVANIZED FROM CONCRETE 0140 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL AOPEN HOLE STEEL 18-21 2 GALVANIZED 30-33 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 26-21 30-33 80 CONCRETE DO 12 LOCATION OF WELL 0 1 15-16 00 17-18 HOURS 00 MIN T DMOUMP 2 🗆 BAILER 1 B PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND STATIC LEVEL WATER LEVELS DURING 2 | RECOVERY LOT LINE. INDICATE NORTH BY ARROW PUMPING TEST 15 MINUTES 30 MINUTES 45 MINUTES 60 MINUTES 32.34 26-28 29-31 0 23 0 70 FEET 0 70 FEET O 70 FEET 070 FEET 1 🏿 CLEAR RECOMMENDED PUMP SETTING 43-45 O 75 FEET RAE O O 5 SHALLOW TEDEEP GPM./FT. SPECIFIC CAPACITY WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY **FINAL** 2 | OBSERVATION WELL ABANDONED, POOR QUALITY **STATUS** TEST HOLE

RECHARGE WELL 7 🔲 UNFINISHED OF WELL COMMERCIAL DOMESTIC STOCK MUNICIPAL **WATER** П PUBLIC SUPPLY USE 0/ INDUSTRIAL COOLING OR AIR CONDITIONING ☐ OTHER 9 | NOT USED new home - stree found METHOD 5 6 BORING
7 DIAMOND
8 DETTING CABLE TOOL ROTARY (CONVENTIONAL)
ROTARY (REVERSE) OF Cedar Jenish T ROTARY (AIR) DRIVING **DRILLING** 5 AIR PERCUSSION DRILLERS REMARKS 081174 CONTRACTOR 558 Capital Water Supply Ltd. 155B DATE OF INS USE 10 Stittsville, Ontario OFFICE Dagg

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### MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

316/52

L RECORD 1514412 15006 COA 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY, TOV Carleton March DATE COMPLETED 17 <sub>MO</sub> 10 YR. 74 DAY\_ Kanata. Ontario 0285 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST GENERAL COLOUR DEPTH - FEET GENERAL DESCRIPTION COMMON MATERIAL FROM то send brown 0 3 grey anada tona hard 247 024721873 32 41 SIZE(S) OF OPENIN WATER RECORD 51 **CASING & OPEN HOLE RECORD** SCREEN WATER FOUND AT - FEET KIND OF WATER WALL THICKNESS INCHES DEPTH - FEET MATERIAL AND TYPE FRESH 3 SULPHUR FROM то DEPTH TO TOP OF SCREEN 41-44 2 SALTY 4 MINERAL 168 0020 61 0 2 GALVANIZED
3 CONCRETE 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 61 **PLUGGING & SEALING RECORD** 5/8 DOPEN HOLE 247 20 AT - FEET 1 | FRESH 3 | SULPHUR 24
2 | SALTY 4 | MINERAL STEEL MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) 2 GALVANIZED FROM CONCRETE 0247 OPEN HOLE FRESH 3 - SULPHUR 2 2 SALTY 4 MINERAL STEEL 18-21 22-25 2 GALVANIZED 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL CONCRETE 30-33 80 4 D OPEN HOL LOCATION OF WELL 2 🗆 BAILER ☐ PUMP WATER LEVEL END OF PUMPING 22-24 IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND 1 T PUMPING WATER LEVELS DURING 2 | RECOVERY LOT LINE. PUMPING TEST 15 MINUTES 30 MINUTES MINUTES 60 MI 32-34 26-26 29-31 DRY FEET FEET WATER AT END OF TEST I CLEAR 2 CLOUDY RECOMMENDED PUMP SETTING RECOMMENDED PUMPING DEEP FEET OLD CARP GPM./FT. SFECIFIC CAPACITY # ABANDONED, INSUFFICIENT SUPPLY 1 WATER SUPPLY FINAL 2 G OBSERVATION WELL A BANDONED, POOR QUALITY OF WELL 5 STATUS 7 UNFINISHED 4 | RECHARGE WELL 1 d DOMESTIC COMMERCIAL 2 STOCK 6 MUNICIPAL WATER 3 | IRRIGATION PUBLIC SUPPLY INDUSTRIAL USE COOLING OR AIR CONDITIONING cedar finished home ☐ OTHER 9 🗆 NOT USED 1 CABLE TOOL 6 BORING METHOD \_ 2 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) 7 DIAMOND OF # | JETTING DRILLING 4 🖂 ROTARY (AIR) B DRIVING F AIR PERCUSSION DRILLERS REMARKS NAME OF WELL CONTRACTOR ONTRACTOR 59-62 DATE RECEIVED 0 8 1 1 7 4 LICENCE NUMBER CONTRACTOR ONLY Capital Water Supply Ltd. CONTRACTOR 1558 DATE OF INSPECTIO 10 Box 490 Stittsville, Ontario Р OFFICE WΙ

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FORM 7 07-091

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### MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

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FORM 7

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WELL RECOR 1514785 15006 CØN 2. CHECK 🗵 CORRECT BOX WHERE APPL Carleton Max c LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL COLOUR MOST COMMON MATERIAL DEPTH - FEET GENERAL DESCRIPTION Brown 17-1 0 Sand Strie 90 QS 002560585 0090218173 WATER RECORD 51 **CASING & OPEN HOLE RECORD** SCREEN KIND OF WATER WALL THICKNESS INCHES MATERIAL AND TYPE 1 FRESH 2 SALT SULPHUR 4 | MINERAL GALVANIZED
GONCRETE
GREN HOLE .188 FRESH 3 SULPHUR
CONTROL
CONTRO 61 **PLUGGING & SEALING RECORD** STEEL DEPTH SET AT - FEET 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 GALVANIZED CONCRETE 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 STEEL 2 2 GALVANIZED 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 3 CONCRETE 30-33 80 DIRATION OF PUMPING

15-16

O O17-18

HOURS LOCATION OF WELL 2 | BAILER WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. 1 PUMPING
2 D RECOVERY PUMPING RECOMMENDED 43-45
PUMP
SETTING FEET
GPM./FT. SPECIFIC CAPACITY DEEP WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY FINAL OBSERVATION WELL & ABANDONED, POOR QUALITY **STATUS** 3 | TEST HOLE
4 | RECHARGE WELL 7 🗆 UNFINISHED OF WELL DOMESTIC 5 COMMERCIAL 2 STOCK
3 RRIGATION 6 | MUNICIPAL
7 | PUBLIC SUPPLY **WATER** USE D 4 | INDUSTRIAL 8 COOLING OR AIR CONDITIONING 9 NOT USED OTHER 1 CABLE TOOL
2 ROTARY (CONVENTIONAL) METHOD Z 6 🖺 BORING 7 DIAMOND 3 | ROTARY (REVERSE)
4 | ROTARY (AIR)
5 | AIR PERCUSSION OF 8 | JETTING DRILLING 9 DRIVING ONLY CONTRACTOR () Hear USE ( OFFICE WI

### MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

## WATER WELL RECORD

Ontario	1. PRINT ONLY IN 2. CHECK ⊠ CORF	SPACES PROVIDED		11	51626	0	MUNICIP. 15101016	(C)	<u> </u>	03
COUNTY OR DISTRICT	ton	TOWNSHIP, BOROUGH, CITY,	TOWN, VILLAG	3		con 3	., BLOCK, TRACT, SURVE	Y, ETC.	1	9/2527
					0+4			DATE COMP	PLETED 4	8-53
		NG 23.	mscse A 1.4.0	<u>ve.</u>	Ottawa,	Un tar	BASIN CODE 26	11	111	iv
1 2	** 10 12	OG OF OVERBURDEN	AND BED	ROCI	K MATERIA	LS (SEE	31		,	47
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MAT	ERIALS			GENEF	RAL DESCRIPTION		DEPTH FROM	- FEET
brown	clay				pa	cked			0	В
brown	clay	boulders			pa	cked			9	11
grey	limestone	sandstone			ha:	rd	- Contraction of the Contraction		11	35
grey	sandstone								35	115
3) 1000	960579 091	1610513790035	215/87	3	9/152/8	لىلى				
32	14 15 21	32			<u>, , , , , , , , , , , , , , , , , , , </u>	SIZE	54 (S) OF OPENING	31-33 DIAME	TER 34-38 L	75 80 ENGTH 39-40
WATER FOUND	TER RECORD	CASING & C	WALL THICKNESS		CORD	N (SLO	NO NO		INCHES	FEET
10-13 1	FRESH 3 SULPHUR 14	DIAM MATERIAL INCHES 12	188	еком О	™ 0022°	SCB	ERIAL AND TYPE		DEPTH TO TOP OF SCREEN	41-44 80 FEET
	FRESH 3 SULPHUR 19 SALTY 4 MINERAL	2 GALVANIZED 3 CONCRETE 4 DPEN HOLE		2		61	PLUGGIN	G & SEAL	ING RECO	RD
20-23 1	FRESH 3 SULPHUR 24	17-18 1			0/15		SET AT - FEET	MATERIAL ANI		NT GROUT CKER ETC )
25-28 1	SALTY 4 MINERAL  FRESH 3 SULPHUR 29	3 CONCRETE 4 OPEN HOLE			27-30	ļ	10-13 14-17			
L	SALTY 4 MINERAL  FRESH 3 SULPHUR 34 6	24-25 1   STEEL 26 2   GALVANIZED 3   CONCRETE			27730		6-29 30-33 80			
	SALTY 4 MINERAL	4 OPEN HOLE	LMPING							nacional, il transportational anni dell'internacional dell'internacional dell'internacional dell'internacional
¥71‼ <b>⊿</b>	2   BAILER 001		15 (A) 17				LOCATION C			N.O.
STATIC LEVEL	PUMPING	LEVELS DURING 2	PUMPING RECOVERY		LOT L		LOW SHOW DISTANCE DICATE NORTH BY A		FROM ROAD A	N U
E 020	J70 J70 26.	28 070 <sup>29-31</sup> 070 <sup>32</sup>	·34 <b>८७</b> 0°			1				
FELOWING. GIVE RATE  RECOMMENDED PU	38-41 PUMP INTAKE	SET AT WATER AT END		42	$\mathcal{L}$	(	Our			
10.1	PUMP	D 43-45 RECOMMENDED	46	49	7	J	+ ()	_		
SHALLOV		ECIFIC CAPACITY	G	PM			*	//		
FINAL	1  WATER SUPPLY 2  □ OBSERVATION WE	5 ABANDONED, INSUI		~ ]			is in	#		
STATUS OF WELL	3   TEST HOLE 4   RECHARGE WELL	7 UNITINISHED					Z	30	)	
1	55-56 1 X DOMESTIC 2 STOCK	5 COMMERCIAL 6 MUNICIPAL					4	3		
WATER (	4   INDUSTRIAL	7 PUBLIC SUPPLY  8 COOLING OR AIR COND  9 NOT					•			
	S7   CABLE TOOL	€ □ BORING		-			_		outh C	$\lambda$
METHOD OF	2   ROTARY (CONVEN	TIONAL) 7 DIAMOND E) 8 DETTING			0-	P C	ARP RON	5	on Mr	
DRILLING	4   ROTARY (AIR)  5   AIR PERCUSSION	9 DRIVING			DRILLERS REMAR	ĸs			1,1,	
NAME OF WELL	contractor ital Water Supp		cence number	$\neg \lceil$	DATA	58	CONTRACTOR 59-62	DATE RECEIVE	1177	63-68 80
ADDRESS				-	SOURCE  DATE OF INSP	ECTION ZO	195 Thispecton	<u> </u>	11/	J
NAME OF DRILL	/ /		CENCE NUMBER	+	S PEMARKS:	ne d'	BA BA	) <u> </u>	P	)
S WANTURE OF	contractor	SUBMISSION DATE			B. B.	, p.kor	Sen Buch		-	 V I
Much	upavan	Ceft DAY 5 MO.	10 YR.		0	<i>.</i>				7 MOE 07-091

The Ontario Water Resources Act

	The state income	
WATER	WELL	RECORD

R 85% 1516836 1. PRINT ONLY IN SPACES PROVIDED 15006 2. CHECK X CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROL Mar 9 DATE COMPLETED DA 20 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL COLOUR MOST COMMON MATERIAL DEPTH - FEET GENERAL DESCRIPTION Brown Sund 0 ス 125 0002612877 | 612521817473 | 1111 10 14 15 21 21 43 **(**51) WATER RECORD **CASING & OPEN HOLE RECORD** SCREEN DEPTH KIND OF WATER то 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 27 GALVANIZED
CONCRETE
OPEN HOLE 0022 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 61 PLUGGING & SEALING RECORD 1 D STEEL
2 D SALVANIZED FEET 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.) FROM 0055 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL FOPEN HOLE 1 GALVANIZED 22-25 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL LOCATION OF WELL PUMP 2 D BAILER 0/ 15-16 00 WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW. PUMPING RECOVERY WATER LEVELS DURING 29-31 O FEE PUMPING 1 CLEAR 2 CLOUDY RECOMMENDED PUMP SETTING 0 75 DEEP FEET 1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY **FINAL** 2 D OBSERVATION WELL 6 ABANDONED, POOR QUALITY **STATUS** 3 TEST HOLE
4 RECHARGE WELL OF WELL 1 DOMESTIC 5 COMMERCIAL 2 STOCK
3 RRIGATION MUNICIPA \_ PUBLIC SUPPLY WATER O COOLING OR AIR CONDITIONING
9 NOT USED USE 4 [] INDUSTRIAL OTHER 1 CABLE TOOL 6 [] BORING **METHOD** Z ROTARY (CONVENTIONAL) 5 7 [] DIAMOND 3 | ROTARY (REVERSE)
4 | ROTARY (AIR)
5 | AIR PERCUSSION OF **DRILLING** 9 [] DRIVING CONTRACTOR 1538 **1**812?8 OFFICE USE ONLY

C33.33

FORM NO. 0506—4—77 FORM 7

# The Ontario Water Resources Act 31 G 5 d WATER WELL RECORD

OUNTY OR DISTRICT	1, PRINT ONLY IN S 2. CHECK 🗵 CORRE	ECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY, TOWN, VIL		151793		10	14 IS VEY, ETC	1 7 1 1	100/15-2
Ottown	- Marlaton			RCH TWP	·.	Conc	DATE COME	N EXER	11
		South Mar	ch.	Ontario.			DAY 17		<u>)7</u> <sub>yr.</sub> <u>○</u>
		52.2.79.9	-	0280	2	BASIN CODE	1 , , ,	1 , , ,	ıv
	M 10 12	17 18 24	75	26	30	31			
	r	OG OF OVERBURDEN AND B	EDROC	CK MATERIALS				DEPT	H - FEET
ENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS			GENE	RAL DESCRIPTION		FROM	то
Brown	Sand	Gravel		Fil	. 1			()	3
Gray	Sandstone			idec	iium			3	53
					-	***			
							<del></del>		
	362811101 005	321878	لبا		لىل			щЦ	44
2	14 15	32		43		54	31-33 DIAM	11111	LENGTH
	TER RECORD	51) CASING & OPEN H		ECORD	Z (SI	E(S) OF OPENING .OT NO )	31-33	INCHES	LENGTH
AT - FEET	KIND OF WATER	INSIDE WALL DIAM MATERIAL THICKNESS INCHES INCHES			ပ	TERIAL AND TYPE	<u> </u>	DEPTH TO TOP	41-44
	X FRESH 3 □ SULPHUR □ □ SALTY 4 □ MINERAL	OL 10-11 1 STEEL 12 GALVANIZED		0 6672	S				FEET
	FRESH 3 SULPHUR 19 SALTY 4 MINERAL	CONCRETE 188		○ <b> ∞22</b>   [	61		NG & SEA		
20-23 1	FRESH 3 SULPHUR 24	3 65 GALVANIZED	2	2 0053	DEPT FRO	H SET AT - FEET	MATERIAL AN		MENT GROUT PACKER, ETC )
1 -	SALTY 4 MINERAL 29 SULPHUR 29	10 4 SPOPEN HOLE				10-13 14-17			
2 [	SALTY 4 MINERAL	24-25 1 STEEL 26 2 GALVANIZED		27-30		18-21 22-25			
30-33	☐ FRESH 3 ☐ SULPHUR 34 BC	CONCRETE  OPEN HOLE				26-29 30-33	\$0		
NUMPING TEST ME	ETHOD 10 PUMPING RATI	1				LOCATION	OF WEL		
PUMP		015 GPM 01 HOURS 60	17-18 MINS	IN DIAG	DAM RI	ELOW SHOW DISTA			AND
STATIC LEVEL	PUMPING	LEVELS DURING 2 PUMPING 2 RECOVERY		LOT LIN		NDICATE NORTH B			
020"2	1 00 100	29-31 32-34	35-37						•
	S8-41 PUMP INTAKE	et 030 FEET 030 FEET 030	PEET.		ţ			İ	
5	SPM.	FEET 1 CLEAR 2 C			i			1	
RECOMMENDED PL	UMP TYPE RECOMMENDED PUMP SETTING	040 FEET RATE 0005	46-49 GPM		1			1	
50-53	7			H			1	i	
FINAL	84 I ☑ WATER SUPPLY	5 ABANDONED, INSUFFICIENT S	UPPLY	1	İ			1	
STATUS	2 DBSERVATION WE	LL S ABANDONED POOR QUALITY 7 UNFINISHED		3	1	6'3" 2	໌ <b>ລ</b> ′	1	
OF WELL	4   RECHARGE WELL	5 COMMERCIAL		H.	1			1	
WATER	2 STOCK 3 IRRIGATION	6   MUNICIPAL 7   PUBLIC SUPPLY	1				/ /	- 7	7
USE 0		COOLING OR AIR CONDITIONING  NOT USED			(	01d 00	TOW		Χ.
METHOD			1						
OF DRILLING	5 GROTARY (REVERSING A PERCUSSION	E)   #   JETTING  P   DRIVING		"					
	AIR PERCUSSION			DRILLERS REMARKS		CONTRACTOR 55	-62 Dayé persi	FO -	
NAME OF WELL		2617 Ltd. 1558	ł	SOURCE  DATE OF INSPEC	1	1538	0 5	10 8	32
l	tal Water Su:			l i i i	TION	INSPECTO	R		
NAME OF DRIL	<u>490; Stittsvi</u> Ler or borer	lle, Ont. KOA 3GC	) BER	REMARKS					
<b>二</b>	illan/ II Far		1	i iii					

## The Ontario Water Resources Act WATER WELL RECORD

0506 (07/94) Front Form 9

	Ontario and Energy	*				WATER W	ELL RE	CORD
×.	Print only in spaces provided. Mark correct box with a checkmark, whe	re applicable	11 1 2	153	0371	Municipality 15 00 6	Con. 15	1 22 6 2
	County or District Ottawa-Carleta	4	Township/Borough/C	ityTown/Village	· .	Con block tract	survey, etc. Lo	25-27
	orand carrera		Address	hara	$\bigcirc$ $\downarrow$	Date comple	sted 16 1	1
		12	Northing 17	RC	Elevation RC	Basin Code	day n	nonth year
		LOG OF C	OVERBURDEN AND BI	EDROCK MATE		tions)		47
;	General colour Most common mate	riai	Other material	s	Genera	description	From	epth – feet To
	Creyout to Quart	2				•		7
<b>4</b> .	Regation Crane	te Sky	(whitequ	1 artz			70	80
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	31							لا لىك
	41 WATER RECORD	51 Inside	CASING & OPEN HO		Sizes of a	pening 31-33 Diam	eter <sup>34–38</sup> Lengt	75 80 th 39-40
_	Water found at - feet Kind of water	diam inches	Material Wall thickness inches	Depth - feet From To	(Slot No.)  O Material a	nd type	inches  Depth at top of	feet
	2 Saling Minerals Gas Gas Sulphur 19		Galvanized Concrete	0 2				41-44 feet
	2 Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied Supplied S	17-18 1	Open hole Plastic  Steel Galvanized	0 20	20-23	PLUGGING & SEA	LING RECOR	
İ	25-28 1 Fresh 3 Sulphur 29	W/1 14	Concrete Open hole Plastic	0 20	Depth set at - From 10-13 7		e (Cement grout, be	ntonite, etc.)
	; 2 Salty 4 Minerals 6 Gas 30+33 1 Fresh 3 Sulphur 34 60	3 [	Galvanized Concrete	20 80	27-30 18-21	2-5 Chr	2 to C	<b>4</b>
	2 Salty 6 Minerals Gas	5 [	Open hole Plastic	20 00	26-29	30–33 80		
	71 Pumping test method 10 Pumping rate Pump 2 Bailer  Static level Water level Water levels of the static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static level Static lev	GPM	uration of pumping 17-18 Hours Mins	In di		ATION OF WELL distances of well from	road and lot li	
	end of pumping	during ¹ ☐ Pu 0 minutes 48 29-31	umping 2 № Recovery  5 minutes 32-34  60 minutes 35-37	Indic	cate north by arrow.	and the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of t	Troad and lot iii	ic.
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	GPM Recommended pump type Recommended pump setting		Clear Cloudy Commended 46-49 Cloudy			·		$\mathcal{W}$
	☐ Shallow Deep  So-53	HO feet	28 <sub>GPM</sub>	<u> </u>		- ( <b>\</b>		
	FINAL STATUS OF WELL  1 Water supply 2 Observation well 5 Abandoned, 6 Abandoned,	jesufficient suppl	ly <sup>9</sup> ☐ Unfinished  10 ☐ Replacement well		1301	o Km s		
	3 ☐ Test hole 7 ☐ Abandoped ( 4 ☐ Recharge well 8 ☐ Dewatering	(Other)			-			
	WATER USE  1 Domestic 2 Stock  55-56  Commercial Municipal		9 ☐ Not used		Old Car	p Rd · \	1	į
	3 ☐ Irrigation	y conditioning	10			1	\\	
ľ	METHOD OF CONSTRUCTION 57	on	9 Driving				//	
	2f Rotary (conventional) 6 Boring 3 Rotary (reverse) 7 Diamond 4 Dotary (air) 8 Detting	1	Digging Other				1972	65
[ L	Name of Well Contractor	~~	Well Contractor's Licence No.	Data	58 Contracctor	59-62 Date	received	63-68 80
	Address / T - Lock Dilli	molt	d 1119	Source Date of inspe			EC 2 9 199	18
ŀ	Name of Well Technician	rest	Well Technician's Licence No.	Remarks				
ŀ	Signature of Technician/Contractor	viers	Tooy Submission date	Remarks		C	SS. ES	9

2 - MINISTER OF ENVIRONMENT & ENERGY COPY



Print only in spa Mark correct box	ces provided. x with a checkmark, where applicable.	11 2	1530397	Municipality Con. 15 0 0 14 15 0 0 15	N
County or District	CARIETOS	Township/Borough/City/T		Con block tract survey	
r si ti inici i i	CHRICE POS		inc, Kanoti, Ont		21 1088
		Northing	RC Elevation RC	Basin Code ii	day month year
21	1 OC OF C	VERBURDEN AND RED	ROCK MATERIALS (see instruc	31 ::tions)	47
General colour	Most common material	Other materials		al description	Depth – feet From To
414117	SHUSTONE				0 90
BIKKY	GRANITE				90 160
RED					
				-	
1.					
31			▎ <u>▃┦▐▗</u> ▃▐▃▙▃▎▜▍▃▋▃▘▙▃▙ ▎▋▗▗▗▕▕▐▗▕▖▗┆▗▐▕▗▗	_ <del></del>	<u> </u>
10	TER RECORD 51	CASING & OPEN HOL		of opening 31-33 Diameter	75 8 34-38 Length 39
Water found at - feet	Kind of water Inside diam inches	Material Wall thickness inches	Depth - feet From To  13-16  Materia		Death share forces 3
3/10-13 1 [2	Fresh 3 Sulphur 14 10-11 1	Steel 12 A Galvanized	13-16 US Materia	and type	Depth at top of screen
BB" 2	Fresh 3 Sulphur 19 04 5	☐ Concrete ☐ Open hole ☐ Plastic	F4 18 1 61	PLUGGING & SEALIN	
1 1230-23	Fresh 3 Sulphur 24	☐ Steel 19 ☐ Galvanized	20-23	Annular space	☐ Abandonment
	□ Sality 6 □ Pas 4	Concrete Open hole Plastic	From 10-13	To Material and type (Ce	ment grout, bentonite, etc.
	☐ Salty 6 ☐ Gas 24-25 1	☐ Steel <sup>26</sup> ☐ Galvanized	27-30	B cronga	<del>sg</del>
1	Minerals 4	☐ Concrete ☐ Open hole ☐ Plastic	26-29	30-33 80	
Pumping test r		Duration of pumping 17-18		OCATION OF WELL	<u></u>
	Water level 25	Hours Mins Pumping 2 🗆 Recovery	In diagram below sho	w distances of well from ro	ad and lot line.
	end of pumping water levels during 22-24 15 minutes 30 minutes	45 minutes 60 minutes 35-37	Indicate north by arro	w.	/]
If flowing give	Offeet 36 feet 43 feet	4/ feet <b>50</b> feet	March 2 Line		. "
If flowing give	rate 38-41 Pump intake set at SPM feet	Water at end of test <sup>42</sup> ☐ Clear		Old Carple	
Recommende	d pump type Recommended pump setting	Recommended 46-49 pump rate	<u>                                     </u>		٦,
50-53	A feet	GPM GPM	7	Į.	7
FINAL STATU	apply 5 🗌 Abandoned, insufficient su	pply <sup>9</sup> Unfinished			3Kul
2 D Observa 3 D Test hole 4 D Recharg	Abandoned (Other)	™ ⊟ Replacement well			Jan (
WATER USE	55-56				
Domest 2 Stock	<sup>6</sup> ☐ Municipal	9  Not used 10  Other		本土	
3 ☐ Irrigation 4 ☐ Industria				12/11/2/	l
	CONSTRUCTION 57	o El Debites		WH 11583	- 2nd Line
3 🗌 Rotary	(conventional) 6 Boring (reverse) 7 Diamond	9	لله ا	200	198116
4 🗍 Rotary	(air) 8 🗆 Jetting			\	
Name of Well Con	tractor	Well Contractor's Licence No.	Data 59 Contracct source	) // L	eived 63-68 8
Address	TON DRILLING INC	WAD	Date of inspection	Inspector	- U 1 1998 L
Name of Well Tec	17, ratornam, Uh)-	Well Technician's Licence No.	Remarks		
199	Steppen	TOPES	Remarks	C	SS. ES9
Signature	1012	da Dmo	<u> </u>		
		•			0506 (07/94) Front Form

Ontario  Ministry of the Environment  Well Tag No. (Place Sticker and/or Print Below)  Well Record Regulation 903 Ontario Water Resources Act Page of															
Well Owner's Inf							1 0 11						4.T-ME	W-II C-	alay ota d
First Name McKeown Cons		.ast Name				E-mai	il Address	3						Well Cor by Well	Owner
Mailing Address (Str	eet Number/Name,	RR)		Municip				Provin		Postal C			,		area code) 4   80  8
P.O. Box 296 Part A Construct		r Alterati	ion of a V		eely			On	tario	K 4P	I IN	15 0	15 0	2 1	4 00 0
Address of Well Loca	ation (Street Number				Township		Va	nata		Lot 10	)	C	concession	3	
846 March Ro					City/Town	/Village	Ramada				Postal				
Ottawa Carle		N	al-1					ınata	Made of	Occaptions		Onta			
UTM Coordinates 2	Zone Easting		thing Ob. 3 IO		SPS Unit Ma	ake	Model GArmi	n		Operation: intiated, sper		Jndiffer	entiated	Ave	raged
Overburden and B			ictions on th	e back of			OH III							Denth	(Metres)
General Colour	Most Common Ma	aterial		Other Ma	iterials				General [	escription				From	To
					11 575										
	Annular Space	/Abandor	nment Sea	ling Rec	ord					Results o	of We	II Yield	d Testing		
Depth Set at (Metres		ype of Sea Material and				olume P		Check bo water wa		st of well yiek	d,		Water Lev	_	ecovery Water Level
16 76 0	Grouted -	Ronto	nite	3/4 i	nch Ho	le P	1119	_	r and sand not develo	free p to sand-fre	e	(Min) Static	(Metres)	(Min) Static	(Metres)
16.76 0	Grouted	пенсо	mile,	3/4 1		bags	- (	state	9	ued, give rea		Level		Level	
						bags						1		1	
								Pumping	test meth	od		2		2	
Method of C	Construction	T		Water	Use	125, 73		Pump in	take set at	(Metres)		3		3	
Cable Tool	Diamond	Pub		Com		□ No	t used watering	Pumping	rate (Litre	s/min)		4		4	
Rotary (Convention Rotary (Reverse)	Driving	Live	estock	☐ Test	Hole	☐ Mo	onitoring	, amping	y rato (Eliro			5		5	
Rotary (Air) Air percussion	☐ Digging ☐ Boring	☐ Irrig		Cool	ing & Air Co	nditionin	ig .		i of pumpir hrs +	ng min		10		10	
Other, specify		Status	er, specify						ter level en	d of pumping	17	15		15	
☐ Water Supply	Dewatering		) I AAGII	Obse	ervation and/o	or Monito	oring Hole	(Metres)	nended pu	mp type		20		20	
Replacement Well Test Hole	Abandoned  Abandoned				ation (Const er, specify	ruction)		Sha	llow [	Deep		25		25	
Recharge Well	Abandoned	d, other, spe	ecify					Recomm	nended pu Metro			30		30	
Please provide a mag		Location	of Well					Recomm /Litres/m	mended pu			40		40	
<ul> <li>all property boundar</li> <li>an arrow indicating t</li> </ul>	the North direction						nts.		g give rate			50		50	
<ul> <li>detailed drawings ca</li> <li>vidigital pictures of in</li> </ul>				an legal si:	ze (8.5" by 1	4")	R	(Litres/m	iin)			60		60	
							!					Detai			
	-							water	found at D Metres	Carried States and Professional		of Wate		Sulphur	Minerals
	*	846			3			Water	found at D			of Wate		Culphur	Minerals
			<b>®</b>	0	X			Water	Metres found at D	000		of Wate	77112	Sulpriur	L_IMITOTALS
				-	Tarch Kd				Metres	Gas	Fre	sh _	Salty	Sulphur	Minerals
				- 3	191				ng Used			_			I Details entimetres)
								Steel	anized	Galvaniz Steel	rea				
Date Well Complete	ed   Was the well ow	vner's inform	mation [	ate the W	Vell Record a	and Pack	kade	Fibre	_	Fibregla:	SS	De	pth of the h	tole (Metr	es)
(yyyy/mm/dd)	package delivere			Delivered t	o Well Owne	er (yyyyn	mm/dd)	Conc		Concrete	е	W	all Thicknes	s (Metres	)
2008/3/3	Well Contractor			ian Infor	mation					nd Screen	Used	Ins	side Diamet	er of the C	Casing (Metres)
Business Name of Well Contractor Well Contractor's Licence No.							Disinfect	en Hole			D	opth of the (	asing (14	etres)	
Capital Wat Business Address (S	ter Supply Street No./Name, nu	Ltd. Imber, RR	)	Muni	1 5 cipality	5	8	X Ye	-			De	puror ne t	Jeaning (M	0.000)
Box 490	Postal Code	Province	. E		tittsv	ille		Audit M			nistr	y Use	Only contractor N	lo.	
Province	Postal Code	busines	s E-mail Ad	Juress				Audit No	z 77	317		TYON C	JIM ACIOI I		

Ontario K 2 S 1 A 6 office capitalwater.ca
Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) 6 13 8 3 61 7 6 6 Miller, Stephen Well Technician's Licence No. Signature of Technician 0506E (11/2006)

Date Submitted (yyyy/mm/dd) Remarks

Ministry's Copy

2008/3/3

Date Received (yyyamay/dd)

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Date of Inspection (yyyy/mm/dd)

Ontario
Measurements recorde

()°o	ntario Minist	ry of nvironment	Well 1	Tag No. (Place Sticker ar		Regulation	903 Ontario I		ecord
		Metric Impe	rial				Pa	ge	of
Well Own	ner's Information	ast Name / Orga	nization		E-mail Address		医扭曲性性	☐ Well C	Constructed
McKeow	n Contracting dress (Street Number/Nar	ne)		Municipality	Province P	ostal Code	Telephor		II Owner
	tagecoach Road	110)		Greely		0 A 2		821 48	308
Well Loca	ation Well Location (Street Nur	mher/Name)		Township	Lo		Concess		
856 Ma	rch Road	nisci/realing)		Kanata		11	4		
	trict/Municipality Carleton			City/Town/Village			Ontario	Postal	Code
UTM Coord	inates Zone Easting	Northin	g	Kanata Municipal Plan and Sublo	t Number		Other		
	8 3 1 8 4 26 7 en and Bedrock Materi		2 3 1 25 ent Sealing Re	cord (see instructions on the	back of this form)				
General C	olour Most Comm	non Material		Other Materials	General (	Description		From	th ( <i>m/ft</i> ) To
Depth Se	et at (m/ft)	Annular Spa Type of Sealant		Volume Placed	Res After test of well yield, water	the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	Il Yield Testin		ecovery
From	То	(Material and Ty	pe)	(m³/ft³)	Clear and sand free		Time Water L		Water Level
15.54	0 Grouted	Bentonite	3/8" Hol	e Plug (12 bags	If pumping discontinued, g	ive reason:	Static Level	, ,,,,,,,	(1111)
					1		1	1	
					Pump intake set at (m/ft)		2	2	
					Pumping rate (Vmin / GPN	M)	3	3	
Cable To	nod of Construction	Public	Well Com		Duration of aumaina		4	4	
Rotary (F	Conventional)	☐ Domest		The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	Duration of pumping hrs + min		5	5	
Boring Air percu	Digging	☐ Irrigation		ng & Air Conditioning	Final water level end of pur	mping (m/ft)	10	10	
Other, s		Other, s			If flowing give rate (l/min-/	(GPM)	15	15	
Inside	Construction R Open Hole OR Material	ecord - Casing Wall	Depth (m/ft)	Status of Well  Water Supply	Recommended pump de	oth (m/ft)	20	20	
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness	rom To	Replacement Well	The commence pump do	par (many	25	25	
				Recharge Well	Recommended pump rat (l/min / GPM)	te	30	30	
				Dewatering Well Observation and/or	Well production (Vmin / G	PM)	40	40	
				Monitoring Hole Alteration	Disinfected?		50	50	
				(Construction)  Abandoned, Insufficient Supply	Yes No	· .	60	60	
Outside	Construction R	ecord - Screen	Depth (m/ft)	Abandoned, Poor Water Quality	Please provide a map beld		Il Location	he back.	
Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	rom To	Abandoned, other,					1
									17
				Other, specify	_				
	Water De			Hole Diameter		# 856	>		
	nd at Depth Kind of Wate		ntested D From	Pepth (m/ft) Diameter To (cm/in)					
Water four	nd at Depth Kind of Wate	r: Fresh U	ntested			(	8		
	n/ft) Gas Other, spend at Depth Kind of Wate	9							
(n	n/ft) Gas Other, spe				9				
Business N	Well Contractor	or and Well Tec		nation Well Contractor's Licence No.	2				
	1 Water Supply			1 5 5 8	Comments				
Box 490	ddress (Street Number/Na O	ime)		Municipality Stittsville	Comments:				
Province	Postal Code	Business E-n	nail Address		Well owner's Date Pack	age Delivere	d Ma	nistry Use	Only
	one No. (inc. area code) Na	ame of Well Tech	nician (Last Nam	lwater.ca ne, First Name)	information package	Y M M	Audit N	0 7	1393
6 1 3 8	8   3   6   1   7   6   6	Miller S	tenhen		delivered Data Work	Completed	712	00-04	1000

Miller, Stephen
TAthnician and/or Contractor Date Submitted

6 1 3 8 3 6 1 7 6 6

0

Well Technician's Licence No. Signature

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Date Work Completed

2 0 0 8 0 9 0

Yes

X No

20080908 Ministry's Copy

£>0	ntario Minisi	try of nvironment	Well T	ag No. (Place Sticker a	nd/or Print Below)	]		W	ell F	Record
Measureme	ents recorded in:	Metric Imperial				Regulation	n 903 (	Ontario Wa Page	ter Re	of
Well Own	ner's Information							rage <sub>.</sub>		OI
First Name	n Contracting	Last Name / Organiza	tion		E-mail Address		212111			Constructed
Mailing Add	ress (Street Number/Na			Municipality	Province	Postal Code	)	Telephone I	,	(ell Owner . area code)
2878 St	tagecoach Road			Greely	Ontario	K O A 2	W O	613 8	322 2	599
Address of \	Well Location (Street Nu	mber/Name)		Township		Lot		Concession	1	
	rch Road rict/Municipality			Kanata City/Town/Village		11	Provi	4	Dooto	Codo
Ottawa	Carleton			Kanata			Ont		Posta	l Code
	nates   Zone   Easting	Northing 502314		Municipal Plan and Suble	ot Number		Other			
			Sealing Rec	ord (see instructions on the	back of this form)					
General Co	lour Most Comm	non Material	0	ther Materials	Gene	ral Description	1		Dep From	oth ( <i>m/ft</i> ) To
-										
		Annular Space				Results of We	all Yiel	d Testing		
Depth Set From	at (m/ft) To	Type of Sealant User (Material and Type)	1	Volume Placed (m³/ft³)	After test of well yield,	water was:	Dr	aw Down		ecovery
9.44			8" Hole	Plug (5 bags)	☐ Clear and sand fr ☐ Other, specify	ree	Time (min)	(m/ft)	(min)	Water Level (m/ft)
	0.0000	Dentonite 3/	0 11016	: riug (5 bags)	If pumping discontinue	d, give reason:	Static Level			
							1,		1	
					Pump intake set at (n	n/ft)	2		2	
Metho	od of Construction		Well U	Se	Pumping rate (Vmin /	GPM)	3		3	
Cable Too	Diamond		Comm	ercial Not used	Duration of pumping		4		4	
Rotary (Co		☐ Domestic ☐ Livestock	Municip			nin	5		5	
☐ Boring ☐ Air percus	☐ Digging	☐ Irrigation ☐ Industrial	Cooling	g & Air Conditioning	Final water level end of	f pumping (m/ft)	10		10	
Other, spe		Other, specif	y		If flowing give rate (Vn	nin-/ GPM)	15		15	
Inside	Construction Re		pth ( <i>m/ft</i> )	Status of Well  Water Supply	D	1 - 11 ( - 20)	20		20	
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness (cm/in) From	То	Replacement Well	Recommended pump	depth (m/tt)	25		25	
	,	, and a		☐ Test Hole ☐ Recharge Well	Recommended pump (Vmin / GPM)	rate	30		30	
				Dewatering Well     Observation and/or			40		40	
				Monitoring Hole  Alteration	Well production (I/min	/ GPM)	50		50	
				(Construction)	Disinfected?  Yes No		60		60	
ACMERICAN .	Construction Re	ecord - Screen	Hollerin	Insufficient Supply Abandoned, Poor	Mark Company	Map of We	ell Loc	ation	12111111	Minim
Outside Diameter	Material (Steel)	Slot No.	oth (m/ft)	Water Quality	Please provide a map				ack.	-
(cm/in)	(Plastic, Galvanized, Steel)	From	То	Abandoned, other, specify	17 1					
				Other, specify	*					
Water found	at Depth Kind of Water			Hole Diameter oth (m/ft) Diameter	-		_			
(m/f	f) Gas Other, spec	cify	From	To (cm/in)	N	860 C	\			
	at Depth Kind of Water  (t) Gas Other, spec		ed	-	889	K	b			
	at Depth Kind of Water		ed		9					
(m/t	t) Gas Other, spec				] -					
Business Nar	me of Well Contractor	r and Well Technic		ell Contractor's Licence No.	2					
Capital	Water Supply	Ltd.	1	5 5 8						
Box 490	dress (Street Number/Nar	me)	M	unicipality	Comments:					
Province	Postal Code	Business E-mail A	ddress	tittsville						
	e No. (inc. area code) Nar	6 office ome of Well Technician	capital (Last Name,	Water.ca First Name)	information package	ackage Delivered	. 1	Minist Audit No. Z		Only
6 1 3 8 Well Technician	3 6 1 7 6 6 n's Licence No. Signature	Miller, Step	hen ontractor Da	ate Submitted	res	ork Completed		027	147	008
0 0	9 7 Kall	Kaan		0080908	X No 2 0	0 8 0 9 0	8 5	Received		- OU
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Ministry of the Environment

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

Well	Record
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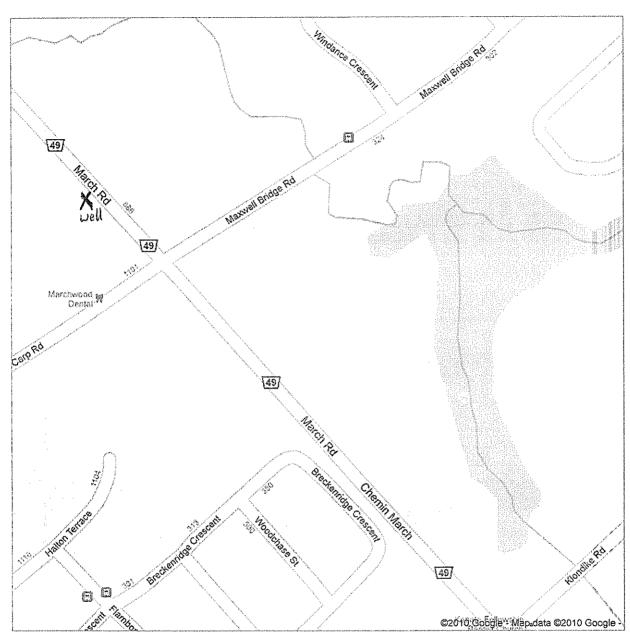
Regulation 903 Ontario Water Resources Act

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First Name	was en empere restel	nformation	Last Name (C		. 1			E-mail Address			☐ Well Constructed		
						Municipality		Province Postal Code				e No. (inc	eli Owner
100 Constellation Crescent						Ottava		Ontwic	1 [K ] [G   6]	2 8	6   1   3	S   8   0	2141010
Well Loca	eraniyan din kedib	cation (Street Nu	imber/Name)			Township			Lot	I	Concess	on	
895													
County/District/Municipality						City/Town/Vi		L		Provin			I Code
LITM Coord	inates	Zone Fasting	No	rthing	Municipal Plan and Sublo					Ont		V T	K11   X17
UTM Coordinates         Zone         Easting         Northing         Municipal PI           NAD   8   3   1   8   4   2   6   5   6   9   5   0   2   3   2   4   7         Municipal PI													
		Bedrock Mater				ord (see instr	uctions on the	back of this form	)				
General Colour Most Common Material						Other Materials			General Description			From	oth ( <i>m/ft)</i> To
Static Wat					ater level at 21								
A Bavde					Joned for Road Constr			uction					
			GPS.	- Gan	min E	trex							
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Depth So	et at (m/	7)	Annular Type of Sea		1	Volume	e Placed	After test of we	Results of Wo	***	aw Down		Recovery
From	То					1	<sup>3</sup> /ft³)	Clear and		Time (min)		vel Time (min)	Water Level (m/it)
29'	24	H	<del>ole-plan</del> So	nd				Other, spe	ontinued, gíve reason:	Static		(11111)	(11011)
24,	3	1	tle plun					I in pumping disc	onanded, give reason.	Level			
3^`	0.8	Sa	mel						-1 -1 ( 15)	1		1	
0.8	1		an Ruck					Pump intake s	et at ( <i>m/nt)</i>	2		2	
	0			usa alla sida sol				Pumping rate	(Vmin / GPM)	3		3	
Method of Construction     Well Use       □ Cable Tool     □ Diamond     □ Public     □ Commercial							Not used			4		4	
Rotary (Conventional) Jetting Domestic					☐ Municipal ☐ Dewatering		Duration of pu hrs +	mping min	5		5		
☐ Rotary (I	Reverse)				Test Ho	Hale Monitoring			el end of pumping (m/ft)	11		10	
☐ Air percussion ☐ Industrial ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other, specify ☐ Other,													
Utner, sp		armana manara españa			y	w (1988)	SECTION SECTION	If flowing give	rate (I/mĭn / GPM)	15		15	
Inside	Υ	Construction F Hole OR Material	Wall		pth ( <i>m/ft</i> )	Status of Well		Recommended pump dep	d pump depth (m/ft)	20		20	
Diameter (cm/in)	(Galva	anized, Fibreglass, ete, Plastic, Steel)	Thickness (cm/in)	From	То	I — ·	ement Well			25		25	
						☐ Test He ☐ Rechar		Recommende	d pump rate	30		30	
						Dewate	•			40		40	
				Observation and/or Monitoring Hole			Well productio	n (I/min / GPM)	50		50		
						☐ Alterati — (Const	ion ruction)	Disinfected?		1	<u> </u>		
						Abando	oned, ient Supply	Yes		60		60	
<u> </u>		Construction F	Record - Scre	2.52.500		Abando	oned, Poor	Please provide	Map of W			a hack	
Diameter							Quality oned, other,	Please provide a map below following instructions on the back.					
(CITVIII)	(cm/in) (1 issue, sentanized, seetly Profit					specify	truction						
	-					Other,							
		Water De	~			Hole Diame th ( <i>m/ft</i> )	ter Diameter						
		pth Kind of Wate		Untest	From	To	(cm/in)						
(m/ft) ☐ Gas ☐ Other, specify													
(m/ft) Gas Other, specify													
Water found at Depth Kind of Water: Fresh Untested  (m/ft) Gas Other, specify													
(11)	nu) []	sas   ⊡ Otner, <i>sp</i> Well Contract		J   T									
		Well Contractor	Ł										
Marat	non t	orilling Co.	Ltu.		9   4			•					
		Street Number/N	ame)	Mı	) eq	See Attached							
Province		Postal Code	Business	E-mail A		766 VI	14.0.01						
Outomi	0	K 4 P 1/ finc. area code) N	12 jschel	l@ma	vathondy;	Minnicon	n	Well owner's information	Date Package Delivere	ed		iistry Us	e Only
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		0 5 7 1 ence No. Signatur	FoStar e of Jechnicia		Contractor Da	ite Submitted		Yes	Date Work Completed			VV.	C Tell Tell Need
3 2	18	14 Trace	1/	2	16/6/4	□No	Y Y Y Y M M	0 0	Receiv 🕦	EC 2	<u>2 2010</u>		
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Google maps

Notes



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DEC 2 2 2010

## **APPENDIX 3**

**QUALIFICATIONS OF ASSESSORS** 

### Mandy Witteman, E.I.T.



Geotechnical Engineering

Environmental Engineering

**Hydrogeology** 

Geological Engineering

**Materials Testing** 

**Building Science** 

Archaeological Services

### **POSITION**

**Environmental Engineer** 

#### **EDUCATION**

Carleton University, M.A.Sc., Environmental Engineering, 2013 Carleton University, B.Eng., Environmental Engineering, 2008

### **MEMBERSHIPS & AWARDS**

Alberta Professional Engineers and Geoscience Association NSERC Industry R&D Scholarship

### **EXPERIENCE**

2018 - Present

Paterson Group Inc.

Consulting Engineers Geotechnical and Environmental Division Environmental Engineer

2014 - 2015

**Thurber Engineering Limited** 

Oil Sand Tailings Group Tailings Engineer

2014 - 2013

**Carleton University** 

Department of Civil & Environmental Engineering Research Engineer

2013 - 2009

**Carleton University** 

Department of Civil & Environmental Engineering Research Assistant and Teachers Assistant

2008 - 2009

**SLR Consulting Limited** 

**Contaminated Sites** 

Junior Environmental Engineer

### Mark S. D'Arcy, P. Eng.

## patersongroup

Geotechnical Engineering

**Environmental Engineering** 

**Hydrogeology** 

Geological Engineering

**Materials Testing** 

**Building Science** 

Archaeological Services

### **POSITION**

Associate and Supervisor of the Environmental Division Senior Environmental/Geotechnical Engineer

### **EDUCATION**

Queen's University, B.A.Sc.Eng, 1991 Geotechnical / Geological Engineering

#### **MEMBERSHIPS**

Ottawa Geotechnical Group Professional Engineers of Ontario

#### **EXPERIENCE**

1991 to Present

### Paterson Group Inc.

Associate and Senior Environmental/Geotechnical Engineer Environmental and Geotechnical Division Supervisor of the Environmental Division

### **SELECT LIST OF PROJECTS**

Mary River Exploration Mine Site - Northern Baffin Island Agricultural Supply Facilities - Eastern Ontario Laboratory Facility – Edmonton (Alberta)

Ottawa International Airport - Contaminant Migration Study - Ottawa

Richmond Road Reconstruction - Ottawa Billings Hurdman Interconnect - Ottawa

Bank Street Reconstruction - Ottawa

Environmental Review - Various Laboratories across Canada - CFIA

Dwyer Hill Training Centre - Ottawa

Nortel Networks Environmental Monitoring - Carling Campus - Ottawa

Remediation Program - Block D Lands - Kingston

Investigation of former landfill sites - City of Ottawa

Record of Site Condition for Railway Lands - North Bay

Commercial Properties - Guelph and Brampton

Brownfields Remediation - Alcan Site - Kingston

Montreal Road Reconstruction - Ottawa

Appleford Street Residential Development - Ottawa

Remediation Program - Ottawa Train Yards

Remediation Program - Bayshore and Heron Gate

Gladstone Avenue Reconstruction – Ottawa

Somerset Avenue West Reconstruction - Ottawa