Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

patersongroup

Phase I-Environmental Site Assessment

Vacant Lots – Blocks 1, 2 and 21 255 and 285 Mountshannon Drive And 591 Longfields Drive Ottawa, Ontario

Prepared For

Mattino Developments Inc.

Paterson Group Inc.

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

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March 27, 2019

Report: PE4589-1

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Mattino Developments Inc. to conduct a Phase I-Environmental Site Assessment (ESA) for the properties located at 255 and 285 Mountshannon Drive and 591 Longfields Drive, 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 the Phase I Study Area and to identify any environmental concerns with the potential to have impacted the Phase I Properties.

According to the historical research, the Phase I Properties have never been developed and were historically used for agricultural purposes. 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 properties are currently vacant. No potential environmental concerns were noted with the current use of the Phase I Properties. Neighbouring properties in the Phase I Study Area consist of vacant lands, a residential subdivision with schools and a community centre and railway tracks. Railway tracks are considered a potentially contaminating activity, however, based on the nature of their use and distance from the subject site, they are not considered to represent an area of potential environmental concern. Therefore, no areas of potential environmental concern with respect to the Phase I Properties were identified.

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

1.0 INTRODUCTION

At the request of Mattino Developments Inc., Paterson Group (Paterson) conducted a Phase I-Environmental Site Assessment (Phase I-ESA) for the properties located at 255 and 285 Mountshannon Drive (Blocks 1 and 2) and 591 Longfields Drive (Block 21), 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 properties.

Paterson was engaged to conduct this Phase I-ESA by Mr. Giuseppe Matteucci of Mattino Developments Inc. The head office is located at 171 Claridge Drive, Ottawa, Ontario. Mr. Matteucci 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 PROPERTIES INFORMATION

Address:	255 and 285 Mountshannon Drive and 591 Longfields Drive, Ottawa, Ontario			
Legal Description:	Blocks 1, 2 and 21 on Plan 4M1527, in the City of Ottawa			
Location:	The site is located on the northwest side of Longfields Drive, where Mountshannon Drive transects with Longfields Drive, in the City of Ottawa, Ontario. Refer to Figure 1 - Key Plan in the Figures section following the text.			
PIN:	14568-0589, 14568-0590 and 14568-0609			
Latitude and Longitude:	45°17' 13.78" N, 75° 44' 31.39" W			
Site Description:				
Configuration:	Irregular			
Area:	15,000 m ² (approximately)			
Zoning:	R4A – Residential, 4 th Density Zone			
Current Use:	The subject site is currently vacant and undeveloped land.			
Services:	ne subject site is situated in a municipally serviced ea.			

3.0 SCOPE OF INVESTIGATION

The scope of work for this Phase I – Environmental Site Assessment was as follows:

- 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 properties, 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 1945, 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.

Previous Engineering Reports

Paterson Group has conducted environmental 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.

A geotechnical investigation was conducted for the subject site in 2013. Based on the subsurface investigation, no signs of environmental contamination or deleterious fill material were observed during the course of the investigation.

Survey Plan and Plan of Subdivision

A grading plan of the Phase I Properties prepared by Novatech Engineering was reviewed as part of this assessment.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on March 22, 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 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 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 site or properties within the Phase I 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 25, 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 25, 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

- 1945 The subject site and surrounding lands appear as agricultural lands at this time. Fallowfield Road and Woodroffe Avenue can be seen in this photograph as well as the railroad tracks that lie to the west of the site.
- 1953 The subject site and surrounding lands appear unchanged from the previous photograph.
- 1963 No significant changes are apparent on the subject site or surrounding lands.
- 1983 The subject site and surrounding lands to the northeast, east, and south appear as agricultural fields. A residential subdivision to the North/northwest is present at this time.
- 1996 No significant changes are apparent to the subject site. Surrounding lands to the northeast, south and southwest appear as vacant lands. Residential and community developments are present east and west of the subject site.

- 2005 The subject site remains unchanged from the previous photograph. More residential and community developments are present further south and west of the subject site.
- 2017 The northern portion of the site appears vacant with a stockpile present. The stockpile is expected to be excess soil from the initial phases of the site development. The remaining two portions of the site appear as vacant lots. Neighbouring lands to the north, east, south and west are occupied by residential dwellings, recreational fields and institutions.

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

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 north-easterly direction towards the Rideau River. 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 area of the site consists of offshore marine sediments of clay and silt, with a drift thickness ranging from 5 to 10 m.

Water Well Records

A Well Record search was conducted on March 22, 2019 for all drilled wells within 250 m of the subject site. The well record search returned ten (10) well records, four (4) of which were identified as monitoring wells located outside of

the 250 m study area, three (3) domestic well records from 1975 and three (3) records of abandonment. Based on the new residential and community development in the area, these domestic wells are no longer in use. Copies of the well records have been included in Appendix 2.

Areas of Natural Significance and Water Bodies

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

5.0 INTERVIEWS

Property Owner Representative

Mattino Developments Inc. was contacted via email as part of this assessment. The subject properties have always been vacant and undeveloped. Mattino Developments Inc. is not aware of any potential environmental concerns with respect to the subject or adjacent properties.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site visit was conducted on March 25, 2019. Weather conditions were sunny with a temperature of approximately -8°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 the Phase I Properties

Site Features

The subject properties are 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 at grade with the adjacent roadways.

The regional topography slopes down in an easterly direction towards the Rideau River.

No underground utilities were noted on-site. No drains or private sewage systems were observed on the subject properties at the time of the site visit. No evidence of current or former railway or spur lines was observed on the subject properties 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 are no buildings or structures present on the Phase I Properties.

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 255 Mountshannon Drive (Block 2) was as follows:

- □ North Residential, followed by Boulder Way;
- □ South Mattino Way, followed by vacant land (Block 1);
- East Mountshannon Drive, followed by a Community Centre and parkland;
- U West Residential, followed by Mattino Way.

Land use adjacent to the 285 Mountshannon Drive (Block 1) was as follows:

- □ North Mattino Way, followed by vacant land (Block 2);
- □ South Longfields Drive, followed by vacant land;
- East Mountshannon Drive, followed by a Community Centre and parkland;
- U West Elementary School, followed by Residential.

Land use adjacent to the 591 Longfields Drive (Block 21) was as follows:

- North Vacant land, followed by residential (northeast) and transit way (northwest);
- South Mattino Way, followed by residential;
- □ East Vacant land and residential, followed by Longfields Drive;
- U West Transit way, followed by railway tracks.

The current use of the immediately adjacent properties is not considered to pose an environmental concern to the Phase I Properties. The railway tracks situated 55 m west of Block 21 represents a potentially contaminating activity (PCA), however, they are not considered to represent an area of potential environmental concern (APEC) on the subject site. Current land use in the Phase I Study Area is illustrated on Drawing PE4589-2 – 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 Properties have never been developed. No potential environmental concerns were noted with the historical and current land use of the subject properties.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

No potentially contaminating activities (PCAs)) were identified on the Phase I Properties. The railway tracks to the west of Block 21 were identified as a PCA within the Phase I Study Area. Based on the nature of the tracks and their distance from the site, the railway line is not considered to represent an area of potential environmental concern (APEC) on the Phase I Property.

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 in the area consists of offshore marine sediments of clay and silt, with a drift thickness ranging from 5 to 10 m. Bedrock in the area consists of interbedded sandstone and dolomite, of the March Formation.

Groundwater flow is interpreted to be in an easterly direction towards the Rideau River.

Existing Buildings and Structures

There are no buildings or structures on the Phase I Properties.

Water Bodies and Areas of Natural Significance

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

Drinking Water Wells

There are no potable water wells on the subject site. Four (4) domestic well records were identified as well as their respective abandonment records.

Neighbouring Land Use

Neighbouring land use in the Phase I Study Area consists of vacant land, a residential subdivision with institutional and community centre as well as the transit way and railway tracks.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, one PCA (railway tracks) was identified within the Phase I Study Area; however, as discussed previously, it does not represent an area of potential environmental concern to the Phase I Properties.

Contaminants of Potential Concern

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

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 Phase I Properties. 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 Mattino Developments Inc. to conduct a Phase I-Environmental Site Assessment (ESA) for the properties located at 255 and 285 Mountshannon Drive and 591 Longfields Drive, 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 the Phase I Study Area and to identify any environmental concerns with the potential to have impacted the Phase I Properties.

According to the historical research, the Phase I Properties have never been developed and were historically used for agricultural purposes. 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 properties are currently vacant. No potential environmental concerns were noted with the current use of the Phase I Properties. Neighbouring properties in the Phase I Study Area consist of vacant lands, a residential subdivision with schools and a community centre and railway tracks. Railway tracks are considered a potentially contaminating activity, however, based on the nature of their use and distance from the subject site, they are not considered to represent an area of potential environmental concern. Therefore, no areas of potential environmental concern with respect to the Phase I Properties were identified.

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

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 Mattino Developments Inc. Permission and notification from Mattino Developments Inc. 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.

Report Distribution:

- Mattino Developments Inc.
- 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

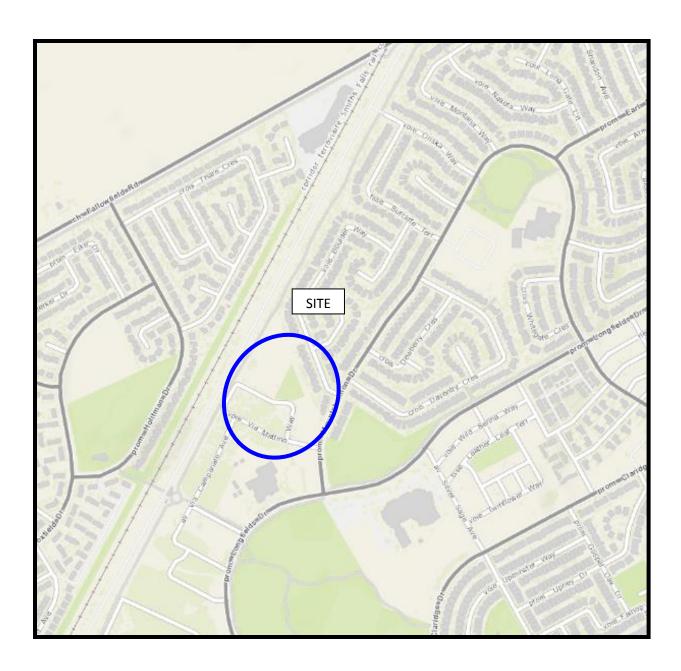
FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4589-1 – SITE PLAN

DRAWING PE4589-2 – SURROUNDING LAND USE PLAN

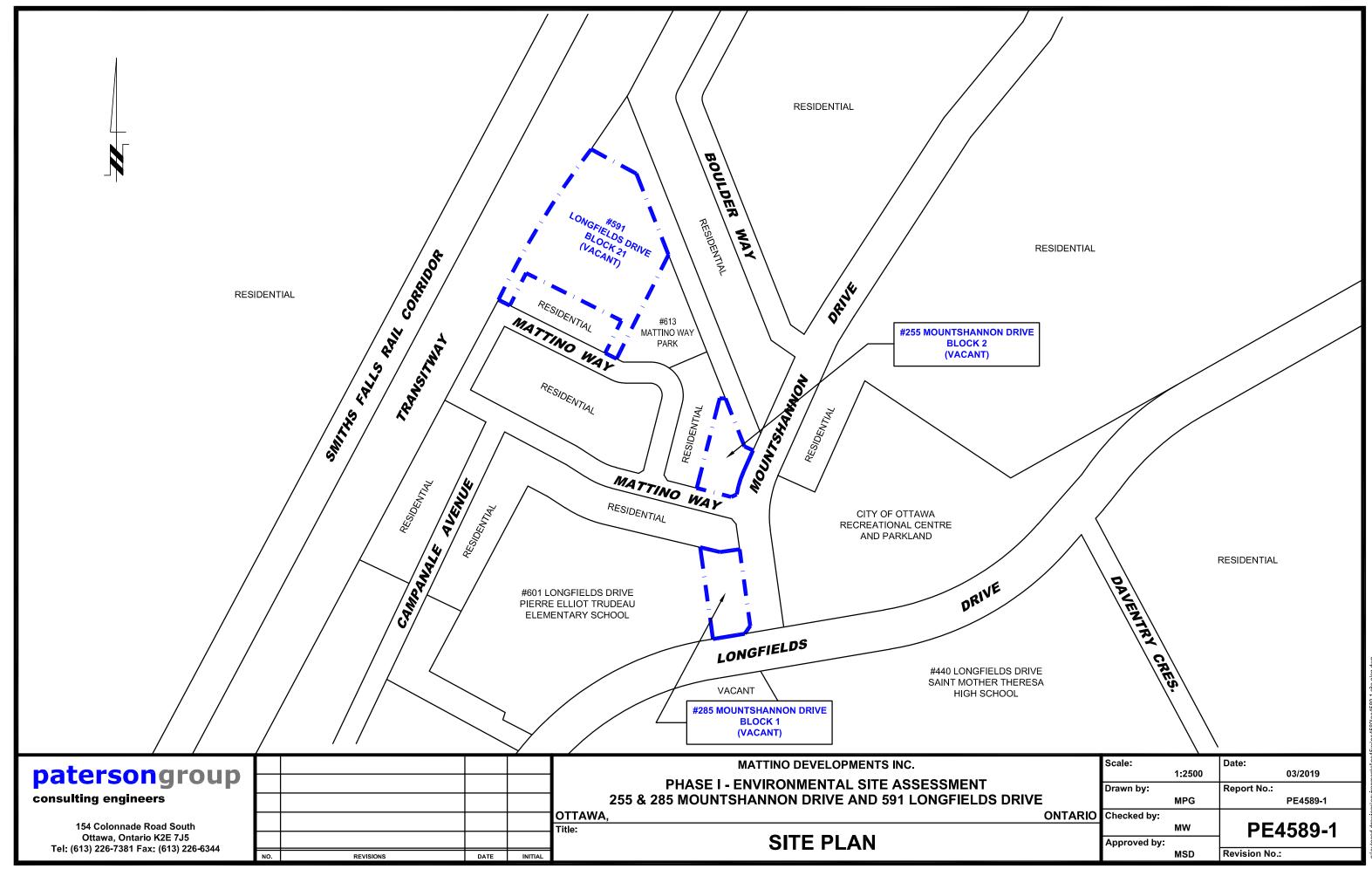
patersongroup

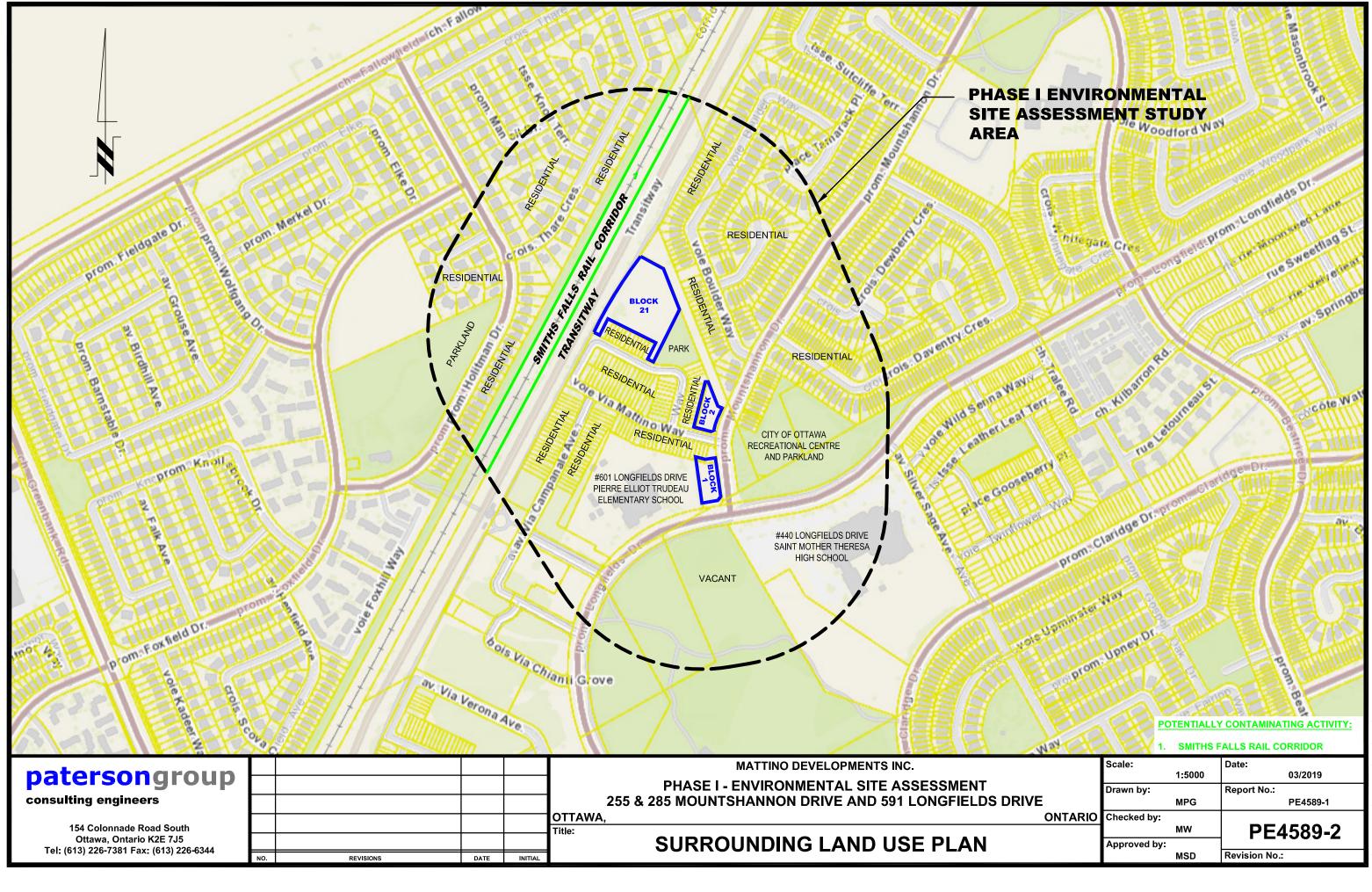
FIGURE 1 KEY PLAN



Merivale Station Rideau Glen Gloucester Back Rapids Oast euricaton O. 2 Honeygables Com 0 Nepean SITE munication Barrhaven Hearts Desire ockyale

FIGURE 2 TOPOGRAPHIC MAP



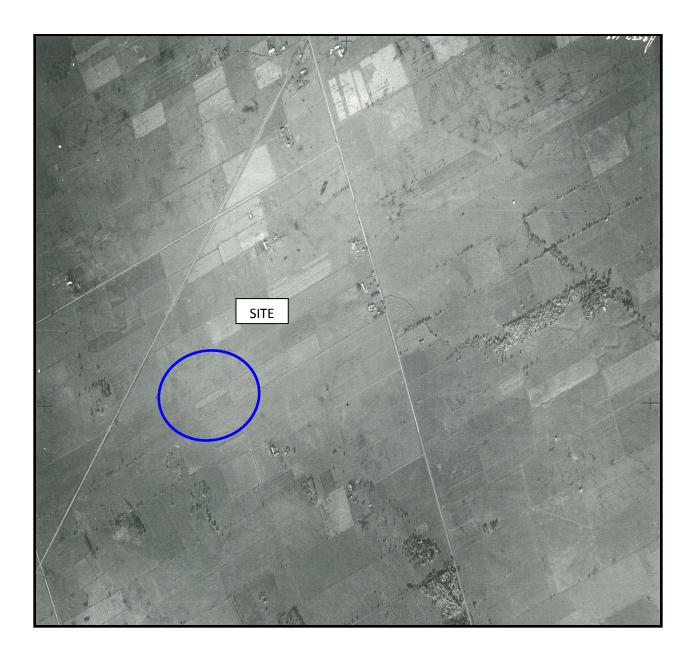


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APPENDIX 1

AERIAL PHOTOGRAPHS

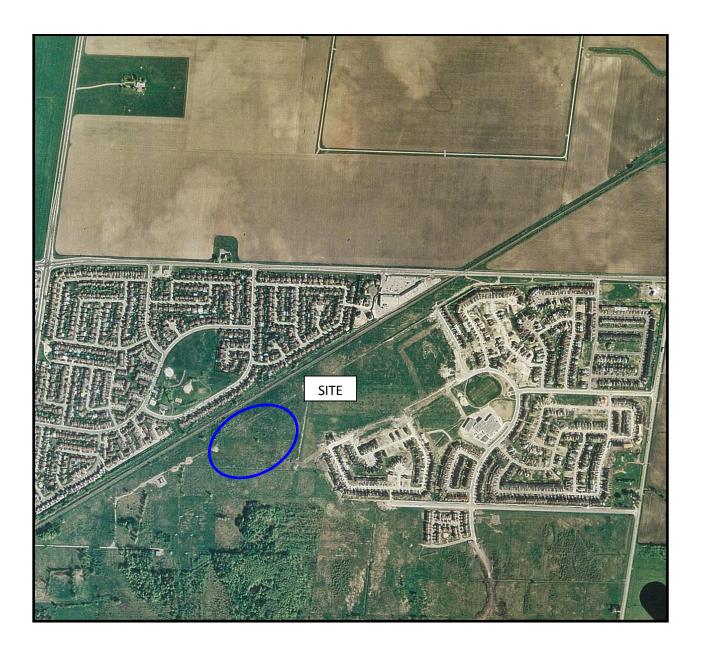
SITE PHOTOGRAPHS



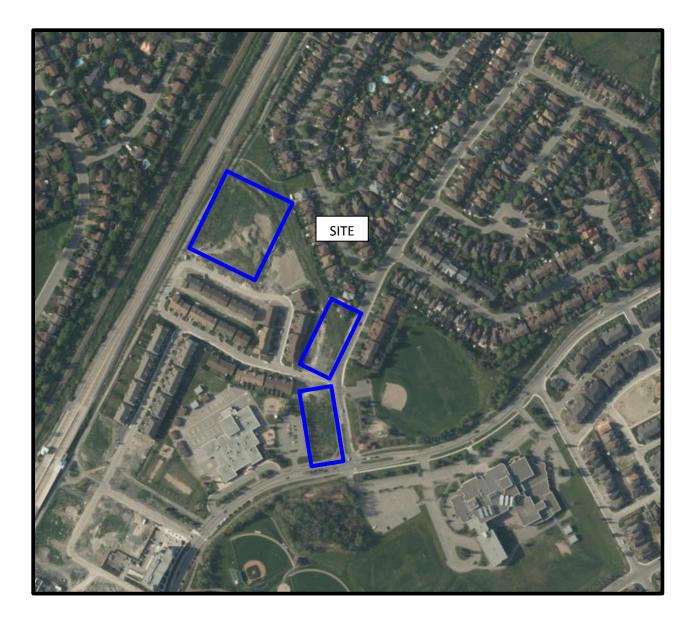












Site Photographs

PE4589

255 and 285 Mountshannon Drive, and 591 Longfields Drive, Ottawa, ON

March 25, 2019



Photograph 1. View of 285 Mountshannon Drive (Block 1), taken from Mountshannon Drive, looking west.



Photograph 2: View of 255 Mountshannon Drive (Block 1), taken from the northeast property boundary, looking southwest.

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Site Photographs

PE4589

255 and 285 Mountshannon Drive, and 591 Longfields Drive, Ottawa, ON

March 25, 2019



Photograph 3: View of 591 Longfields Drive (Block 21), taken from the western property boundary, looking northeast.



Photograph 4: View of 591 Longfields Drive (Block 21), taken from the western property boundary, looking east.

APPENDIX 2

MECP FREEDOM OF INFORMATION

TSSA CORRESPONDENCE

HLUI RESPONSE

MECP WELL RECORDS



Ministry of Environment and Energy

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.

Name, Company Name, Mailing Address and Mandy Witteman Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 Email address: mwitteman@			For Min FOI Request No. Fee Paid ACCT CHQ -	Istry Use Only Date Request Received VISA/MC			
Telephone/Fax Nos. Tel. 613-226-7381 Fax 613-226-6344	Your Project/Reference No. PE-45XX	Signature/Print /Name of Requester Mandy Witteman	□ CNR □ ER □ NO □ SAC □ IEB □ EA				
Request Parameters							
Municipal Address / Lol, Concession, Geographic Township (Municipal address essential for cities, towns or regions) 571 Mattino Way (Block 21), 255 + 285 MountShutton Dr., Othruce, Ow Present Property Owner(s) and Date(s) of Ownership Mattino Developments Inc. Previous Property Owner(s) and Date(s) of Ownership 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	all						
Orders	all						
Spills	all						
Investigations/prosecutions	Owner AND tena		all				
Waste Generator number/cla	ISSES			all			
e	Certificates	s of Approval > Proponent infor	mation must be provided				
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. SD Specify Year(s) Requested							
air - emissions				1986-present			
water - mains, treatment, ground le	1986-present						
Sewage - sanitary, storm, treatment	nt, stormwater, leachate &	leachate treatment & sewage pump station	s	1986-present			
waste water - industrial discharge		1986-present					
waste sites - disposal, landfill site	s, transfer stations, proces		1986-present				
waste systems - PCB destruction	& hazardous waste	1986-present					
pesticides - licenses 1986-present \$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							

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.

Mandy Witteman

From:	Public Information Services < publicinformationservices@tssa.org>
Sent:	March-25-19 9:37 AM
То:	Mandy Witteman
Subject:	RE: Records Search Request (PE4589)

Thank you for your inquiry.

We have no record in our database of any fuel storage tanks at the subject address (addresses).

For a further search in our archives please complete our release of public information form found at <u>https://www.tssa.org/en/about-tssa/release-of-public-information.aspx? mid =392</u> and email the completed form to <u>publicinformationservices@tssa.org</u> 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.

Thank you and have a great day,

Roxana



Roxana Mashtaler | Public Information Agent Facilities 345 Carlingview Drive Toronto, Ontario M9W 6N9 Tel: +1-416-734-3472 | Fax: +1-416-231-6183 | E-Mail: <u>rmashtaler@tssa.org</u> www.tssa.org

From: Mandy Witteman <MWitteman@Patersongroup.ca> Sent: March 25, 2019 9:07 AM To: Public Information Services <publicinformationservices@tssa.org> Subject: Records Search Request (PE4589)

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 (Cumberland), ON:

Mountshannon Drive: 255, 285 Longfields Drive: 601, 400, 625, 600 Foxfield Dr: 70,

Thank you.

Cheers,



154 Colonnade Road South Ottawa - Ontario - K2E 7J5 Tel: (613) 226-7381 Fax: (613) 226-6344 Cell: (403)-921-1157 Email: <u>mwitteman@patersongroup.ca</u>

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March 25, 2019 File: PE4589-HLUI

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

Subject:

Authorization Letter, HLUI Search Phase I-Environmental Site Assessment 255 and 285 Mountshannon Drive and 591 Longsfield Drive, 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

Mattino Developments inc.
& Matterici
March 25, 2019

Well ID Number: 7278712 Well Audit Number: *Z220185* Well Tag Number:

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

Well Location

Address of Well Location	124 HOLITMAN DR
Township	NEPEAN TOWNSHIP
Lot	020
Concession	RF 02
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	NEPEAN
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 441279.00 Northing: 5015039.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour Most Common Material	Other Materials	General Description	Depth From	Depth To	
-------------------------------------	-----------------	----------------------------	---------------	-------------	--

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
.8 m	4.9 m	BENTONITE GROUT	
.8 m	4.9 m	ABANDONMENT	

Method of Construction & Well Use

Method of Construction Well Use

Not Used

Status of Well

Abandoned-Other

Construction Record - Casing

Inside	Open Hole or material	Depth	Depth
Diameter		From	To
5 cm	OTHER	.8 m	4.9 m

Construction Record - Screen

Outside Diameter Material Depth Depth From To

Well Contractor and Well Technician Information

Results of Well Yield Testing

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

Draw Down & Recovery

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

Water Details

Water Found at Depth Kind

Hole Diameter

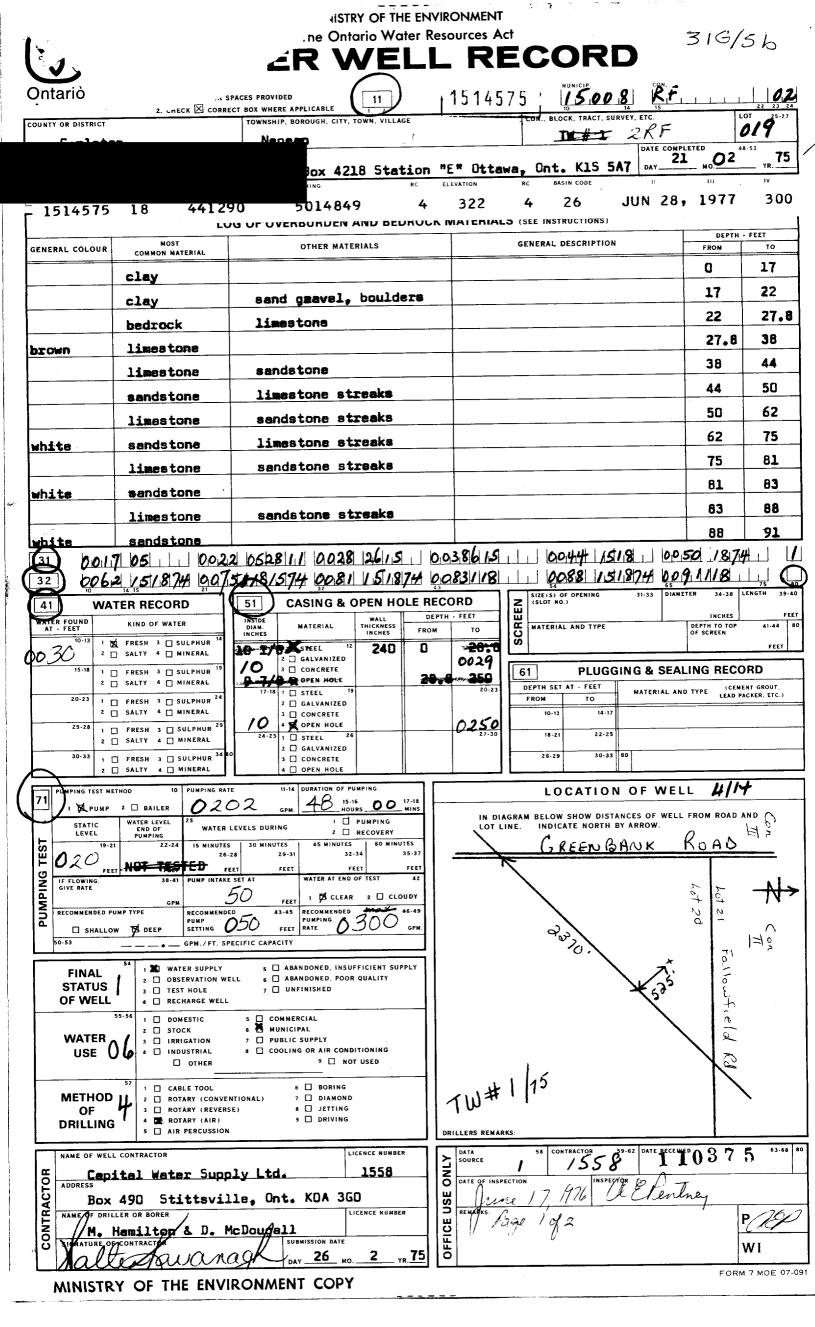
Depth From	Depth To	Diameter
.8 m	4.9 m	5 cm

Audit Number: Z220185

Date Well Completed: October 13, 2016

Date Well Record Received by MOE: January 10, 2017

Updated: March 7, 2019 Rate <u>Rate</u> Share <u>facebook twitter Print</u> Tags



		The	NISTRY OF THE E	Resources Ac	t Britch :		()
Y	WA	ATER	-	\sim		D (<i>Tage</i> 2 % con.	14575
Intario	1. PRINT ONLY IN S 2. CHECK 🗵 CORRE	CT BOX WHERE APPLICAE		EE PAGI		14 15	LOT 25-27
UNTY OR DISTRICT		TOWNSHIP, BOROUGH	H, CITY, TOWN, VILLAGE		CON., BLOCK, TRACT, SUR	2RF	set of .
		· · ·		101	Data da	DATE COMPLETED	48-53 2 YR
			AZI8 Stati		RC. DASIN CODE		vi vi
2	M 10 12	17 18			S (SEE INSTRUCTIONS)		
	MOST		R MATERIALS		GENERAL DESCRIPTION	DEF	TH - FEET
ENERAL COLOUR					<u> </u>	91	95
CONT* white	limestone sandstone					95	108
WALTS	sandstone	limaston	s streaks			108	124
	limestone		e streaks			124	165
	sandstone		e streaks			165	183
	sendstone	183				183	201
	sandstone					201	208
. 1	sandstone	limestory	e stresks		· · · · · · · · · · · · · · · · · · ·	208	212
white	sandstone					212	214
	sandstone	limeston	s streaks		· · · · · · · · · · · · · · · · · · ·	214	226
	sandstone					226	250
				43	SIZE (S) OF OPENING	31-33 DIAMETER 34-3	8 LENGTH 3
41 WA	TER RECORD			DEPTH - FEET	C (SLOT NO.)	INCHE	s
AT - FEET	KIND OF WATER	DIAM. MATERI INCHES 10-11 1 STEEL	INCHES	ROM TO 13-16	S MATERIAL AND TYPE	DEPTH TO T OF SCREEN	OP 41-44 FEET
~	SALTY 4 MINERAL FRESH 3 SULPHUR 19	2 G GALVA 3 G CONCE	NIZED		61 PLUGG	ING & SEALING RE	
2 [$\Box SALTY 4 \Box MINERAL$ $\Box FRESH 3 \Box SULPHUR 24$	4 OPEN 17-18 1 STEEL	19	20-23	DEPTH SET AT - FEET FROM TO		CEMENT GROUT, AD PACKER, ETC.)
2	SALTY 4 MINERAL	2 🗌 GALVA 3 🗍 CONCI 4 🗍 OPEN	RETE		10-13 14-17		
2	FRESH 3 SULPHUR ²⁹ SALTY 4 MINERAL	24-25 1 🗌 STEEL 2 🖵 GALVA	1 11	27-30	18-21 22-25 26-29 30-33	20	
30-33 1 2	☐ FRESH 3 ☐ SULPHUR ³⁴ 8 □ SALTY 4 ☐ MINERAL	3 🗌 CONCI 4 🗌 OPEN			26-29 30-33		
71 PUMPING TEST M	ETHOD 10 PUMPING RAT	02 4	ION OF PUMPING		LOCATION	OF WELL	
STATIC LEVEL	WATER LEVEL 25 END OF WATER	LEVELS DURING	1 PUMPING 2 RECOVERY	IN DIA LOT LI	GRAM BELOW SHOW DISTA INE. INDICATE NORTH B	NCES OF WELL FROM ROA Y ARROW.	AD AND
19-2 19-2	PUMPING 21 22-24 15 MINUTES 26-		MINUTES 60 MINUTES 32-34 35-37	1	GREEN	BANK RO	AN
	ET FEET FI	EET FEET E SET AT WATER	FEET FEET RATEND OF TEST 42	4 1	K		
SILE FLOWING. GIVE RATE	GPN. PUMP TYPE RECONMENDI	PELI	CLEAR 2 CLOUDY				
		50 FEET RATE			To all		
50-53	GPM./ET. SP			ן ר			
FINAL STATUS	1 WATER SUPPLY 2 OBSERVATION WE 3 TEST HOLE		ED, INSUFFICIENT SUPPLY ED, POOR QUALITY ED			125	
OF WELL	4 🗌 RECHARGE WELL	-				N.	
WATER	55-56 1 DOMESTIC 2 STOCK 3 RRIGATION	6 MUNICIPAL 7 🗌 PUBLIC SUPPL					
USE	4 INDUSTRIAL	8 🗌 COOLING OR A 9	IR CONDITIONING		1/15	\backslash	
метнор	57 1 CABLE TOOL	6 🗋 B		1 70#	1110		N
OF	3 ROTARY (REVERS	_					
	5 AIR PERCUSSION	l		DRILLERS REMAR		59.62 DATE BEFEINE A 2	7 5 63-
	L CONTRACTOR	lv I+d	LICENCE NUNBER	DATA SOURCE		59-62 DATE REEIVEL 03	• •
ADDRESS	490 Stittsvill				ection inspect	at Kentney	
H NAME OF DRI	LLER OR BORER	0	LICENCE NUMBER		/2ge 20/2	<u>د</u>	P M
	amilton & D. M.	SUBMISSIO			i j V		WI
	To Anin	1 a Chest_2	6_ MO. 2YR75				1

	Ainistry of he Environment	Well Tag Number (Pl	ace sticker and print	number below)	Regulation 903 Ontario	Nell Record Nater Resources Act
 All Sections must be com 	of Ontario only. Thi ppleted in full to avo pleting this applicat s shall be reported	s document is a peri id delays in process ion can be directed t	ing. Further in to the Water V e.	Nell Managen	lease retain for future referend d explanations are available on t nent Coordinator at 416-235- Ministry Use Only	he back of this form.
Address of Well Location (County, OTTAWA - CAR RR#/Street Number/Name	District/Winticipality)	DRIVE		EPEAN PEAN	Site/Compartment/Blo	bock/Tract etc.
GPS Reading NAD Zon	441715	Sol4616	Unit Make/Mo		e of Operation: Undifferentiated	Decify
Log of Overburden and Be General Colour Most common		Other Materials		Genera	I Description	Depth Metres From To
CLAY GRAJEL OREY SA GREY PIN	SAND NDSTONE IK GRAN	E ITE				0 3.35 3.35 11.88 1.88 54.25 4.25 61.87
		Construction Bo			CHN PLIMBING of Well	Viala SEFAULT
Hole Diameter Depth Metres Diameter	Inside	Construction Re Wall	Depth	Metres	Pumping test method Draw D	own Recovery
From To Centimetres	diam Mat centimetres	erial thickness centimetres	From	То		etres min Metres
3.87 6187 20.3		Casing		· ·	(metres)	° 30,5 1 18,9
		Fibreglass	0	14.32	Pumping rate 1 (litres/mi)	1
Water Record Water found at	Galvaniz	ed		177	Duration of pumping 2	2 13.9
m Fresh Sulphur		Fibreglass Concrete			Final water level end 3 of perpoing metres	3 [0,1
Gas Salty Salty Comercials	Gaivaniz	Fibreglass			Recommended pump 4	4 7.4
Gas Salty	[] L	Concrete			Shallow Deep Recommended pump 5	5 5.5
Other Or Torus	Galvaniz	Screen			Recommended pump 10	10 2.7
, m Fresh Sulphur Gas Salty Minerals Other:	Outside diam	Fibreglass Slot No.		$\partial \varphi = e^{\frac{1}{2} \frac{1}{2} 1$	rate. (litres/min) 15 If flowing give rate - 20	15 D.4 20 D 3
After test of well yield, water was	Plastic [Concrete			(litres/min) 25	25 9 25 2.3
		No Casing or Se	creen	· ·	ued, give reason.	9 40
Chlorinateo Yes 🗌 No	X Open ho	ble	1371	61.87	50 60 12	50 18 58 60
Plugging and Se		<u>A</u> <u> </u>	Abandonment"		Location of Well	
Depth set at - Metres Material and ty From To Meterial and ty	~	cement siuny) etc. (cu	ume Placed bic metres)	In diagram belo Indicate north b		R (TH)
					km	LONGFIELDS
	Method of Construc			•	hann	E
Cable Tool Rotary Rotary (conventional) Air per Rotary (reverse) Boring	cussion	Diamond] Jetting] Driving	Digging		(D= 58M	28
Domestic Industr		Public Supply	Other	RUGB	FIELD	A K
Stock Comm	pal 🗌	Not used Cooling & air conditioning	1	Audit No. 7	23173 Date Well Co	
Water Supply Recharge v	· · · · · ·] Unfinished 🔄 Aba	ndoned, (Other)		owner's information Date Delivered	
Observation well Abandoned Test Hole Abandoned	, poor quality	Dewatering Replacement well		package deliver	Ministry Use Only	
	ntractor/Technician	Well Contractor	's Licence No.	Data Source	Contractor	1119
	LNG OL	-TO TILLE		Date Received	YYYY DD Date of Inspec	
Name of Well Technician (last name,	first-name)	Well Technician	20 I's Licence No.	OCT 1 Remarks	2 ZUD Well Record	Number
Signature of Technician/Contractor	SHANNO		20			
x Ko	Contractor's	Copy ☐ Ministry's Co		ner's Copy 🗌	Cette formule es	st disponible en français

. Well tag # A023058

Well for the rugby field (new irrigation system) $\stackrel{\pm}{\sim}$					
Flow USGPM	Time, min	Measured Level, in	Measured Le		
0.0	0	38.4	1.0		
N/A*	15	N/A	N/A ¹ ?		
41.0	30	350.4	4 € 1 1 1 1 1 1 1 1		
61.3	45	704.4	17.9 -		
60.5	60	741.6	16.8 🛪		
80.0	75	782.4	19.9 📅		
81.5	90	1332.0	33.8 1		
81.5	105	1684.8	42.8		
60.0	120	1227.6	31.2		
60.5	135	1226.4	31.2 $\stackrel{\circ}{\rightarrow}$		
61.0	150	1231.2	31.3 🖫		
60.5	165	1202.4	30.5 m		
60,5	180	1200.0	30.5 ພ		

Well for the rugby field (new irrigation system)

*Flow meter, problem couldn't retest without risking going over 50 000Lma

After pumping (recovery)

Time elapsed	Measured Level in the well		
min	in	meters	
1	744.0	18.9	
2	546.0	13.9	
3	396.0	10.1	
4	291.6	7.4	
5	216.0	5.5	
10	106.8	2.7	
15	96.0	2.4	
20	90.0	2.3	
35	90.0	2.3	
50	69.6	1.8	
80	To come		
. 110	To come		

Р. 2

2934

OCT 12 2005 Z23173

1119

	Ministry of the Environment	Well Hag Number (F H023		nt number below)	Regulation 903 Ontar	Well Record
Instructions for Completin	na Form	jiin, 6		L 2 V 4		page of
 For use in the Province All Sections must be con Questions regarding con 	of Ontario only. The mpleted in full to average on the mpleted in full to average on the mpleting this application.	bid delays in process tion can be directed	sing. Further i to the Water	nstructions and	ease retain for future refer l explanations are available o nent Coordinator at 416-23	on the back of this form.
 All metre measurement Please print clearly in blue 		d to 1/10 ^m of a metr	re.		Ministry Use Only	
Well Owner's Information	and Location of	Well Information	MUN	cc	DN	LOT
RR#/Street Number/Name F 700 F 706 F GPS Reading NAD 700 8 3		DRIVE Dorthing Dorthing A582	City/Town/Vi	EAN	of Operation: Undifferential	ted Xeraged
Log of Overburden and B General Colour Most common	······································	Other Materials		Genera	Description	Depth Metres
	<u>^</u>	NLDERS				From To
Limest	dhe dhe dhe					11.88 15.54 15.54 5(, 20
· · · · · · · · · · · · · · · · · · ·						
Hole Diameter		Construction Re	cord		GN PLUMBINETest of We	ell Yield ATTACHEW
Depth Metres Diameter	Inside	Wall	Depth	Metres	Pumping test method Drav	w Down Recovery
From To Centimetres	diam Mate centimetres	erial thickness centimetres	From	То	SUBFUMT min	Vater Level Time Water Level Metres min Metres
122 4100 23		Casing	No. Strain		Pump intake set at - Static (metres) Level	4.2 7.3
15, 5, 00,	QD Steel	Fibreglass	-		Pumping rate 1	156
Water Record		Concrete , 4-8	0	13,77	Durotion of pumping 2	2 5.3
Water found at Kind of Water	11 1	Fibreglass			Final water level end 3	35.2
Gas Salty Mirrorals	Plastic Galvaniz	Concrete			of pumping metres	
Other TREST	Steel	Fibreglass			type.	49.
	Plastic Galvaniz] Concrete ed			Recommended pump 5 depth 5 metres	550
Solution		Screen			Recommended pump 10	10 4 8
	l ulani	Fibreglass Slot No.			(litres/min) 15	
After test of well yield, water was	Plastic	Concrete ed			(litres/min) 25 If pumping di≰contin- 30 ≤	25
Clear and settiment NoT		No Casing or S	creen	*	If pumping discontin- ued, give reason.	5.7 2035 4.5 6.4 40
Chlorinated Xyes No	Sopen ho	le	13.10	51.20.	50 60 L	50 4.5
Plugging and S	ealing Record	X Annular space	Abandonment		Location of Well	
	pe (bentonite slurry, neat o	omont olurna) etc. Vol	lume Placed ubic metres)	Undicate north by	v show distances of well from road	d, lot line, and building.
310 0 NEAT	COMENT	Sully.	4086	NoR	H HARROW DRIVE	*
			•		A	
					. Ikan	
	Method of Construc				.16.	ALTA
Cabfe Tool Rotary Rotary (conventional)	rcussion	Diamond Jetting Driving -	Digging	•	() 139 M	
Domestic Industr	rial	Public Supply	Other	For BALL	.FIELD	
Stock Comm		Not used - Cooling & air conditioning	g	Audit No.	22172 Date Well	Completed
Water Supply Recharge v	Final Status of We		ndoned, (Other)	Was the well ov	Vner's information Date Delive	ered YYYY MM DD
Observation well Abandoned	1, insufficient supply	Dewatering		package delivere		
Well Co	l, poor quality ntractor/Technician			Data Source	Ministry Use Only Contractor	
Name of Well Contractor	into Co	GD Well'Contractor				1119
Business Address (street name, num	iber, city etc.)	DAT KOA	-220	Date Received	2 2005 MM DD Date of Ins	pection YYYY MM DD
Name of Well Technician (last name	first name) HANNON	Wall Teomician	n's Licence No.	Remarks	······································	ord Number
Signature of Technician/Contractor		Date Submitted	W MAR DD	4		
0506E (09/03)	Contractor's C	Copy Ministry's Co		vner's Copy 🗌	Cette formule	e est disponible en français

Well tag A023059

Well for the existing irrigation system

Flow USGPM	Time, min	Measured Level, in	Measured Level, m
0.0	0	164.4	4.2
22.0	15	196.8	5.0
39.7	30	223.2	5.7
60.6	45	252.0	6.4
80.0	60	268.8	6.8
80.0	75 ·	273.6	6.9
80.0	90	277.2	7.0
80.0	105	279.6	7.1
80.0	120	282.0	7.2
80.0	135	284.4	7.2
80.0	150	284.4	7.2
80.0	165	286.8	7.3
80.0	180	288.0	7.3

After pumping (recovery)

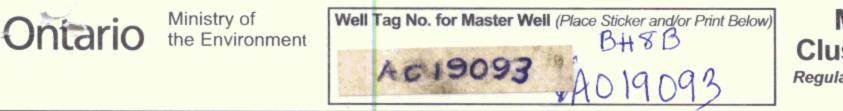
Time elapsed	Measured	Level in the well
min	in	meters
1	220.8	5.6
2	208.8	5.3
3	205.2	5.2
4	200.4	5.1
5	196.8	5.0
10	187.2	4.8
15	184.8	4.7
20	182.4	4.6
35	177.6	4.5
50	175.2	4.5
80	172.8	4.4
110	172.8	4.4

0CT 12 2005 Z 23172

1119

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		vironment	g Number (Face	e sticker and prin	t number below)	Regulation 903	Ontario		ources Act
	 Instructions for Completing For For use in the Province of Ont All Sections must be completed Questions regarding completing All metre measurements shall 	ario only. This docum d in full to avoid delays g this application can b l be reported to 1/10	s in processing be directed to	g. Further in the Water V	structions and	explanations are available and a second s	uilable or 416-235	nce. h the back of	of this form.
-	Please print clearly in blue or bl Well Owner's Information and L	······	ormation	MUN	CC	Ministry Use		LOT	
		THELON		City/Town/Vil	PEAN	(Site/Compa	rtment/B	Block/Tract et	
	GPS Reading NAD ZOPE	looting 🦳 Nort	VRIVE	Jnit Make/Me		of Operation: Und	ifferentiated,	d Xaver	
	8 3 6 7 Log of Overburden and Bedrocl General Colour Most common materia	k Materials (see ins	tructions)				renualeo,	Depth	Metres
		LABANDE	······	17	Genera	Description		From O	17,68
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		· · · · · · · · · · · · · · · · · · ·							
	Hole Diameter Depth Metres Diameter Insid		struction Reco	rd Depth	Metres	Tes Pumping test method	t of Wel Draw		lecovery
	From To Ceptimetres diar centimetres	m Material	thickness centimetres	From	To	Pump intake set at - (metres)	Time Wa min M Static Level	ater Level Time Metres min	Water Level Metres
		Steel Fibreglass				Pumping rate - (litres/min)	1		
	Water Record Water found at Metres Kind of Water	Plastic Concrete				Duration of pumping hrs + min	2	2	
	m Fresh Sulphur Gas Salty Minerals	Steel Fibreglass				Final water level end of pumpingmetres Recommended pump	8	3	
	☐ Other:	Steel Fibreglass				type. Shallow Deep Recommended pump	4 5	4 5	
	M Fresh Sulphur	Galvanized	Screen			depthmetres Recommended pump	10	10	
	Gas Salty Minerals Outs		Slot No.			If flowing give rate -	15 20	15 20	
	After test of yrell yield, water was	Galvanized				(litres/min) If pumping discontin- ued, give reason.	25 30	25 30	
	Other, specify	No (Casing or Scre	en		ueu, give reason.	40 50	40 50	
	Chlorinated Yes No Plugging and Sealing I		ar space	andonment		Location	60	60	
		onite slurry, neat cement slurry	Volum	e Placed metres)	In diagram below Indicate north by	w show distances of well fr		lot line, and b	(N)
	MOSOGI HOLE P	Event Slu	ARRY			14, 2.1	KM		
					ONSFIEL		CLUB		
		of Construction		Digging	SNO		inse		S
	Cable Tool Rotary (air) Rotary (conventional) Air percussion Rotary (reverse) Boring	Jetting Driving		Other	100	PARKIN	3)	1
	Domestic Industrial Stock Commercial Irrigation Municipal	Public Sup	ply	e di er	Audit No.		te WelleC	ompleted	
and the second second	Fina Water Supply Recharge well Observation well Abandoned, insuffic	I Status of Well Unfinished ient supply Dewatering		ned, (Other)	2		C te Delivere	ed yyyy	0 ⁰ 1 13 ™ □□
Soldieri Canzanian	Test Hole Abandoned, poor qu Well Contracto Nance of Well Contractor	r/Technician Informati	on Vell Contractor's L	icence No.	Data Source	Ministry Us Co	e Only	11	a
	Name of Wer Contractor DP(LL) ATIK KOCKDP(LL) Business Address (erreet name, number) city	strught of	WT KO:	A220	Date Received	, T ^{***} 2 5 [™] 2005 ^{De}	te of Inspe	ection YYYY	
	Name of Well Technician (last name, filtsman LASAULNIERS Signature of Technician Contractor	KEN V	Vell Technician's I	Licence No.	Remarks		ell Record	Number	
)	X KOM (09/03)	Contractor's Copy	Ministry's Copy.	1003		Cette	formule e	əst disponible	en français



Master Well Record for Cluster Well Construction

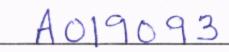
Regulation 903 Ontario Water Resources Act Page ______ of _____

Address of	Well Location (Stree	t Number/Name, RR)	ad	Towns	ship				Lot		Concession		
County/Dis	trict/Municipality	offeren in	me		own/Villag					Provi		Postal C	ode
UTM Coord	inates Zone Eastir	Northing	}	GPS Uni	<u> </u>	Model		Mode of C	Operation:	1	erentiated	Avera	aged
NAD		1999501	54	and a second sec	nin	and the second se	ret	Differer	ntiated, specify				-
General	Most Common	K Materials (see inst Other	ruction	s on the back General		(Metres)	Depth	(Metres)	Hole	e Detai	Diameter		
Colour	Material	Materials		Description	From	То	From	То			(Centimetres)	
Grey	Gravel Fi	U	Coar	se graina	10	0.1	0	4.3	20				
Grey	Sand Fil	l.		1 grained		2.4	4.3	7.9	10				
Brown	Sand + F	ravel silt	Con	use graine	104	4.3			10				
Grey	la de la constante de la const	Weathere		the grant	4.3	79							
Unug	Mile Storie	- i weathere	<u> </u>		7. 2				10/				
							Public	Ir		Not us] Other,	specify
							Domest	and the second	the second s	Dewate			
							Irrigatio				g & Air Conditio	ning	
								F1	Method of		2 N. N. N. S. N. S.		
							Cable T	Conventio	al) Diamo		Diggin		
							Rotary	옷 손님은 것을 같은	Jetting		HSA		
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							Pest Ho	ble	14. C.		nsufficient Supp	ly	
22.2.5						Replace	ement Well ering Well	Aband		oor Water Qua	lity		
						1	S	ction) 🗌 Aband	4 W. H.				
								creen Used		Static Water	_evel T	est	
		Construction De	taile			Open Hole	Yes 🚺	No		Metre	;		
Inside Dian		Material		Wall	(Metres)				creen				
(Centimeti	PVC	fibreglass, concrete, g	alvanize	sched	To	Galvani Outside Dia	and the second		eglass Slot No	Concrete	LPI	astic	
2.1	r vC			40	0	4.6	K	5.8			10		
							Water four	nd at Dent	Water De	etails of Wate			
								Metres			Salty Sulp	hur	Minerals
							Water four			of Wate	r Salty Sulp	bur	Minerals
Depth Set a	t (<i>Metres</i>)	Space/Abandonmer Type of Sealant L		ng Record	Volum	e Used	Water four		ouo	of Wate			WINCIUS
From		(Material and Typ	e)			Metres)		Metres			Salty Sulp		
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									e provided as a	an attac	and the second second second second second second	er than le	egal size
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								o release a	additional info				
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Business M-		actor and Well Tech	nician										
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QC	JOVI	Bo downin Name of Well Technici	Audit No.	04	460								
Bus.Telephor	No. (inc. area code)	Name of Well Technici	Date Recei	ved (200	2009	Date of	Inspection (yyy	y/mm/dd))				
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21	73/3	Sime / Lu	~	2009		27.				. The			Ser Contraction
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Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)



Addre	ss of Well Location (Street Number/Name, RR)		Lot	Con	cession To	wnship			County	ı/District/Muni	icipality	upon request		
City/T	own/Village Provin	1 .	Code			odel		e of Opera		lifferentiated	Averaged	Signature of Technician/Contracto		Date (yyyy/mm/dd)
	Ottawa Onta			BA	Armin 9	Trex	Differe	entiated, s	pecify:			- Jours her		009/04/27
Well # on Sketcl				ethod of nstruction	Casing Material	Casing Length (metres)	Screen Inte From	erval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	/	Date of Completion (yyyy/mm/dd)
BH	184410203015411	6.3 2	10/10 HS	ADIA	PVC	3.2	3.2	<i>(</i> e. 3	Benforite	-				2009/04/07,
BH	1844103 (5015437	4.4 2	20/16 45/	ANA	н	3.0	3.0	41	μ					2009/04/07
BH SA	184419995015428	4.3 5		sA	84 	1.2	1.2	4.3	1ĺ					2009/04/08
12/20/2020	Contractor and Well Technician Infe	ormation	Rusinoss	Adross (Str	eet Number/Nar	ma PP)		Municipal	lity		Province	Date 1st Well in Cluster Constructed C	ate Last Well in (
Ge	orge Dorming Estate Drill	ing Itd.	410 Ru	e Prin	ripale	Gienvi	The Se	n La	Donia	2	Province	Ministry Use Only		
11	Code Business Telephone N 0 V B 0 8 9 2 4	10. (incl area code) 2 4 4	49 1	84	Licence No. Busi	lounin	201	rawk	195. n	et		Date Received (yyyy/mm/dd)	Dat MAY e Ze C	(v 2009 ^{1/dd)}
	of Well Technician (First Name, Last Name)		Well 2	Technician's	icence No. Date	Submitted (v)		Signature	of Technician	Jan		Audit No. c 05166	Remarks MO	1960

- 3	1 611 1	ation (Street Number/Name, FallowField Pro	Koad	Lot ostal Code	GF	PS Unit Make N	ownship 1odel ELTEX		le of Opera	ation 🗌 Und	y/District/Mun differentiated	icipality Averaged	Signature of Technician/Contract		Date (yyyy/mm/dd)
Well # on Sketcl	h Zone Eastin	UTM Coordinates ng Northing	Full Depth of Hole (metres)	Hole Diameter	Method of Construction	Casing Material	Casing Length (metres)	Screen Inte From	erval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	/	Date of Completion (yyyy/mm/dd)
BH		1020301541	16.3	20/10	HSA/DIA	PVC	3.2	3.2	6.3	Benjonite	-				2009/04/07,
BA	1844	1031501543	1 4.4	20/16	HSA/DIA	ĸ	3.0	3.0	41	ι					2009/04/04
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12202355		r and Well Technician	Information		nana Address (C	troot Number/Ne			Municipa	114.7		Densinger	Date 1st Well in Cluster Constructed	Date Last Well in (vyvy/mm/dd)	Cluster Constructed
Fosta	Douge Don I Code 8 V []	Vell Contractor Ming Estate Di Business Telephon B 0 8 (9 2 ician (First Name, Last Name	426	Ha. 411	Well Contractor	s icence No. Dat	siness E-mail A	Address 2 C 1 yyy/mm/dd)	nawk	a Rouge	0	Province	Ministry Use Only Date Received (yyyy/mm/dd) Audit No. c05166	Dat MAY e 2 e Remarks	D(y2009 ^{n/dd)}
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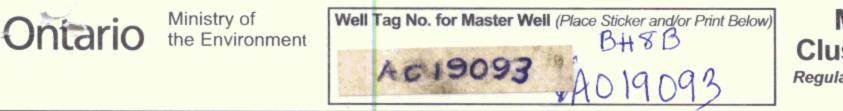
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Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

of ____ Page





Master Well Record for Cluster Well Construction

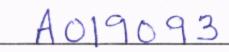
Regulation 903 Ontario Water Resources Act Page ______ of _____

Address of	Well Location (Stree	t Number/Name, RR)	ad	Towns	ship				Lot		Concession		
County/Dis	trict/Municipality	offeren in	me		own/Villag					Provi		Postal C	ode
UTM Coord	inates Zone Eastir	Northing	}	GPS Uni	<u> </u>	Model		Mode of C	Operation:	1	erentiated	Avera	aged
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General	Most Common	K Materials (see inst Other	ruction	s on the back General		(Metres)	Depth	(Metres)	Hole	e Detai	Diameter		
Colour	Material	Materials		Description	From	То	From	То			(Centimetres)	
Grey	Gravel Fi	U	Coar	se graina	10	0.1	0	4.3	20				
Grey	Sand Fil	l.		1 grained		2.4	4.3	7.9	10				
Brown	Sand + F	ravel silt	Con	use graine	104	4.3			10				
Grey	la de la constante de la const	Weathere		the grant	4.3	79							
Unug	Mile Storie	- i weathere	<u> </u>		7. 2				10/				
							Public	Ir		Not us] Other,	specify
							Domest	and the second	the second s	Dewate			
							Irrigatio				g & Air Conditio	ning	
								F1	Method of		27. N. 1. 25. N. N. S.		
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							Rotary	옷 손님은 것을 같은	Jetting		HSA		
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22.2.5						Replace	ement Well ering Well	Aband		oor Water Qua	lity		
						1	S	ction) 🗌 Aband	100 C 100 C 100				
								creen Used		Static Water	_evel T	est	
		Construction De	taile			Open Hole	Yes 🚺	No		Metre	;		
Inside Dian		Material		Wall	(Metres)				creen				
(Centimeti	PVC	fibreglass, concrete, g	alvanize	sched	To	Galvani Outside Dia	and the second		eglass Slot No	Concrete	LPI	astic	
2.1	r vC			40	0	4.6	K	5.8			10		
							Water four	nd at Dent	Water De	etails of Wate			
								Metres			Salty Sulp	hur	Minerals
							Water four			of Wate	r Salty Sulp	bur	Minerals
Depth Set a	t (<i>Metres</i>)	Space/Abandonmer Type of Sealant L		ng Record	Volum	e Used	Water four		ouo	of Wate			WINCIUS
From		(Material and Typ	e)			Metres)		Metres			Salty Sulp		
0	4.3 Ben:	tonite			88	Kgs	Disinfected	Yes	Wo If no, prov	ide reas	on: Date Mas		Completed
							Monit	oring	wells		2000	1/04	08
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								s on this P			1	010 0001	
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Business M-		actor and Well Tech	nician										
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QC	JOVI	Bo downin Name of Well Technici	Audit No.	04	460								
Bus.Telephor	No. (inc. area code)	Name of Well Technici	Date Recei	ved (200	2009	Date of	Inspection (yyy	y/mm/dd))				
Well Technicia	an's Licence No. Signa	Downing ature of Technician		Date Subr		/y/mm/dd)	Remarks						
21	73/3	Sime / La	~	2009		27.				. The			Ser Contraction
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Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)



Addre	ss of Well Location (Street Number/Name, RR)		Lot	Con	cession To	wnship			County	ı/District/Muni	icipality	upon request		
City/T	own/Village Provin	1 .	Code			odel		e of Opera		lifferentiated	Averaged	Signature of Technician/Contracto		Date (yyyy/mm/dd)
	Ottawa Onta			BA	Armin 9	Trex	Differe	entiated, s	pecify:			- Jours her		009/04/27
Well # on Sketcl				ethod of nstruction	Casing Material	Casing Length (metres)	Screen Inte From	erval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	/	Date of Completion (yyyy/mm/dd)
BH	184410203015411	6.3 2	10/10 HS	ADIA	PVC	3.2	3.2	<i>(</i> e. 3	Benforite	-				2009/04/07,
BH	1844103 (5015437	4.4 2	20/16 45/	ANA	н	3.0	3.0	41	μ					2009/04/07
BH SA	184419995015428	4.3 5		sA	84 	1.2	1.2	4.3	1ĺ					2009/04/08
12/20/2020	Contractor and Well Technician Infe	ormation	Rusinoss	Adross (Str	eet Number/Nar	ma PP)		Municipal	lity		Province	Date 1st Well in Cluster Constructed C	ate Last Well in (
Ge	orge Dorming Estate Drill	ing Itd.	410 Ru	e Prin	ripale	Gienvi	The Se	n La	Donia	2	Province	Ministry Use Only		
11	Code Business Telephone N 0 V B 0 8 9 2 4	10. (incl area code) 2 4 4	49 1	84	Licence No. Busi	lounin	201	rawk	195. n	et		Date Received (yyyy/mm/dd)	Dat MAY e Ze C	(v 2009 ^{1/dd)}
	of Well Technician (First Name, Last Name)		Well 2	Technician's	icence No. Date	Submitted (v)		Signature	of Technician	Jan		Audit No. c 05166	Remarks MO	1960

- 3	1 611 1	ation (Street Number/Name, FallowField Pro	Koad	Lot ostal Code	GF	PS Unit Make N	ownship 1odel ELTEX		le of Opera	ation 🗌 Und	y/District/Mun differentiated	icipality Averaged	Signature of Technician/Contract		Date (yyyy/mm/dd)
Well # on Sketcl	h Zone Eastin	UTM Coordinates ng Northing	Full Depth of Hole (metres)	Hole Diameter	Method of Construction	Casing Material	Casing Length (metres)	Screen Inte From	erval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	/	Date of Completion (yyyy/mm/dd)
BH		1020301541	16.3	20/10	HSA/DIA	PVC	3.2	3.2	6.3	Benjonite	-				2009/04/07,
BA	1844	1031501543	1 4.4	20/16	HSA/DIA	ĸ	3.0	3.0	41	ι					2009/04/04
BH SA	18:44	1999501542	8 4.3	20	HSA	\$1	1.2	1.2	4.3	1Í					2009/04/08
12202355		r and Well Technician	Information		nana Address (C	troot Number/Ne			Municipa	114.7		Densinger	Date 1st Well in Cluster Constructed	Date Last Well in (vyvy/mm/dd)	Cluster Constructed
Fosta	Douge Don Code 8 V []	Vell Contractor Ming Estate Di Business Telephon B 0 8 (9 2 ician (First Name, Last Name	426	Ha. 411	Well Contractor	s icence No. Dat	siness E-mail A	Address 2 C 1	nawk	a Rouge	0	Province	Ministry Use Only Date Received (yyyy/mm/dd) Audit No. c05166	Dat MAY e 2 e Remarks	D(y2009 ^{n/dd)}
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Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

of ____ Page





Ontario Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below) 4 m.w. Abandonments Tag A 019093

Master Well Record for **Cluster Well Construction** Regulation 903 Ontario Water Resources Act

Address o 369	f Well Location (Stree	eld Road		Township			Lot	Concessi	on
	strict/Municipality	an nour		City/Town/Village	1.0	· · ·		Province	Postal Code
UTM Coord		· · · · · ·		IPS Unit Make	Na	Mode of O	the second se	Ontario	
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General Colour	Most Common Material	Other Materials	Genera Descripti		etres) De To Fron	pth (<i>Metres</i>)		Diamet (Centime	
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		aniha 11 Aniha 1 Aniha	*******		Rej	placement Well watering Well	Aband	oned, Poor Water (
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0	1.9 Den	onite Come	vt	100 Kq		cted 🗌 Yes 🗔	Klo. If no, provi	(vyyy/n	
					Clust	er Information	(Please also f		<u> イ (09 / 1 つ .</u> mal Cluster Well
~~					Total V	Nells in Cluster	Construction		of land and cluster.) lumber of Cluster Well
						Vells on this Pr			Sheels Submitted
						nknow	Location of	Well Gluster	
~					(8.5" x	/14"). Sketches	are not allowe	d.	arger than legal size
		11		97. Falan	Сопзе	nt to release a	dditional infor	p is provided as p mation concerni	er Section 11.1 (3)
					the Dir	ector upon rec pe of Technicla	juest	Date ()	yyy/ipm/dd)
Business Na	Well Contra ame of Well Contracto	actor and Well Tech	contrast and the second s	ation ell Contractor's Licence	No. Master	Well Owner's	Land Owner's	2 206	9/09/23 Cluster Form
$\underline{\mathbb{G}}$ Business Ad	Igless (Street No./Nar	ne, rumber, RR)	Inling	118 14 14 ality 0	J Signatu	PILL	2	Date ()	9/10/05
416 Province	Le Prine	isale (3)	renville.		NGH	× 1 		Use Only	<u></u>
13		BIO COM		unko igs.no		°M 04	520	Well Contractor No	
81193	1426469	, Dowhip	a hre	Ce	U	01207/20	109	Date of Inspection ('yyyyhninidd)
Well Technici	an's Licence No. Signa	une of Technician	Da Da	te Submitted (1999/17) 2009 /09 123		S	1		
1992 (11/2006))		<u> </u>		I [e seguer ann an 1999 ann a Tha ann an 1999 anns		© Queen's	Printer for Ontario, 2006



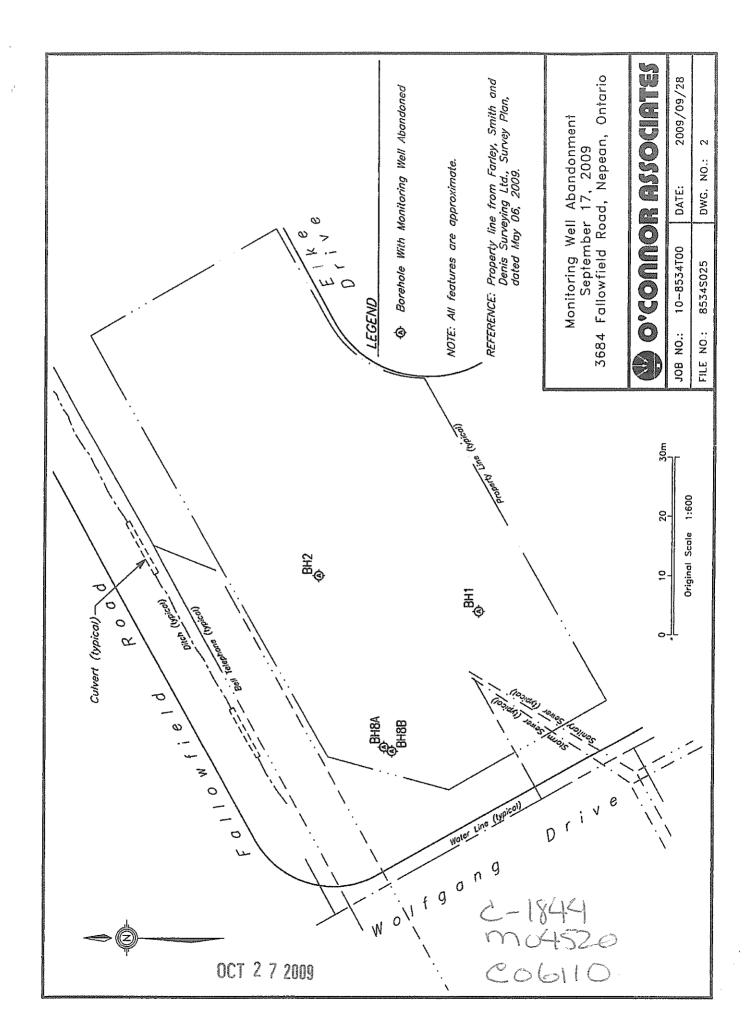
Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.) 4 M.W. absence onments Tag A 019 093

Cluster Well Information for Cluster Well Construction Regulation 903 Ontario Water Resources Act

> ____ of ____ Page ____

Addre	ss of Well Location	(Street Number/Name, RF	R)	Lot		Concession	Township			Count	y/District/Mur	nicipality		
3	1684 Fallor	whield.										1	Signature of Technician/Contractor	Date (yyyy/mm/dd)
City/To	own/Village OHawa	Provi Ont	1	stal Code		GPS Unit Make	Model Etrez		le of Opera entiated, s	Sec. 10	differentiated	Averaged	Brunc Daning	<u> 2009/09/23</u>
Well # on Sketch		Coordinates Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method ol Constructio		ial Casing Length (metres)	Screen Inte From	erval (metres) To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Concernent (
BH 1	184410	205015411	Le.3	20/10								Bentonite	cement shurry	2009/09/17
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Bit 8A	184419	9950115428	4.3	20								ł		4
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							-							
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	Contractor and	Well Technician Int	formation	ı Busi	ness Address	s (Street Number/	Name, RR),		Municipal	íty		Province	Date 1st Well in Cluster Constructed Date Last Well i (yyy/mm/dd) 2009/09/17	n Cluster Constructed
	orge Dow	BUSINESS TELEPHONE N	jilling		\sim	PALCE NO. LE				La Rou	<u>pp.</u>	Ge	Ministry Use Only	
JZ	VIIBC	Signeds Icophone Signeds Icophone Signeds Icophone First Name, Last Name)	126	469		ian's Licence No. E	down	yeh	auho	igs ne	F		UCI 4 / 2003	ad (yyyy/mm/dd)
<u> </u>	rice Dou	Mine, Last Name)		<u></u>		$ \gamma $	2009/09	iyyy/mm/dd) 23	Signature	or rechnician	Jun	\sim	Audit No. c06110	1520
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Ontario Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below) 4 m.w. Abandonments Tag A 019093

Master Well Record for **Cluster Well Construction** Regulation 903 Ontario Water Resources Act

	of Well Location (Str	et Number/Name, RR)	Townsh	ip				Lot	Concessi	on
Sounty/Di	istrict/Municipality			City/Tov	vn/Villag OH (iwa			<u>.</u>	Province Ontario	Postal Code
ITM Coord NAD		sting Northin 111919195161	· · · · · · · · · · · · · · · · · · ·	SPS Unit GARN	Make	Model	rex	Mode of O	peration:	Undifferentiated	PAveraged
Overb General Colour	burden and Bedro Most Common Material	ck Materials (see ins Other	Genera	e back o al	<i>f this fo</i> Depth (rm) (Metres)	Depth	(Metres)	Hole	Details Diamet	
COOUI		Materials		·····	From	То	From	то Л G	20/10	(Centime	tres)
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and	d backf	from 7.	les un	th	Dent	enit	×			er Use	
40		as per Or			шци 903		Public		dustrial	Not used Dewatering	[] Other, specify
				••••			Livesto	xck 🔲 M	inicipal 🔲	Monitoring Cooling & Air Con	älioning
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ide Diar	meter	Construction De	celleration receives appeal available appeal of	Wall	Depth (/	Vetres)		Yes []YA	The second se	Teleri Teleri	etres
entimet	tres) (steel, plasti	ς, fibreglass, concrete. ς	yalvanized) Thi	ickness	From	То	[]] Galvani Outside Di	ized [_] S ameter (Cer	10 9 19 10 10 10 10 10 10 10 10 10 10 10 10 10 10 1	glass [_] Concr Slot No.	ele []] Plastic
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th Set a	at (<i>Metres</i>) To	Type of Sealant (Material and Ty			Volume (Cubic M		× ,	nd at Depth Metres	1	f Water shSalty5	Sulphur 🛄 Minera
0	M. 9 Bei	Jonite Come	nt		1001	iqs	Disinfected	Yes 🖸	Wo. If no, provi	67772/2	Master Well Comple n///do)
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							Detailed M	1ap must be	Location of provided as a	Well Cluster	arger than legal siz
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Ministry of the Environment

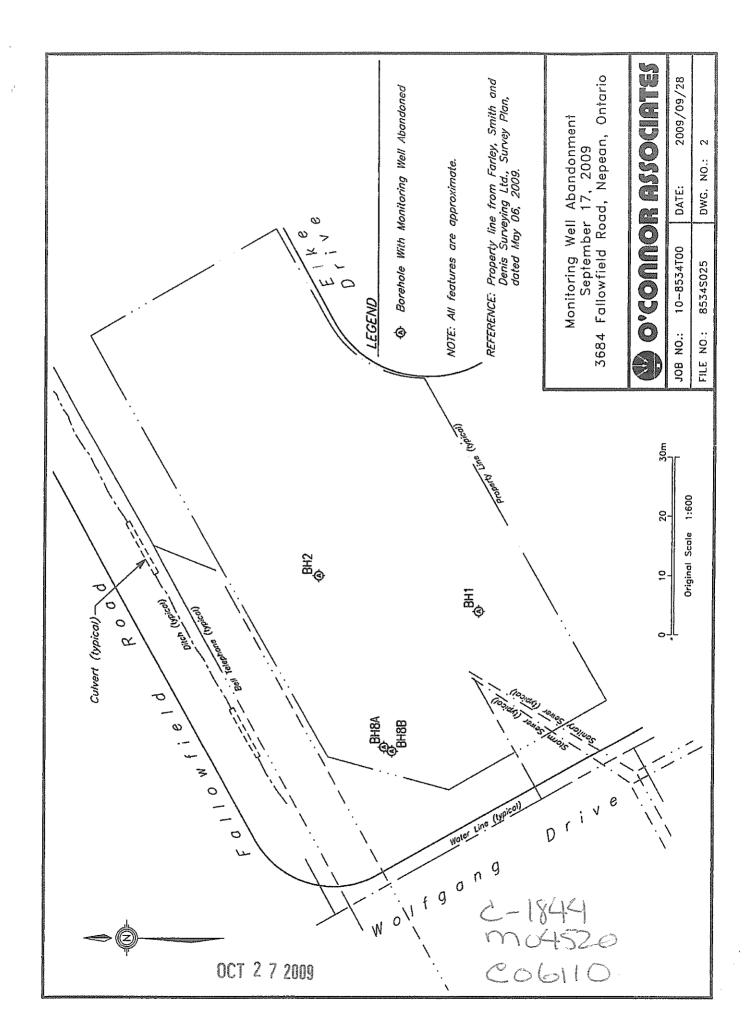
Well Tag No. for Master Well (Print Well Tag No.) 4 M.W. absence onments Tag A 019 093

Cluster Well Information for Cluster Well Construction Regulation 903 Ontario Water Resources Act

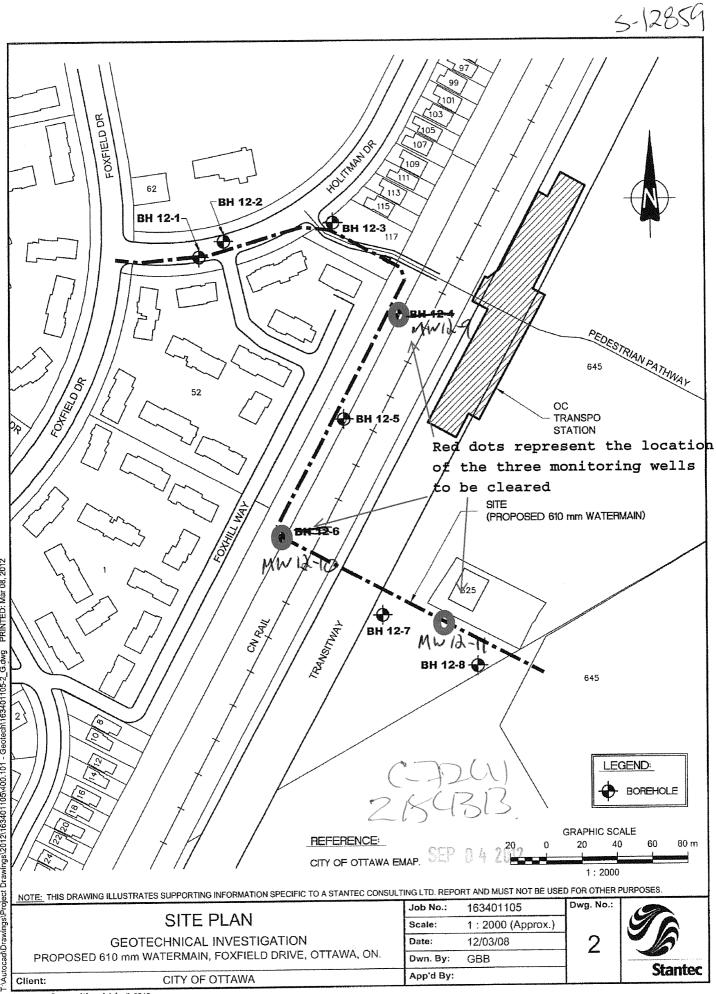
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Addre	ss of Well Location	(Street Number/Name, RF	3)	Lot		Concession	Township			Count	y/District/Mur	nicipality		
	1684 Fallor	whield.										1	Signature of Technician/Contractor	Date (yyyy/mm/dd)
City/To	own/Village DHawa	Provi Ont	1	stal Code		GPS Unit Make	Model Etrez		le of Opera entiated, s	\$101-C	differentiated	Averaged	Brune Daning	8009/09/23
Well # on Sketch		Coordinates Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Constructio		ial Casing Length (metres)	Screen Inte From	erval (metres)	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of concord ((vyyy/mm/dd)
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BH 2	184410	31150115437	Le. 4	20/10										
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*···	2010-00-00-00-00-00-00-00-00-00-00-00-00-													
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JZ	VIIBC	Signeds Icophone Signeds Icophone Signeds Icophone First Name, Last Name)	126	469		ian's Licence No. E	down	yeh	auh	igs ne	F		VG1 4 7 2003	əd (yyyy/mm/dd)
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· Do	Intario	Ministry of		Well Ta	ag No. (Place Sticker					'ell F	Record
<i>V</i> (the Environme		neT	#: A133499	A13	349 eRegulatio	on 903 O	ntario Wa	ter Re	sources Act
	nents recorded in: vner's Informati		Imperial	149		-			Page		
First Nam					ALLA	E-mail Ad	dress		C		Constructed
Mailing Ac	ddress (Street Numb	per/Name)	UT UT		AwA Municipality	Province	Postal Code	e T	Felephone	-	ell Owner
110	Couriel	- Avenue	e west		ottawa	ON					
Well Loo Address o	sation of Well Accation (Stre	eet Number/Nar	1е)	·	Township		Lot	10	Concessio	1 1	
) rive.	-								
County/Di	strict/Municipality				City/Town/Village			Province Onta		Posta	I Code
	dinates Zone Easti		Northing		Municipal Plan and Sul	lot Number		Other			
		I 368 Materials/Aban			ord (see instructions on t	ie back of this form	J				
General C		Common Mate	1		ner Materials		General Description	n		Dep From	oth (<i>m/ft)</i> To
BK	Tor	050.1			A	<u>)</u>	1 _M			0	.07
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Binn	clay	1		51 /	<i>d</i> -	Soft	, met			3,1	5.49
	/						-				
	÷										
·											
		Annul	ar Space			1	Results of W	ell Yield	Testing		
Depth S From	et at (<i>m/ft)</i>		ealant Used and Type)		Volume Placed (m ³ /ft ³)	After test of wel	l yield, water was:	Dra	w Down Water Level		ecovery
0	212	Reso	D,			\Box Other, spe		(<i>min</i>)	(<i>m/ft</i>)	Time (min)	Water Level (m/ft)
2.13	5.49	Sard.			-	If pumping disc	ontinued, give reason:	Static Level			<u>Alexa</u>
								1		1	
						Pump intake s	et at <i>(m/ft)</i>	2		2	
Met	hod of Construct	ion		Well Us	e	Pumping rate (l/min / GPM)	3		3	
			Public			Duration of pur	npina	4		4	
Rotary (F		iving 🗌 l	Domestic .ivestock	Municipa	le Monitoring	hrs +	min	5		5	
Boring	ussion		rrigation ndustrial	Cooling	& Air Conditioning	Final water leve	l end of pumping (m/ft)	10		10	
M Other, s			Other, specify _			If flowing give r	ate (I/min / GPM)	15		15	
Inside	Open Hole OR Mate			n (<i>m/ft</i>)	Status of Well	Recommended	pump depth (m/ft)	20		20	
Diameter (cm/in)	(Galvanized, Fibregl Concrete, Plastic, Sl		From	То	Replacement Well			25		25	
3.45	plastre	25.	0	2.44	Recharge Well	Recommended (I/min / GPM)	pump rate	30		30	
	1				Dewatering Well	Well production	(l/min / GPM)	40		40	
					Monitoring Hole	Disinfected?		50		50	
					- (Construction)	Yes N	lo	60		60	
	Constructi	ion Record - Sc	reen		Insufficient Supply		Map of We				
Outside Diameter <i>(cm/in)</i>	Material (Plastic, Galvanized, S	Steel) Slot No.	Depth From	(<i>m/ft)</i> To	Water Quality	Please provide a	a map below following			ack.	
4.21	1 de	10	2,44	5.49	specify		Labelle		0		
	pus	~			Other, <i>specify</i>		MWI	9-,	1		
	Wate	r Details		H	ole Diameter		Labele MW1 on	mp	•		
	d at Depth Kind of V	Water: 🗌 Fresh	Untested		m (<i>m/ft)</i> Diameter		,	•			
	//ft) Gas Other		Untested	Ø	5.49 8:25						
	/ft) Gas Other										
	d at Depth Kind of \ //t) □Gas □Othei		Untested		30						
	Well Contr	ractor and We	I Technicia	n Informati	ion						
	ame of Well Contract	ior		Well	Contractor's Licence No.						
Business Ac	dress (Street Numbe		enter Enter	Mur	nicipality	Comments:					
B-H		Bue ce	mention and a second		chand H. 11						
Province	Postal Cod L 4 B I		is E-mail Addi	oss sta	tesor 1. con		ate Package Delivered		Ministi	y Use	Only
Bus.Telephor	ne No. (inc. area code)				irst Name)	information package delivered			udit No.		
905 Well Technicia	7649900 an's Licence No. Signa	St		Brian	Submitted	Yes	ate Work Completed		2 J	. 04	313
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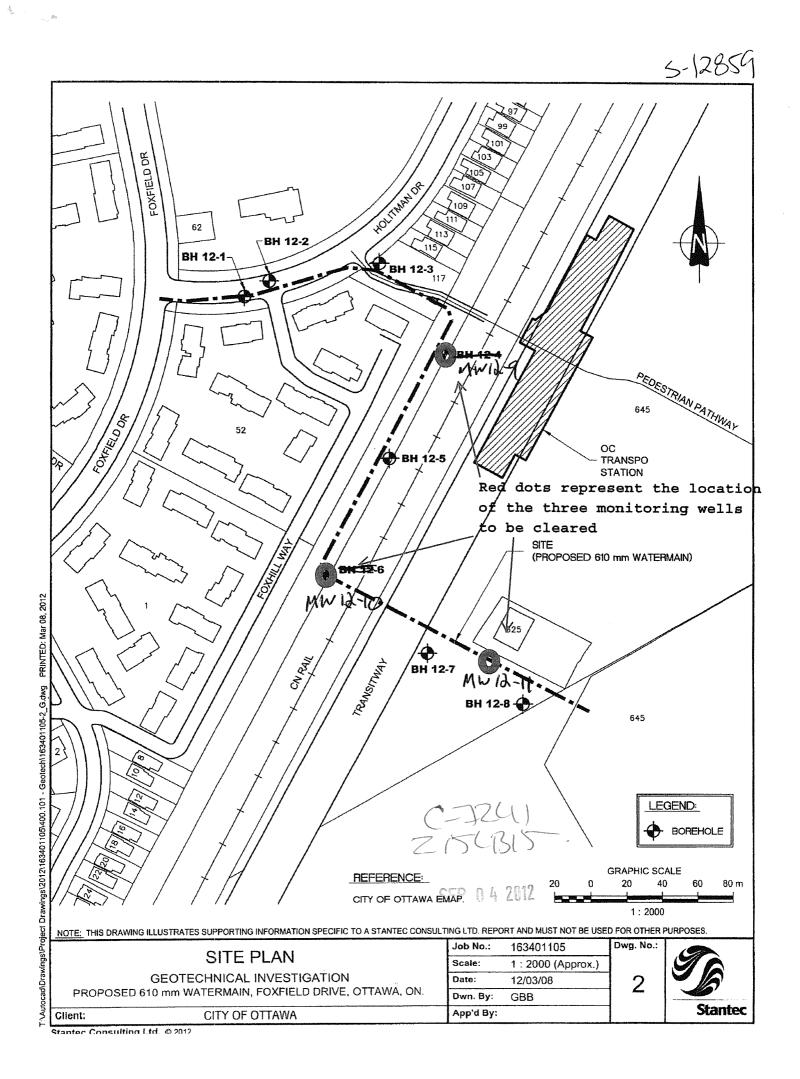


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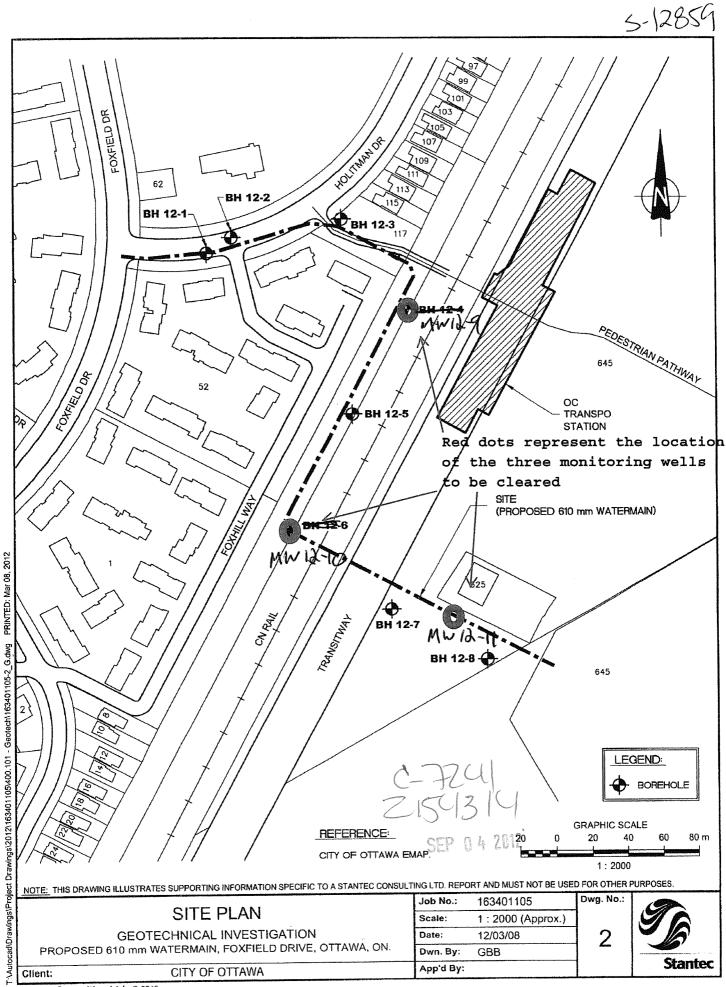
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Measuren	nents recorded in: 🖄		Tag	g#: A133500	A33500	, Regulatio	n 903 Om	t ario Water Res Page	of
	vner's Information					<u></u>		- uge	
First Name		Last Name Organiz			E-mail Address				Constructed
Mailing Ad	Idress (Street Number/Na	City at	Ottown		Province	Postal Code	e Tel	by We ephone No. (inc.	ell Owner
1100	aurol Avenu	e wgt		Municipality OTTAWA	ON	Postal Gode	J I		
Well Loc									()
(men 1)	Well Location (Street Nu	,		Township		Lot	Co	ncession	
	strict/Municipality	, 		City/Town/Village			Province	Postal	Code
LITM Coor	diastas Zono Fasting	Nextbine		OTAWA,			Ontar	io	
NAD	dinates Zone Easting 8 3 1 5 4 4 1	2985011	4824	Municipal Plan and Subl	ot number		Other		
	len and Bedrock Materi	أحصيه والمستعدية والمستعد والمستعد والمستعدية	- I wanted a second	ord (see instructions on th	e back of this form)		I		
General C	7	mon Material		her Materials	Gene	ral Descriptior	1	Dep From	th (<i>m/ft)</i> To
BIK	Tops.	0-51		J .	Dry				,07
Brin	Clay		: ک	14	soft!			,07	3.1
Brm/	by clay			14	Soft 6	met.		3.1	5.79
/				er en a					
						a di sa di sa			
									in the second second second
									in the sec
		a an							
		Annular Space				Results of We	ell Yield T	esting	
Depth S From	et at (<i>m/ft)</i> To	Type of Sealant Use (Material and Type)	ed	Volume Placed (m³/ft³)	After test of well yield,		Draw		ecovery Water Level
0	DBE Flus	hand/ca	refe		Other, <i>specify</i>		(min)	(m/ft) (min)	(m/ft)
31	2.13 B	n sol			If pumping discontinue	ed, give reason:	Static Level		
	F	Sand					1	1	
2,13	5.79	> and			Pump intake set at (n	n/ft)	2	2	
					Pumping rate (I/min /	GPM)	3	3	
Meti	hod of Construction		Well Us				4	4	
Rotary (Conventional)	Domestic	🗌 Municip	bal Dewatering	Duration of pumping hrs + r	nin	5	5	
Boring	Reverse) Driving Digging	Livestock	, ↓ Test Ho ☐ Cooling	ble Monitoring	Final water level end o	a de présentes de la competition de la	10	10	
Air percu	ussion pred push	☐ Industrial	ίfν						
2 o mor, o	Construction R			Status of Well	If flowing give rate (I/r	nin / GPM)	15	15	
Inside	Open Hole OR Material	Wall D	epth (<i>m/ft</i>)	Water Supply	Recommended pump	o depth (m/ft)	20	20	
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness (cm/in) From		Replacement Well			25	25	
3.45	dustic.	356 0	2.74	Recharge Well	Recommended pump (I/min / GPM)	Tale	30	30	
	/			Dewatering Well Deservation and/or	Well production (I/min	/ GPM)	40	40	
				Monitoring Hole		,	50	50	
				(Construction)	Disinfected?		60	60	
	Construction R	ecord - Screen		Insufficient Supply		Map of W	ell Locati	on	
Outside Diameter	Material	D Slot No.	epth (<i>m/ft)</i>	Water Quality	Please provide a map	. ^			
(En/in)	(Plastic, Galvanized, Steel)	Fron		Abandoned, other, <i>specify</i>	/	belle	b		
571	photie	10 2.7	4 5.79	Other, specify		- hele mw	12-	10	
	r					·	м	- 0	
	Water Det	tails		lole Diameter		on	7.0	S.	
	id at Depth Kind of Water		ted Dep From	th (<i>m/ft)</i> Diameter To (Con/in)					
	n/ft) Gas Other, spe nd at Depth Kind of Water		ted O	5.79 8.25					
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	nd at Depth Kind of Water		ted						
<u>,,,</u>	n/ft)GasOther, spe Well Contracto	or and Well Techni	cian Informa	tion					
	ame of Well Contractor	i		ell Contractor's Licence No.					
Shot	ddragg (Street Number/No	nphy	Ν.Λ.) <u>} </u> 4 <u>[</u>	Comments:				
L - 14		w well h	I. R	chrond Hill					
rovince	Postal Code	Business E-mail				400-111-1,			
		6 W Neen	LSQ 54	Streen/ Com.	information	ackage Delivere	137(5)322	Ministry Use dit No.	Only
	one No. <i>(inc. area code)</i> Na 7 6 9 9 3 9 4	ime of Well Technicia Beath	Brian	nist indilie)	package v v	<u> </u>		z 154	315
Vell Technic	ian's Licence No. Signature		Contractor Da		Yes	•			
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UN UNITARIO the	nistry of Environm	ent	I	ag No. (Place Sticker ar #: A133501	nd/or Print Below)	S-12 Regulation	n 903 Ontari	Well R	ources Act
	Metric	Imperial	Tay	#. A10000 .	4.33-201	1	F	Page	of
Well Owner's Information First Name	Last Nam	ne Organizatio	on)		E-mail Address		<u></u>	Well C	onstructed
	City	S-	Otta		Drovingo	Postal Code	Telent	by We	I Owner
Mailing Address (Street Number	Name)	ugd		Municipality ONAWA	Province	Rostal Code	71 Leich		
Well Location	-								
Address of Well Location (Stree		ime)		Township		Lot	Conc	ession	
Forbold Dr County/District/Municipality	र •			City/Town/Village			Province	Postal	Code
-				OTVAWA	6 N 1		Ontario Other		
UTM Coordinates Zone Easting	1391	Northing 5014		Municipal Plan and Suble	ot Number		Other		
NAD 8 3 1 0 9 9 Overburden and Bedrock Ma				ord (see instructions on the	back of this form)				((5))
General Colour Most C	common Mat	erial	01	her Materials	Gene	ral Description		From	h (<i>m/ft</i>) To
BIK Tops.	oil		5,	1	Dry	/		0	.07
Bron Silh	1 Send	·	Sila	f-,	Dry L	erre		.07	1,5
Bron Till					Alint.			2+1	3-1
Gry Salsta	. <i>مــ</i>							3.(333
Bin Till					wet.			3,3	5.79.
		ular Space		Volume Placed	After test of well vield.	Results of W	Il Yield Tes		covery
Depth Set at (<i>m/ft</i>) From To	(Materi	f Sealant Used al and Type)		(m ³ /ft ³)	Clear and sand f		Time Wate	r Level Time	Water Level
0 31 1	Wishing	nt Can	rete		Other, specify	d dive reason:	(<i>min</i>) (r Static	n/ft) (min)	(m/ft)
	Berson	0				su, give reason.	Level		
213 5.79	Sal				Pump intake set at (r	n/ft)	1	1	
						1011	2	2	
Method of Construction	on		Well U	Se	Pumping rate (I/min /	GPM)	3	3	
Cable Tool Dia	mond	Public	Comm		Duration of pumping		4	4	
Rotary (Conventional) Jett Rotary (Reverse) Driv		Domestic	Munici	-	hrs + r	min	5	5	
Boring Dig] Irrigation] Industrial	Coolin	g & Air Conditioning	Final water level end c	of pumping (m/ft)	10	10	
All percussion Divert fr] Other, specify			If flowing give rate (1/1	min / GPM)	15	15	
Constructio	1			Status of Well		1 (FI)	20	20	
Inside Open Hole OR Mate Diameter (Galvanized, Fibregla	iss, Thickn	ess	th (<i>m/ft)</i> To	Water Supply	Recommended pum	p depth (<i>m/ft)</i>	25	25	
(gm/in) Concrete, Plastic, Ste				Test Hole	Recommended pump	p rate	30	30	
3.45 plaster	-35	60	2.70	Dewatering Well	(I/min / GPM)		40	40	
f*				Observation and/or Monitoring Hole	Well production (I/mir	n / GPM)	50	50	
				Alteration (Construction)	Disinfected?		1		
				Abandoned, Insufficient Supply	Yes No	2.2.2	60	60	
Outoida	on Record -		th (<i>m/ft</i>)	Abandoned, Poor Water Quality	Please provide a map		ell Location instructions o		<u></u>
Diameter (cm)(n) (Plastic, Galvanized, S	steel) Slot N		То	Abandoned, other,		N N 1			
4.21 plaste	10	2.74	5.99		La	yester	1 -11		
1-W. Persite	10		1	Other, <i>specify</i>		Jella MW on			
*	r Details			Hole Diameter		on	Map) :	
Water found at Depth Kind of V		sh Unteste	d De	pth (<i>m/ft</i>) Diameter			V		
(m/ft) Gas Other			From	To (cm/in)					
Water found at Depth Kind of V (m/ft) Gas Other		esh Unteste	u						
Water found at Depth Kind of V		esh Unteste	d 2.7	5.79 5.71					
(m/ft) Gas Other									
Well Contr Business Name of Well Contract	Construction of the second	Vell Technici		ation Vell Contractor's Licence No.					
Strata Soil	Som	hiz		7241					
Business Address (Street Number 2 - 147 West B	er/Name) Quello C	ole 0	N. N	Iunicipality	Comments:				
Province Postal Cod	le Bus	iness E-mail Ad		prover 411					
ON LYB,	166 1	vreed			Well owner's Date F	Package Deliver	ed Audit	Ministry Use	Only
Bus. Telephone No. (inc. area code) 9 1 1 5 7 6 4 9 5 0		Vell Technician Beath	(Last Name		package Y Y			z154	314
Well Technician's Licence No. Sign			Contractor D	ate Submitted	Yes 2.	Nork Completed	and se	01 6A.	
3616	<u>pp</u>	/	ò	20 11 208 03	No XO	1208	U Ø Ross	Ned 14 M Zi	<u>J12</u>
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Stantec Consulting Ltd. @ 2012

Well ID Number: 1514574 Well Audit Number: Well Tag Number:

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

Well Location

Address of Well Location	
Township	NEPEAN TOWNSHIP
Lot	020
Concession	RF 02
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 441421.70 Northing: 5015601.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	CLAY	GRVL		0 ft	13 ft
	ROCK	LMSN		13 ft	19 ft
	SNDS	LMSN	LYRD	19 ft	64 ft
	LMSN			64 ft	69 ft
	SNDS	LMSN	LYRD	69 ft	72 ft
WHIT	SNDS			72 ft	82 ft
	SNDS	LMSN	LYRD	82 ft	132 ft
GREY	LMSN			132 ft	133 ft
	SNDS	LMSN	LYRD	133 ft	146 ft
WHIT	SNDS			146 ft	155 ft
WHIT	SNDS	LYRD		155 ft	175 ft

Annular Space/Abandonment Sealing Record

Depth	Depth	Type of Sealant Used	Volume
From	То	(Material and Type)	Placed

Method of Construction & Well Use

 Method of Construction
 Well Use

 Rotary (Reverse)
 Municipal

Status of Well

Water Supply

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
10 inch	STEEL		19 ft
10 inch	OPEN HOLE		175 ft

Construction Record - Screen

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 1558

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	20 GPM
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	PUMP
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	34 ft		
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth Kind Fresh

Hole Diameter

Depth Depth From To Diameter

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Mandy Witteman, E.I.T.

patersongroup

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