Phase I Environmental Site Assessment and Subsurface Investigation

The Hindu Temple of Ottawa Carleton
4835 Bank Street,
Ottawa, Ontario

Prepared for:

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Attention: Mr. Lloyd Phillips

LRL File No.: 170132

June 13, 2017 (revised February 8, 2018)

EXECUTIVE SUMMARY

The Hindu Temple of Ottawa Carleton has retained LRL Associates Ltd. (LRL) to complete a Phase I Environmental Site Assessment (ESA) on the property located at 4835 Bank Street, Ottawa, Ontario (herein referred to as the "Site"). The Site is set within a rural commercial/ industrial/ agricultural area of Ottawa, Ontario and is developed with a single-storey building occupied by a temple and associated garage. The Site is equipped with private septic beds and a paved parking and circulation area.

This assessment was conducted to identify potential environmental concerns or liabilities related to the past and present operations conducted on the property and the adjacent lands. A historical records review of the Site was conducted, as well as contact with relevant regulatory agencies, a walk through Site inspection of the property and interviews with those knowledgeable of the Site. This assessment was conducted in the context of a proposed site plan application in support of an additional assembly hall construction.

The Site is rectangular shaped with an approximate area of 38,000 m^2 (9.4 acres). The Site is developed with a single-storey temple (1,060 m^2) situated at the western extent of the Site, reported to have been constructed circa 1985. The building is used as a place of worship and includes a raised plinth and a lower level basement. The Site also includes a storage garage and paved parking and circulation area across the central portion of the Site. The Site is heated by natural gas and serviced by two (2) septic systems along the north and south of the temple.

The nearest open water body identified is a unnamed tributary of the North Castor River located approximately 1.1 km east of the Site. The Site's topography is generally flat with an elevation of approximately 97 m above mean sea level (amsl). The topography in the vicinity is also generally flat with a slight hill towards the south.

A potentially contaminating activity is a use or activity set out in Table 2 of Schedule D of the O. Reg. 153/04. The Activities on the Site and lands within 250 m generally consist of rural residential/ commercial/ industrial/ agricultural purposes since at least 1991 based on aerial photographs.

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified:

PEC	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted	Level of Risk
Petroleum Storage Tanks	4836 Bank Street. Approximately 40 m south-west of the Site, across Bank Street.	An environmental report conducted by others identified a former petroleum bulk facility with one (1) AST and (1) UST on this property. It was reported that the tanks were removed in 1994 and subsurface impact was identified. This property was also listed as a waste generator for light fuels from 1992 to 1998.	VOC, PHC	Soil and groundwater	Medium to High
Concrete and Soil Piles	Along the eastern portion of the Site.	It is suspected these materials were placed here during the construction activities on the Site in the 1980's, however this was not confirmed	Metals, VOC, PHC	Soil	Low to Medium

Notes: PEC = Potential Environmental Concern
VOC = Volatile Organic Compounds
PHC = Petroleum Hydrocarbons
BTEX = Benzene Toluene Ethylbenzene Xylene

Risk Levels: Low - Unlikely potential for environmental impacts
Moderate - Some potential for environmental impacts
High - Definite potential for environmental impacts

At the time of a subsequent Terrain Analysis assessment at the Site (*Terrain Analysis – Proposed Assembly Hall, The Hindu Temple of Ottawa Carlton, 4835 Bank Street, Ottawa, Ontario, June 9, 2017)*, in support of the proposed Site development activities, evidence of buried waste (including metal structures and tires) was encountered across the northern portion of the Site. Based on these observations, it was decided that the environmental sampling should be carried out to confirm the conditions of the Site in these areas.

The intrusive investigation was carried out on May 8, 2017 by way of test pit digging using a backhoe. Although seven (7) test pits (TP) were placed on the Site as part of the Terrain Analysis, three (3) of which were incorporated in this subsurface investigation (TP2, TP3 and TP5), where buried waste was observed. The test pits were advanced to depths ranging from 1.5 and 1.7 m below ground surface (bgs), where inferred bedrock was encountered, with the exception of TP2 which was terminated at a depth of 0.9 m bgs due to extensive water infiltration.

Representative soil samples collected during the investigation were submitted for laboratory analysis of Petroleum based parameters including Volatile Organic Compounds (VOC), namely Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) at select locations and Petroleum Hydrocarbons (PHC) for Fraction 1 (C6 – C10), Fraction 2 (>C11 – C16), Fraction 3 (>C16 – C34) and Fraction 4 (>C34), and Metals (ICP).

VOC parameters analysed were not detected in any of the samples submitted for analysis. Petroleum hydrocarbon parameters PHC F3 and PHC F4 were detected in select samples submitted, however the levels were below the applicable provincial site condition standards, as were select metal parameters. The laboratory analysis of the soil samples have indicated that although waste and debris was encountered, the soil does not appear to be impacted with levels in excess of the applicable provincial SCS.

Based on the results of the Phase I Environmental Site Assessment and Subsurface Investigation, the following recommendations are made:

- It is recommended that during the proposed construction activities on the Site, any buried waste encountered shall be disposed of accordingly off Site at a licence waste disposal facility in accordance with O. Reg. 347, as amended;
- It is recommended that the concrete and soil piles at the eastern portion of the Site be removed and disposed of accordingly. Confirmatory sampling should be carried out from beneath the piles once they are removed to confirm the impacts to the underlying soils;
- It is recommended that a Phase II Environmental Site Assessment be conducted at the time of an Application for Site Plan Control, to address the potential for environmental concern related to the former bulk petroleum facility (UCO Petroleum) and associated UST and AST located at 4836 Bank Street; and
- If renovations or demolition actives are planned, it is recommended that a Designated Substance Survey be conducted in accordance with O. Reg. 490/09 to determine whether designated substances are present so they can be addressed accordingly.

The above recommendations should be considered at the time of an Application for Site Plan Control.

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1 INTRODUCTION

The Hindu Temple of Ottawa Carleton has retained LRL Associates Ltd. (LRL) to complete a Phase I Environmental Site Assessment (ESA) on the property located at 4835 Bank Street, Ottawa, Ontario (herein referred to as the "Site"). The Site is set within a rural commercial/ industrial/ agricultural area of Ottawa, Ontario and is developed with a single-storey building occupied by a temple with an associated garage. The Site is equipped with private septic beds and a paved parking and circulation area. This assessment was conducted to identify potential environmental concerns or liabilities related to the past and present operations conducted on the property and the adjacent lands. A historical records review of the Site was conducted, as well as contact with relevant regulatory agencies, a walk through Site inspection of the property and interviews with those knowledgeable of the Site. This assessment was conducted in the context of a proposed site plan application in support of an additional assembly hall construction.

The Phase I ESA identifies the existing environmental conditions and potential environmental liabilities associated with the subject property, focusing on the possible presence of contamination on the property. It includes a review of available information (historical data and aerial photographs) and a visual Site inspection to assess potential contamination of past or present activities conducted on the property itself and on adjacent properties.

Potential contamination represents the uncontrolled release of foreign substances within the natural environment. Such an event can result in air, soil and groundwater contamination that may represent environmental liabilities towards the Site and perhaps towards adjacent properties. The ESA evaluates in a consistent manner, within the time constraints imposed for this report, whether such events have occurred at this Site. This level of work is a method of risk reduction and does not eliminate risk for the client.

1.1 Property Information

Address:	4835 Bank Street, Ottawa, Ontario
Frontage:	Bank Street (Highway 31)
Zoning:	RI5, Rural Institutional Subzone 5
Legal description:	Part Lot 22, Concession 5RF Gloucester Parts 1 & 2, 5R3156
Dimensions:	Rectangular: Being approximately 400 m wide (east-west) by approximately 100 m deep
Area:	Approximately 38,000 m^2 (9.4 acres)

The Site's location is shown in **Figure 1** and the general Site configuration is shown on the Site Plan in **Figure 2**. For the purposes of this report, Bank Street will be inferred as running in a north-south direction.

1.2 Site Occupancy

Current owner:	Hindu Temple of Ottawa-Carleton Inc.
Owner since:	1985
Current use:	Community (place of worship/religious services)
Current use since:	1985

2 SCOPE OF INVESTIGATION

LRL conducted this work in accordance to the standard Phase I ESA procedures, which generally reflect the requirements of the Canadian Standards Association document entitled Phase I Environmental Site Assessment, Z768-01 (R2016). The scope of work for the Phase I ESA consisted of the following:

- Reviewing reasonably ascertainable records regarding the occupancy of the Site and surrounding properties (i.e. business directories, fire insurance plans and aerial photographs);
- Interviewing current and previous owners and/or tenants and local and provincial authorities;
- Conducting a Site visit that consists of a "walk-through" visual assessment of the Site and adjacent properties (from publicly accessible areas); and
- Evaluation of the information collected.

This report will present the results of the ESA carried out between February 28 and May 17, 2017.

3 RECORDS REVIEW

3.1 General

3.1.1 Phase I Study Area Determination

Study area:	250 m
Rational for extending study area beyond the minimum 250 m	
Not applicable.	

3.1.2 First Developed Use Determination

First developed use is defined by O. Reg. 153/04 Section 22(1) as the first property use after 1875 that resulted in a building or structure or the first potentially contaminating activity, whichever is earlier.

First developed use:	Communal (Temple)
Year	Circa 1985
Basis for determination of first developed use	
Aerial Photographs and Interview	

3.1.3 Fire Insurance Plans

Fire Insurance Plans (FIP) mapped streets and buildings of urban Canada in great detail and illustrate building construction, occupancy and potential fire hazards. They also provide detailed information regarding storage tanks, transformers, boilers and electrical rooms. The original plans were produced between 1875 and 1923 and continued to be produced and updated until production ceased in 1974. No Fire Insurance Plans were found for the Site.

3.1.4 Property Underwriters' Report

Property Underwriters Site Plans and Reports provide detailed information on a site-specific basis and include descriptions of building construction, heating sources, production processes, and the presence of chemicals or materials which may be stored on Site. They also indicate the presence of environmental hazards such as electrical rooms, transformers, boilers, and storage tanks. No Property Underwriters' Reports were found for the Site.

3.2 City Directories

City directories have been produced for most urban and some rural areas since the late 1800s. These directories are often archived in research and municipal libraries. The directories are generally not comprehensive and may contain gaps in time periods. Where available, city directories were reviewed in a minimum five year increment to determine historical property use of the subject and adjoining properties.

A copy of the city directories is included in **Appendix A**.

Source	Vernon's Ottawa, Ontario City Directory
Years Searched:	1971-2010
Historical Property Uses:	
Subject Site:	The Site was not listed from 1971-2005. It was listed as the Hindu Temple of Ottawa Carleton in 2010.
Adjacent Land:	The adjacent properties were not listed from 1971 to 1995. In 2000, 4815 Bank Street was listed at Ron's Rental World Inc., and Ottawa Camping Trailers. 4836 Bank street was listed as Country Depot and Co-op Store. In 2010, 4841 and 4836 Bank Street were listed as residential, 4836 was listed as Leitrim Home Hardware, and 4815 was listed as Ron's Rental World Inc., Ottawa Camping Trailers, and U-Haul Co Ltd.
Relevant information regarding potentially contaminating activity and areas of potential environmental concern	
Potentially contaminating activities or potential environmental concerns were not identified.	

3.3 Chain of Title

Land Titles contain legal title information concerning property ownership, transfer details, and any encumbrances such as mortgages or easements. Each time a new transaction occurs, property records are updated as soon as the instrument is registered.

A copy of the Chain of Title is included in **Appendix B**.

Records search provider:	Service Ontario Land Registry Office
Date of search:	April 17, 2017
Pertinent Information:	The search covered the period from November 1964 to August 2000. In January 1985 the Site was transferred to The Hindu Temple of Ottawa-Carleton Inc. from an unlisted party.

3.4 Environmental Reports

No previous environmental reports for the subject Site were provided to LRL to review as part of this investigation.

A Phase I ESA report for the property located at 4840 Bank Street, Ottawa, Ontario was retrieved from the City of Ottawa (Golder, November 2013). The report identified that a former bulk fuel facility (UCO Petroleum Inc.) was located at 4836 Bank Street, located approximately 40 m south-west of the Site, across Bank Street. It was reported that a fuel UST and AST were formerly present at this property. Subsurface impacts were identified. It was noted that the UST and AST were removed and a remediation was conducted in 2013 by Pinchin. Pinchin's report was not available for review. Based on the distance and inferred north-easterly flow direction the potential for environmental concern to the Site is medium to high.

3.5 Environmental Source Information

3.5.1 City of Ottawa Freedom of Information Request

The City of Ottawa was contacted to obtain available information for the Site.

Interview subject:	City of Ottawa
Date:	April 17, 2017
Pertinent information	
Under the Freedom of Information Act, a freedom of Information Request was made to the City of Ottawa. A formal response is expected and will be reviewed by LRL. If the response details any issues of potential environmental concern with respect to the Site, a copy will be forwarded to the client so that it can be appended to this report.	

3.5.2 Ontario Ministry of Environment and Climate Change Freedom of Information Act

The Ontario Ministry of the Environment and Climate Change (MOECC) was contacted under the Freedom of Information Act (FOI) to obtain available information for the Site regarding:

- Certificates of Approvals or any permits relating to air emissions (including noise), water taking and discharging, waste disposal sites, septic systems, pesticides storage or other similar instruments;
- Incidents, orders, offences, spills, discharges of contaminants or inspections;

- Waste management records, including current and historical waste storage locations and waste generator and waste receiver information; and
- Reports submitted to the MOECC related to the environmental conditions of the property.

Interview subject:	Janet Dadufalza, FOI Manager
Date:	May 02, 2017
Pertinent information:	
Under the Freedom of Information Act, a freedom of Information Request was made to the MOECC. A thorough search through the Ministry's Ottawa District Offices' files was conducted and one (1) record was located. An active waste class listed as "312-Pathological Waste" is located on Site.	

3.5.3 Inventory of Coal Tar Industrial Sites in Ontario

The MOECC has created an inventory of all known and historical coal gasification plants. It identifies industrial sites that produced and continue to produce or use coal tar or other related tars. The program was discontinued in 1988.

Database:	Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario
Years covered:	Up to 1988
Search radius:	250 m
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.4 Technical Standards and Safety Authority

Fuel storage at commercial and industrial facilities is regulated by the Technical Standards and Safety Authority (TSSA). Records of aboveground storage tanks are maintained for bulk storage facilities only. Underground storage tanks are required to be registered with the TSSA. There are no requirements to register private underground and aboveground fuel oil storage tanks for heating or waste oil. Records of registered and licensed tanks have been maintained since 1990.

Interview subject:	Ruchi Chohan
Date:	April 20, 2017
Pertinent information:	
TSSA was contacted regarding available information concerning the presence of petroleum storage tanks, fuel spill records, accidents or fuel-related incidents which may be registered on the Site or surrounding properties. A record of one (1) expired propane tank was retrieved for the property located at 4815 Bank Street. The risk associated with this record is low due to the chemical constituents of the stored material.	

3.5.5 Ministry of Environment and Climate Change Well Records

The Ministry of Environment and Climate Change well records database provides information of locations and characteristics of water wells throughout Canada in accordance with Ontario

Regulation 903. Information of the stratigraphy, depth of bedrock and approximate depth of water table is also provided.

Copies of the well records are included in **Appendix C.**

Database:	MOECC Well Records
Search radius:	250 m
Date accessed:	April 7, 2017

Description of data, analysis and findings relevant to the Limited Phase I ESA:

Approximately nine (9) wells are located within 250 m radius of the Site. Details of these wells are as follows:

- Well No. 1502176, a domestic supply well which was installed in 1962. Clay was encountered to 5.4 m bgs, followed by limestone to 13.7 m bgs where the well was terminated. Static water level was 13.7 m bgs.
- Well No. 1502181, a domestic supply well which was installed in 1962. Clay was encountered to 6.4 m bgs followed by limestone to 14.0 m bgs where the well was terminated. Static water level was 14.0 m bgs.
- Well No. 1502179, a supply well used for co-operative use was installed in 1961. Boulders/till was encountered to 4.8 m bgs, followed by grey limestone to 7.62 m bgs, then sandstone to 27.1 m bgs where the well was terminated. Static water level was 27.1 m bgs.
- Well No. 1513436, a domestic supply well which was installed in 1973. Soil was encountered to 3.6 m bgs, followed by boulders to 4.8 m bgs, and grey/white limestone to 15 m bgs where the well was terminated. Static water level was 14.6 m bgs.
- Well No. 1502180, a domestic supply well which was installed in 1961. Loam was encountered to 1.8 m bgs, followed grey limestone to 16.8 m bgs where the well was terminated. Static water level was 16.8 m bgs.
- Well No. 1502177, a domestic supply well which was installed in 1957. Sand was encountered to 2.1 m bgs, followed by sand/boulders to 25 m bgs, then white sandstone to 18.2 m bgs where the well was terminated. Static water level was 18.2 m bgs.
- Well No. 1512375, a domestic supply well which was installed in 1972. Sand was encountered to 2.7 m, followed by white sandstone to 22.5 m bgs where the well was terminated. Static water level was 22.5 m bgs.
- Well No. 1512265, a domestic supply well which was installed in 1972. Clay/sand/stone was encountered to 0.9 m bgs, followed by grey limestone to 14.6 m bgs where the well was terminated. Water was found at 2.4 m, 6.4 m, and 10.3 m bgs.
- Well No. 1514664, a commercial supply well which was installed in 1975. Sand/gravel/boulders was encountered to 3.9 m, followed by black shale to 9.1 m bgs, then limestone to 38.1 m bgs where the well was terminated. Static water level was found at 9.7 m, and 16.7 m bgs.

3.5.6 National Pollutant Release Inventory

The National Pollutant Release Inventory is maintained by Environment Canada. It is designed to collect comprehensive data regarding releases to air, water or land, and water transfers for

recycling. The database was accessed through a database service provider (Ecolog Eris, Toronto, Ontario) and their report is included in **Appendix D**.

Database:	National Pollutant Release Inventory
Years covered:	1993-2014
Search radius:	250 m
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.7 PCB Storage Sites

The MOECC Waste Management Branch maintains an inventory of PCB storage Sites within the province. The Environmental Protection Act requires the registration inactive PCB storage equipment and/or disposal Sites. The database covers a period between 1987 and 2004. The database was accessed through a database service provider (Ecolog Eris, Toronto, Ontario) and their report is included in **Appendix D**.

Database:	National PCB Inventory
Years covered:	1988 to 2008
Search radius:	250 m
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.8 Certificates of Approvals

Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval (C of A) before it can operate lawfully. The database was accessed through a database service provider (Ecolog Eris, Toronto, Ontario) and their report is included in **Appendix D**.

Database:	MOECC Certificates of Approval
Years covered:	1985 to October 2011
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.9 Environmental Site Registry

The Environmental Registry lists proposal, decisions and exceptions regarding policies, Acts, instruments or regulations that could significantly affects the environment. Applications for permits, licences or certificates of approval to release substances into the air or water are posted on the registry. The database was accessed through database service provider (Ecolog Eris, Toronto, Ontario) and their report is included in **Appendix D**.

Database:	Environmental Registry
Years covered:	1994 to March 2017
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.10 Waste Disposal Site Inventory

The MOECC's Waste Management branch maintains an inventory of known open (active or inactive) and closed disposal site in Ontario.

Database:	Waste Disposal Site Inventory
Years covered:	1970 to 1990
Search radius:	250 m
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.11 Other Databases

Other Databases are covered by the Ecolog Eris Report included in **Appendix D**. They are outlined below.

3.5.11.1 Ontario Spills

Database:	Ontario Spills
Years covered:	1988 to December 2016
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.11.2 Ontario Regulation 347 Waste Generators Summary

The MOECC's Waste Management branch maintains an inventory of Waste Generators in Ontario.

Database:	Ontario Regulation 347 Waste Generators Summary
Years covered:	1986 to September 2016
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
One (1) waste generator was listed on the Site. The Heart and Stroke Foundation located on Site was listed as a waste generator of pathological wastes in July 2016. This presents a low environmental risk for potential environmental concern due to the nature of the waste and the reported one-time use on Site as revealed during Site Interview. Two (2) waste generators (UCO Petroleum Inc. and UPI Inc.) were listed within 250 m of the Site at 4836 Bank Street, immediately west of the Site, following Bank Street. The property was listed as a waste generator of light fuels from 1992 to 1998. Based on the location and distance of this property, the risk associated with these waste generators is medium.	

3.5.11.3 Private and Retail Fuel Storage Tanks

Database:	Private and Retail Fuel Storage Tanks
Years covered:	1989-1996
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.5.11.4 Scott's Manufacturing Directories

Scott's Directories is a data bank containing information on over 70,000 manufacturers in Ontario.

Database:	Scott's Manufacturing Directory
Years covered:	1992 to March 2011
Search radius:	250 m
Date accessed:	April 17, 2017
Description of data, analysis and findings relevant to the Phase I ESA:	
No records were found within a 250 m radius from the Site.	

3.6 Physical Setting Sources

3.6.1 Aerial Photographs

Aerial photographs were obtained from the City of Ottawa interactive mapping system, geoOttawa. Review of the photographs was completed to develop a general history of the development of the Site and surrounding properties. Aerial photographs may be at a scale that limits a detailed review of the Site and surrounding properties. Copies of select aerial photographs are included in **Appendix E.**

Year	Photo Number	Scale
2014	Not Applicable	Not Applicable
2002	Not Applicable	Not Applicable
1991	Not Applicable	Not Applicable
1976	Not Applicable	Not Applicable
Rational for time period between aerial photographs used		
A regular interval of approximately 10 years was used, when possible.		
Summary of information obtained from aerial photographs		
The Site and the adjacent properties appear to have been agricultural since at least 1976, with minor development west of the Site. Bank Street is present along the west side of the Site since at least 1976. In 1991, the Site is developed along with surrounding properties in the area. The limited scale of the 2002 and 2014 aerial photographs makes it difficult to identify further changes in the area of the Site, although noticeable development to the north of the Site and surrounding area is apparent in 2014.		
Relevant information regarding potentially contaminating activity and areas of potential environmental concern		
Potentially contaminating activity or potential environmental concerns were not identified.		

3.6.2 Topography, Hydrology & Geology

A topographic map was obtained to illustrate the location of the Site in relation to any water bodies in the area and document the regional topography. The map is included in **Appendix F**.

Map:	Ontario Base Map
Approximate elevation:	About 97 m above mean sea level.
Topography:	Generally flat with a gentle slope toward the north..
Nearest open water body:	An unnamed tributary of the North Castor River is located approximately 1.1 km to the east of the Site.

Geological maps were reviewed to obtain information on regional geology, surficial soils and bedrock.

Generalized surficial geology:	Till, plain; local relief less than 5 m; Limestone, dolomite, sandstone and locally shale (St-Onge, 2009).
Generalized bedrock geology:	Oxford Formation; dolomite and limestone (J.E. Harrison, 1976).

4 INTERVIEWS

Interview subject:	Mr. Harish Gupta
Date:	May 17, 2017

Pertinent information:

- Mr. Gupta revealed that a community board acts as the owners/managers of the Site.
- Mr. Gupta has indicated that the current building was constructed circa 1985, and is serviced with municipal water, natural gas and two (2) septic systems.
- Mr. Gupta has also indicated that an expansion to the back-end of current building occurred around 2000-2001.
- Mr. Gupta is not aware of any environmental concerns on or around the Site.

5 SITE RECONNAISSANCE

5.1 Site Visit Information

Date:	April 19, 2017
Time:	1:30 pm to 2:00 pm
Weather Conditions:	Rain, 7°C
Person conducting Site visit:	Jessica Arthurs, Environmental Technician
Limitation to visit:	Access to temple and garage was not gained at the time of the Site visit.
Property Use	Communal (Hindu Temple)

Photographs from the Site visit are included in **Appendix G.**

5.2 General

5.2.1 Hazardous Materials & Unidentified Substances

Hazardous materials:	Not observed.
Unidentified substances:	Not observed.

5.2.2 Storage Tanks & Containers

Aboveground storage tanks (ASTs):	Not observed.
Underground storage tanks (USTs):	Not observed.
Fill ports, vent pipes:	Not observed.
Storage containers:	Not observed.

5.2.3 Odours

Odours:	Not observed.
Air emissions:	Not observed.

5.3 Exterior Observations

5.3.1 Topographic, Geologic & Hydrogeologic

Landscaped & vegetated area:	The majority of the Site surrounding the developments (Temple at the western extent of the Site and paved parking and circulation across the central portion of the Site) is grassed with some mature trees at the perimeters. The eastern portion of the Site is covered by overgrown grasses and shrubs.
Pavement, roads & driveways:	Paved parking and circulation area across the central portion of the Site.
Topography	Generally flat with slight mounding in the locations of the septic systems.
Surface drainage	North to northeast towards the perimeter of the Site.
Drainage improvements:	A shallow ditch is located along the north and western perimeters of the Site.
Receives drainage from adjacent lands:	Not observed.
Watercourses, ditches or standing water:	Shallow ditches along the north and western perimeters of the Site. Standing water was at the eastern portion of the Site, likely associated with seasonal conditions.
Other observations:	Piles of concrete waste were observed across the eastern portion of the Site.

5.3.2 Structures

Two (2) buildings are present on the Site.

Structures:	Hindu Temple and Garage
Location:	Hindu Temple: West-central portion of the Site. Garage: North-central portion of the Site.
Use:	Hindu Temple: Worship and Assembly Hall Garage: Typical of residential garage
Construction date:	Hindu Temple: Built circa 1985, addition in 2000-2001. Garage/shed: Unknown, assumed in the mid 1980's
Foot print:	Hindu Temple: Approximately 1,062 m^2 Garage: approximately 80 m^2
Floors:	Single-storey buildings. Temple contains a raised plinth and lower level basement
Basement:	Not confirmed.
Exterior finish:	Hindu Temple: Brick siding with shingled roof. Garage: Vinyl siding with shingled roof.

5.3.3 Other Observations

Wells:	Not observed.
Sewage disposal:	Two (2) private septic systems located to the north and south side of the building on Site. Appears to be in good condition.
Pits and lagoons:	Not observed.
Wastewater:	Not observed.
Solid waste:	Not observed.
Stained material:	Not observed.
Stressed vegetation:	Not observed.
Fill or previous fill activities:	The presence of significant amounts of fill material (beyond that required for normal construction and/or grading was not observed with the exception to piles of concrete and soil along the eastern portion of the Site. It is suspected these materials were placed here during the construction activities on the Site in the 1980's, however this was not confirmed.
Earth-moving activity:	Not observed.
Other	Vehicles were parked on the adjacent land to the north. They appeared to no longer be operational.

5.4 Utilities

Potable Water:	Municipal water
Wastewater:	Private septic as described in section 0.
Storm Sewer:	No.
Electricity:	Yes.
Telephone:	Yes.
Natural Gas:	Yes.

5.5 Interior of Structures

Access to the interior of the structures was not gained at the time of the Site visits.

Heating Systems	Natural Gas.
Cooling Systems	Central air-conditioning.
Floor drains:	Not Applicable.
Sumps:	Not Applicable.
Paint booth:	Not Applicable.
Staining or corrosion (other than water):	Not Applicable.
Mechanical equipment:	Not Applicable.
Interior finishing	Not Applicable.
Other:	Not applicable.

5.6 Adjacent Land Use

The current land uses of the adjoining properties were observed from the property limits and publicly accessible locations to assess potential impacts to the Site that may arise from off-Site operations. The properties surrounding the subject Site are as follows:

North:	Vacant/treed, followed by a rental trailer business.
South:	Vacant/treed, followed by two (2) residential properties
East:	Vacant/treed.
West	Bank Street, followed by light industrial/commercial business.

5.7 Special Attention Items

Eleven chemical contaminants have been identified under the Occupational Health and Safety Act (OHSA) and regulations have been set in place to prohibit, regulate restrict, limit or control workers exposure to these substances. Other hazardous materials not included in the OHSA but under the Environmental Protection Act were also observed. The observations presented herein do not constitute a designated substance/hazardous material survey but are rather for information purposes only.

5.7.1 Designated Substances

Asbestos Containing Material (ACM) Since the late 1970's the manufacture and use of asbestos containing building materials started to decrease. It is commonly presumed that buildings constructed prior to 1980 are more likely to contain both friable and non-friable forms of asbestos. General building constructed up to the mid 1980's are more likely to contain non-friable asbestos (flooring, joint compound). Based on the age of construction (circa 1985) there is potential for asbestos containing material to be present within the building materials.
Lead Lead may be present in a variety of building materials including paint and water distributions pipes, however lead based paints (LBP) are considered the most significant hazard. According to published information by Health Canada concerning LBP, buildings constructed before 1980 may contain lead based interior and exterior paints. Based on the age of construction (circa 1985), the presence of lead-containing solder and paints are possible.
Mercury Minor amounts of mercury are commonly found in a variety of building material including mercury vapour lamps, fluorescent light tubing and thermostats and other electrically control switches. Although not observed, fluorescent lighting could have been installed which may contain mercury.
Others No other designated substances were identified (i.e. arsenic, ethylene oxide, silica, vinyl chloride, benzene, coke oven emissions, acrylonitrile or isocyanates).

5.7.2 Other Hazardous Building Materials/Items

Microbial Contamination and Mould:
Access to the interior of the building was not gained at the time of this assessment. Mould is generally associated with areas of water damage, poor housekeeping or poor ventilation.

Ozone-Depleting Substances (ODS):
ODS such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbon (HCFC) are typically found in refrigeration equipment, air conditioners, aerosols, cleaning solvents and fire extinguishers. Federal regulations required the elimination of production and import of CFC and a freeze on the production and import of HCFC by January 1, 1996. The regulations govern only the production and import therefore these materials are still used as long as a supply is in place.

Air conditioners are present which possibly contain ODS.

Polychlorinated Biphenyls (PCB):
The Federal Chlorobiphenyls Regulation, SOR/91-152 prohibits PCBs from being used in products, equipment, machinery, electrical transformers and capacitors which were manufactured or imported into the country after July 1, 1980. However, older equipment in use after this date may still contain PCBs if the equipment fluid has not been replaced. PCB-containing equipment can also include fluorescent, mercury, and sodium vapour light ballasts.

No possible sources of PCBs were observed on the Site at the time of the Site visit. However transformers were observed on a hydro pole along the southern perimeter of the Site. It was not confirmed whether the transformers are PCB containing.

Urea Formaldehyde Foam Insulation (UFFI):
UFFI was widely used as an insulating material until December 1980 when a ban was enacted under the Hazardous Products Act. UFFI was commonly injected through walls by drilling injections holes in roof structures, ceilings and overhangs.

Due to the construction date of the building (circa 1985) the presence of UFFI is not likely.

Radon:
Radon gas is a product of the decay series of uranium that is commonly found in geological units that contain black shale, sandstone or granite. Radon can percolate up through the soil where it may accumulate in basement of buildings with cracks or joints in the foundation. Because the existence of radon is dependent upon geological factors, it is more a regional concern than site specific. Based on the review of radon maps of Eastern Ontario, radon levels in the area of the Site are expected to be medium. High levels of exposure can lead to increased risk of developing lung cancer.

Electric and Magnetic Fields:
Electromagnetic fields are generally associated with high frequency power lines. No high voltage power lines were noted within 250 m of the Site.

Noise and Vibration:
Noise and vibration is typical of a rural environment (i.e. traffic).

Methane:
Methane gas is a colourless and odourless gas commonly formed by the decomposition of organic material. The Site is not close to any active or closed waste disposal sites, marshes, swamps or peat deposits therefore methane is not a concern.

6 REVIEW AND EVALUATION OF INFORMATION

6.1 Current and Past Uses

Below is a summary of the current and past uses of 4835 Bank Street:

Year	Name of Owner	Description of Property Use	Property Use	Source of Information
Prior to the mid 1980's	Unknown	Agricultural/undeveloped (assumed)	Agricultural/undeveloped (assumed)	Aerial photographs and interview
1985 to present	Hindu Temple of Ottawa-Carleton	Communal (Temple)	Communal (Temple)	Aerial photographs, land title search and interview

6.2 Potential Contaminating Activity & Areas of Potential Environmental Concern

A potentially contaminating activity is a use or activity set out in Table 2 of Schedule D of the O. Reg. 153/04. These activities are summarized in the Table included in **Appendix I**. The activities on the site and lands within 250 m generally consist of residential and commercial.

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified:

PEC	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted	Level of Risk
Petroleum Storage Tanks	4836 Bank Street. Approximately 40 m south-west of the Site, across Bank Street.	An environmental report conducted by others identified a former petroleum bulk facility with one (1) AST and (1) UST on this property. It was reported that the tanks were removed in 1994 and subsurface impact was identified. This property was also listed as a waste generator for light fuels from 1992 to 1998.	VOC, PHC	Soil and groundwater	Medium to High
Concrete and Soil Piles	Along the eastern portion of the Site.	It is suspected these materials were placed here during the construction activities on the Site in the 1980's, however this was not confirmed	Metals, VOC, PHC	Soil	Low to Medium

Notes: PEC = Potential Environmental Concern
VOC = Volatile Organic Compounds
PHC = Petroleum Hydrocarbons
BTEX = Benzene Toluene Ethylbenzene Xylene

Risk levels: Low = Unlikely potential for environmental impacts
Moderate = Some potential for environmental impacts
High = Definite potential for environmental impacts

6.3 Phase I Conceptual Site Model

The location of the Site is shown in the attached **Figure 1** and the current layout of the Site is shown in the attached **Figure 2**. The Phase I ESA identified the following:

- The Site is rectangular shaped with an approximate area of 38,000 m^2 (9.4 acres). It is developed with an approximately 1,060 m^2 Hindu temple, reportedly constructed circa 1985. The Site also includes a storage garage/shed, a paved driveway and parking lot for vehicle parking towards the east side of the building.
- The building is serviced with natural gas, central air, municipal water and two (2) septic systems located on the north and south side of the building.
- The nearest open water body identified is an unnamed of the North Castor River located approximately 1.1 km east of the Site. The Site's topography is generally flat with an approximate elevation of 97 m amsl. The topography in the vicinity is also generally flat with a slight hill towards the south. The lands within 250 m have generally been used for agricultural purposes since at least 1976, with development on Site and on surrounding properties becoming noticeable in the 1991 aerial photograph.
- One (1) waste generator, the Heart and Stroke Foundation, was listed on the Site as a waste generator of pathological wastes in July 2016. This presents a low environmental risk for potential environmental concern due to the nature of the waste and the reported one-time use on Site as revealed during Site Interview.
- Two (2) waste generators (UCO Petroleum Inc. and UPI Inc.) were listed within 250 m of the Site at 4836 Bank Street, approximately 40 m south-west of the Site. This property was listed as a waste generator of light fuels from 1992 to 1998. Based on the location and distance of this property, the risk associated with these waste generators is medium.
- There are no records of a waste disposal site, coal tar industrial site, PCB storage site or waste receivers within a 250 m radius. There are also no records of any manufacturing facilities, Property Underwriters' Reports and above or underground storage tanks on the properties within 250 m of the Site.
- Piles of concrete and soil were encountered along the eastern portion of the Site at the time of the Site visit. It is suspected these materials were placed here during the construction activities on the Site in the 1980's, however this was not confirmed.

The potential environmental risks to the Site associated with properties within 250 m are considered low. The potential environmental concerns within 250 m are presented in **Figure 3.**

7 SUBSURFACE INVESTIGATION

At the time of a subsequent Terrain Analysis assessment at the Site (*Terrain Analysis – Proposed Assembly Hall, The Hindu Temple of Ottawa Carlton, 4835 Bank Street, Ottawa, Ontario, June 14, 2017)*, in support of the proposed Site development activities, evidence of buried waste (including metal structures and tires) was encountered across the northern portion of the Site. Based on these observations, it was decided that the environmental sampling should be carried out to confirm the conditions of the Site in these areas.

7.1 Intrusive Investigation

The intrusive investigation was carried out on May 8, 2017. Maurice Yelle Excavation conducted the test pit digging using a backhoe. All excavation activities were completed under the supervision of LRL field staff. Although seven (7) test pits (TP) were placed on the Site as part of the Terrain Analysis, three (3) of which were incorporated in this subsurface investigation (TP2, TP3 and TP5), where buried waste was observed. These test pits are located generally along the northern perimeter of the Site as shown in **Figure 4**.

The test pits were advanced to depths ranging from 1.5 and 1.7 m below ground surface (bgs), where inferred bedrock was encountered, with the exception of TP2 which was terminated at a depth of 0.9 m bgs due to extensive water infiltration. Generally, the subsurface materials encountered consisted of a silty clay fill material over a silty sand till. Buried debris encountered included an unidentifiable metal structure in TP2, a tire in TP3 and various brick, metal and asphalt waste in TP5. Further details of the test pit excavations and the soil conditions are presented in **Appendix J**.

7.1.1 Soil Sampling

A representative soil sample from each soil stratum encountered was collected and transferred immediately into sealed laboratory supplied glass jars and Ziploc freezer bags. The samples were examined for soil type, colour, staining/discoloration and odours. Furthermore, the samples were logged, labelled and stored on site in in a cooler, chilled with ice packs to prevent the evaporation of potential volatile compounds. Details of the test pit excavation and soil sampling are provided in the test pit logs in **Appendix J**.

7.1.1 Groundwater Sampling

No groundwater samples were collected as part of this assessment. Groundwater was not encountered in the open test pits of TP3 and TP5. The water encountered in TP2 appeared to be more infiltration from a surface ponding area located in proximity to the test pit rather than groundwater.

Due to the methodology of the investigation (test pitting), it was established that it would not be a representative method to collect groundwater, namely for those to be submitted for analysis of volatile organic compounds, in accordance with the applicable provincial regulations. If elevated levels of parameters of concerns are detected, then further intrusive investigation by way of borehole advancement and groundwater monitoring wells (as per Ontario Regulation 903) to facilitate groundwater sampling in accordance with applicable provincial guidelines.

7.2 Analysis

Representative soil samples collected during the investigation were submitted for laboratory analysis. The samples were submitted to Paracel Laboratories Ltd., Ottawa, ON for the analysis of the following:

- Petroleum based parameters: Volatile Organic Compounds (VOC), namely Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) at select locations and Petroleum Hydrocarbons (PHC) for Fraction 1 (C6 まC10), Fraction 2 (>C11 まC16), Fraction 3 (>C16 まC34) and Fraction 4 (>C34); and
- Metals (ICP).

The laboratory Certificates of Analysis are included in **Appendix K**. All remaining samples not analyzed will be kept in storage for a period of one month following submission of this report at

which time they shall be disposed of unless a written or verbal notice is received, stating otherwise.

7.3 Applicable Guideline Criteria

The site condition standards are set out in the *MOECC's 'Soil, Ground Water and Sediment Standards for Use Under Part IV.1 of the Environmental Protection Act, April 15 2011'*. The applicable site condition standard (SCS) used was the Table 7 standard for non-potable groundwater conditions, institutional property use and coarse-textured soils for the following reasons:

- The Site and the surrounding properties within 250 m are serviced by municipal water;
- The Site use is considered community;
- The subsurface soil encountered is generally a silty clay fill over till. The more stringent coarse-textured criteria was applied; and
- The Site is considered environmentally sensitive as there was less than 2 m of overburden overlying the bedrock across the majority of the property.

7.4 Data Interpretation

Select soil samples were submitted for analysis to establish if the subsurface conditions of the site in the areas of the uncovered waste materials. The rationale for selection of soil samples submitted for analysis was based on field observations. The following samples were submitted:

- Sample TP2-4, collected from between 0.8 and 0.9 m bgs in TP2, submitted for the laboratory analysis of BTEX, PHC and metals (ICP) analysis;
- Sample TP3-6, collected from between 1.5 and 1.6 m bgs in TP3, submitted for the laboratory analysis of VOC, PHC and metals (ICP); and
- Samples TP5-9 and TP5-11, collected from TP5 at depths between 0.9 and 1.0 m bgs, and between 1.4 and 1.5 m bgs, respectively, for the analysis of BTEX (TP5-9), VOC (TP5-11), PHC and metals (ICP).

The results of the laboratory analysis of the soil samples are summarized in **Table 1** and **Table 2**. VOC parameters analysed were not detected in any of the samples submitted for analysis. Petroleum hydrocarbon parameters PHC F3 and PHC F4 were detected in soil samples TP2-4 and TP5-9 at concentrations as follows:

- PHC F3 and PHC F4 were detected in sample TP2-4 with levels of 17 and 19 µg/g, respectively, below the applicable SCS of 300 and 2,800 µg/g; and
- PHC F3 and PHC F4 were detected in sample TP5-9 with levels of 52 and 116 µg/g, respectively, below the applicable SCS of 300 and 2,800 µg/g.

PHC were not detected in the remaining samples submitted. Metals parameters were detected in the soil samples submitted; however their levels were well below the applicable standards. The laboratory analysis of the soil samples have indicated that although waste and debris was encountered, the soil does not appear to be impacted with levels in excess of the applicable provincial SCS.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified:

PEC	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted	Level of Risk
Petroleum Storage Tanks	4836 Bank Street. Approximately 40 m south-west of the Site, across Bank Street.	An environmental report conducted by others identified a former petroleum bulk facility with one (1) AST and (1) UST on this property. It was reported that the tanks were removed in 1994 and subsurface impact was identified. This property was also listed as a waste generator for light fuels from 1992 to 1998.	VOC, PHC	Soil and groundwater	Medium to High
Concrete and Soil Piles	Along the eastern portion of the Site.	It is suspected these materials were placed here during the construction activities on the Site in the 1980's, however this was not confirmed	Metals, VOC, PHC	Soil	Low to Medium

Notes: PEC = Potential Environmental Concern
VOC = Volatile Organic Compounds
PHC = Petroleum Hydrocarbons
BTEX = Benzene Toluene Ethylbenzene Xylene

Risk levels: Low = Unlikely potential for environmental impacts
Moderate = Some potential for environmental impacts
High = Definite potential for environmental impacts

Based on the results of the Phase I Environmental Site Assessment and limited Subsurface Investigation, the following recommendations are made:

- It is recommended that during the proposed construction activities on the Site, any buried waste encountered shall be disposed of accordingly off Site at a licence waste disposal facility in accordance with O. Reg. 347, as amended;
- It is recommended that the concrete and soil piles at the eastern portion of the Site be removed and disposed of accordingly. Confirmatory sampling should be carried out from beneath the piles once they are removed to confirm the impacts to the underlying soils;
- It is recommended that a Phase II Environmental Site Assessment be conducted at the time of an Application for Site Plan Control, to address the potential for environmental concern related to the former bulk petroleum facility (UCO Petroleum) and associated UST and AST located at 4836 Bank Street; and
- If renovations or demolition actives are planned, it is recommended that a Designated Substance Survey be conducted in accordance with O. Reg. 490/09 to determine whether designated substances are present so they can be addressed accordingly.

The above recommendations should be considered at the time of an Application for Site Plan Control.

the time of our inspection on April 19, 2017 and intrusive investigation carried out May 8, 2017, supplemented by historical information and data obtained as described in this report. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Associates Ltd. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Associates Ltd. has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

This report is intended for the sole use of Lloyd Phillips & Associates Ltd. and their authorized agents. LRL Associates Ltd. will not be responsible for any use of the information contained within this report by any third party.

In addition, LRL Associates Ltd. will not be responsible for the real or perceived decrease in the property value, its saleability or ability to gain financing, through the reporting of factual information.

Yours truly,

LRL Associates Ltd.

Andrea Sare
Environmental Technician

Jessica Arthurs
Senior Environmental Technician

Matthew Whitney, P. Eng.

LICENSED PROFESSIONAL ENGINEER
M. P. WHITNEY
100110298
PROVINCE OF ONTARIO

10 REFERENCES

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FIGURES

LRJ
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

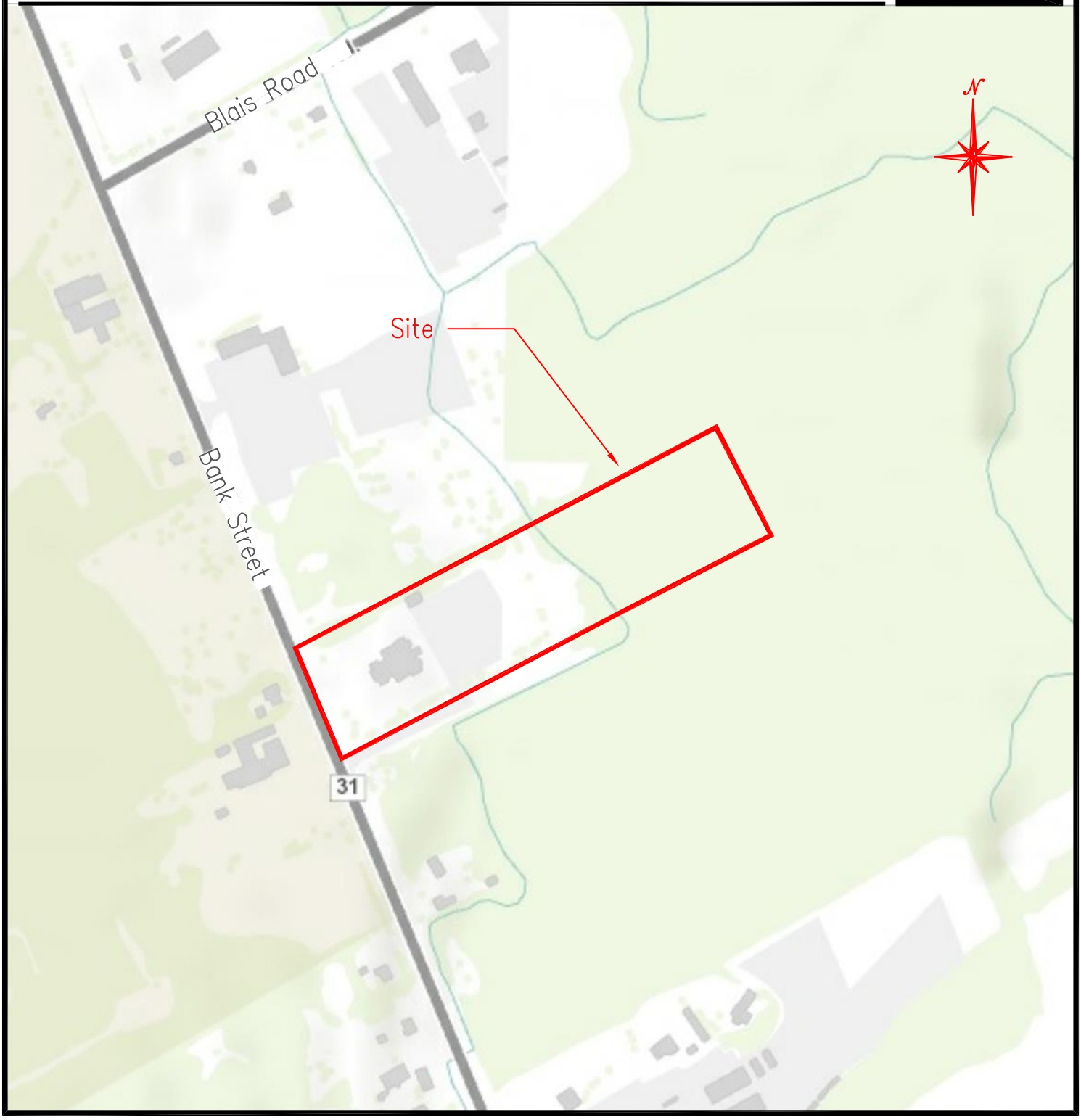
PROJECT

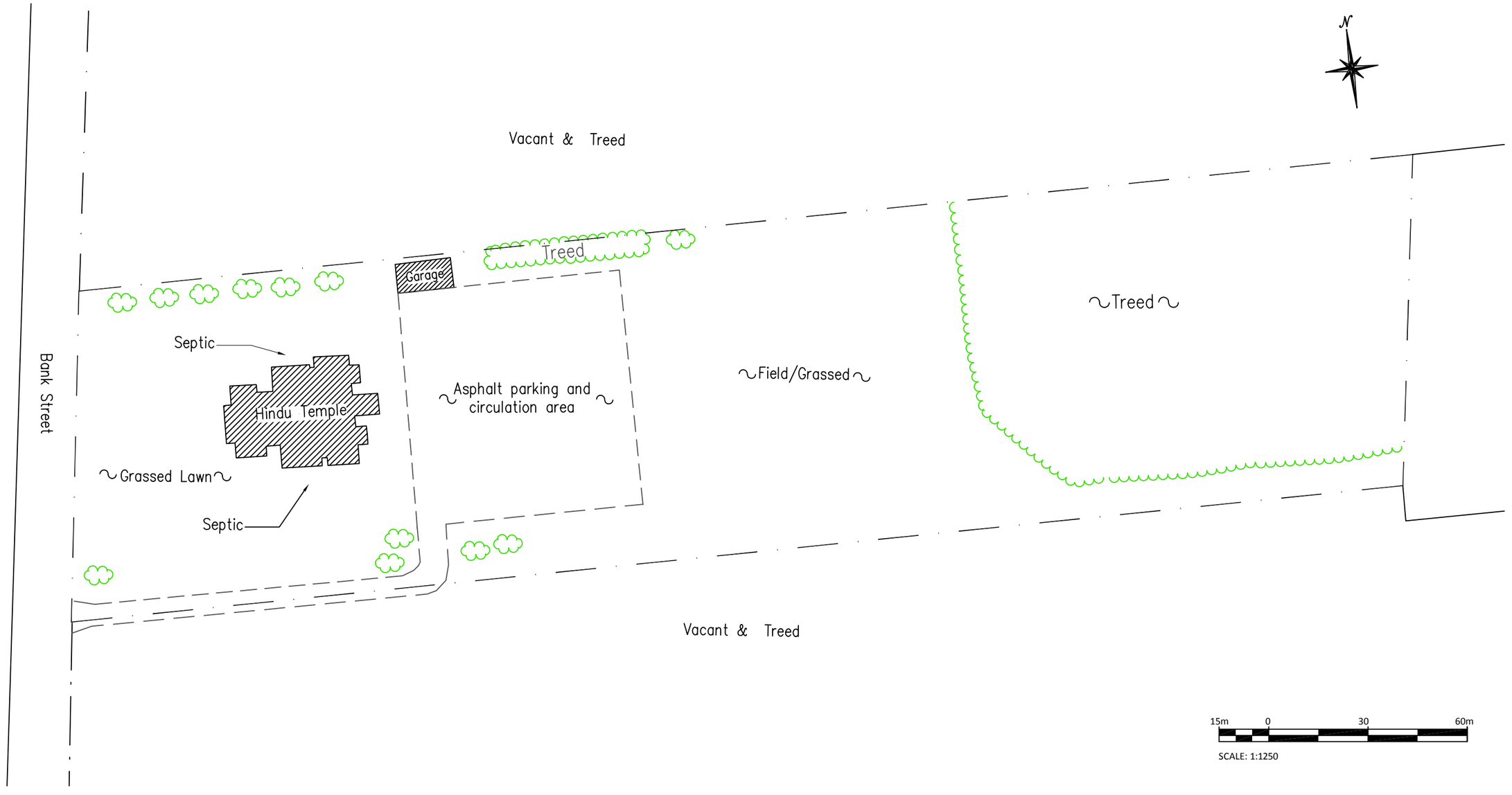
PHASE I
ENVIRONMENTAL SITE ASSESSMENT &
SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE

SITE LOCATION
(NOT TO SCALE)
SOURCE: GEOOTTAWA

CLIENT	DATE	PROJECT	
HINDU TEMPLE OF OTTAWA CARLTON	JUNE 2017	170132	FIGURE1





LEGEND

Existing Building

Division between various surface materials

Property Line

Tree Line

Tree

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.S	05/18/17

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CLIENT
HINDU TEMPLE OF OTTAWA CARLTON

DESIGNED BY:	DRAWN BY:	APPROVED BY:
--	A.S	M.W

PROJECT
PHASE I
ENVIRONMENTAL SITE ASSESSMENT & SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE
SITE PLAN

PROJECT NO.
170132

DATE
JUNE 2017

FIGURE2

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PROJECT

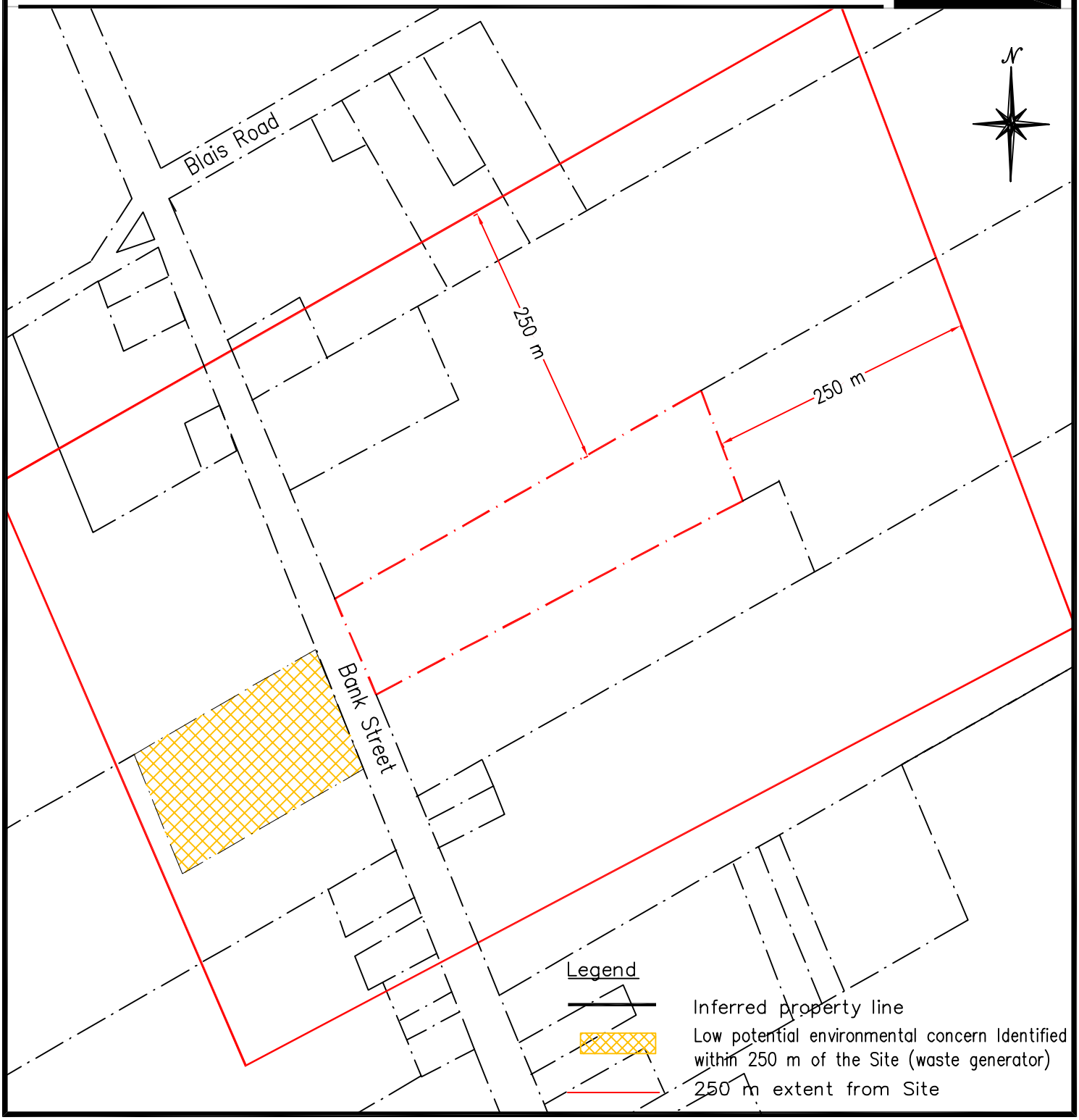
PHASE I
ENVIRONMENTAL SITE ASSESSMENT &
SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

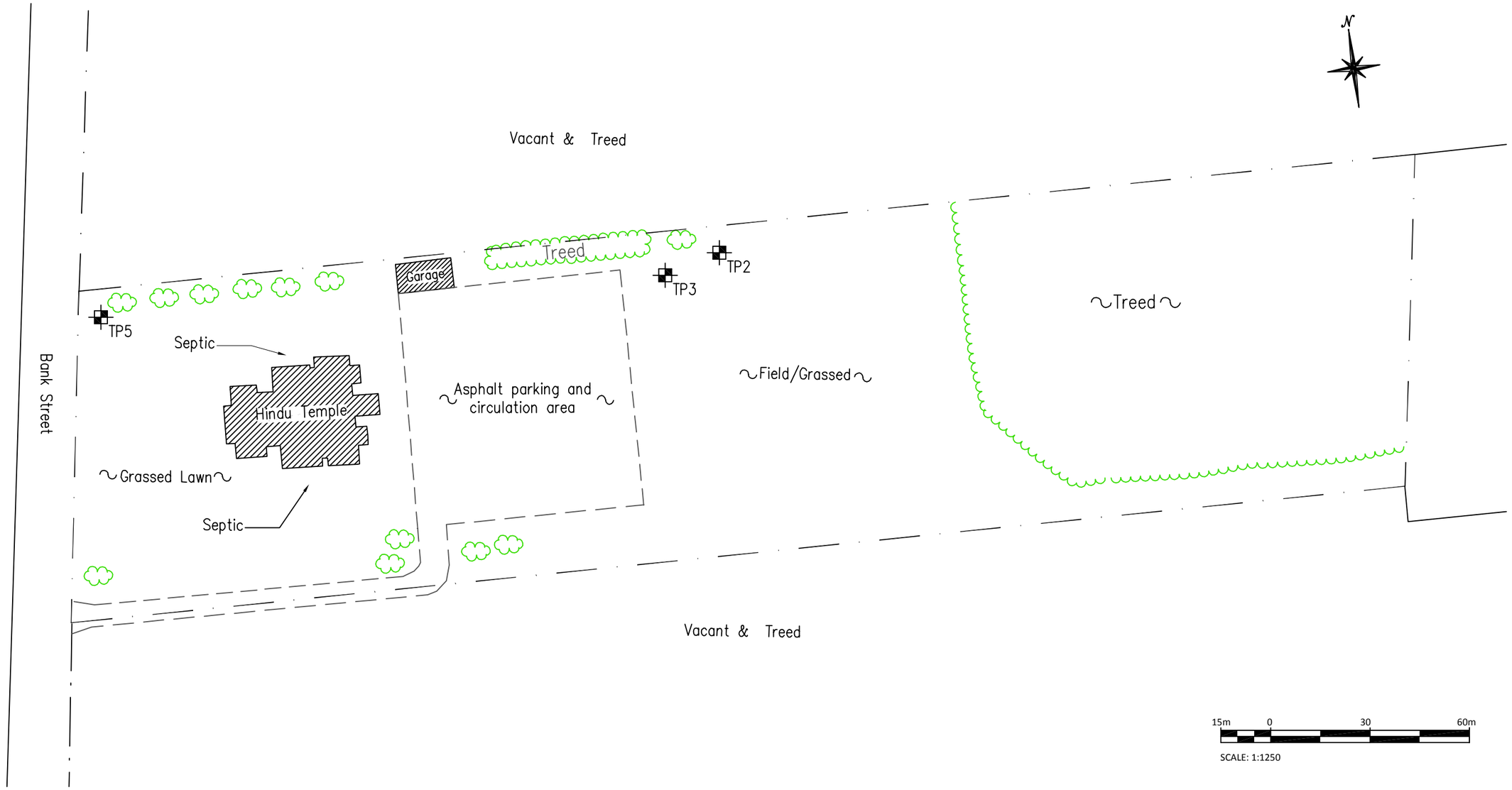
DRAWING TITLE

POTENTIAL ENVIRONMENTAL CONCERNS
WITHIN 250 M OF THE SITE
SOURCE: GEOOTTAWA

CLIENT	DATE	PROJECT
HINDU TEMPLE OF OTTAWA CARLTON	MAY 2017	170132

FIGURE 3





LEGEND

- Existing Building
- Division between various surface materials
- Property Line
- Tree Line
- Tree
- 99 Test Pit Location

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.S	05/18/17

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CLIENT
HINDU TEMPLE OF OTTAWA CARLTON

DESIGNED BY:	DRAWN BY:	APPROVED BY:
--	A.S	M.W

PROJECT
PHASE I
ENVIRONMENTAL SITE ASSESSMENT & SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE
TEST PIT LOCATIONS

PROJECT NO.
170132

DATE
JUNE 2017

FIGURE4

TABLES

Table 1
Summary of Soil VOC and PHC Analysis
Phase I Environmental Site Assessment & Subsurface Investigation
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

Parameter	Units	MDL	O. Reg. 153/04[1] Table 7[2] Institutional Property Use Coarse textured soil	Sample TP2-4	TP3-6	TP5-9	TP5-11
Sample Date (d/m/y)			--	05/08/2017	05/08/2017	05/08/2017	05/08/2017
Depth	m		--	0.8 - 0.9	1.5 - 1.6	0.9 - 1.0	1.4 - 1.5
Physical Characteristics							
% Solids	% by wt.	0.1		76.9	85.6	77.4	80.1
Volatiles							
Acetone	ug/g dry	0.50	16	--	<0.50	--	<0.50
Benzene	ug/g dry	0.02	0.21	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	ug/g dry	0.05	13	--	<0.05	--	<0.05
Bromoform	ug/g dry	0.05	0.27	--	<0.05	--	<0.05
Bromomethane	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Carbon Tetrachloride	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Chlorobenzene	ug/g dry	0.05	2.4	--	<0.05	--	<0.05
Chloroform	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Dibromochloromethane	ug/g dry	0.05	9.4	--	<0.05	--	<0.05
Dichlorodifluoromethane	ug/g dry	0.05	16	--	<0.05	--	<0.05
1,2-Dichlorobenzene	ug/g dry	0.05	3.4	--	<0.05	--	<0.05
1,3-Dichlorobenzene	ug/g dry	0.05	4.8	--	<0.05	--	<0.05
1,4-Dichlorobenzene	ug/g dry	0.05	0.083	--	<0.05	--	<0.05
1,1-Dichloroethane	ug/g dry	0.05	3.5	--	<0.05	--	<0.05
1,2-Dichloroethane	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
1,1-Dichloroethylene	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
cis-1,2-Dichloroethylene	ug/g dry	0.05	3.4	--	<0.05	--	<0.05
trans-1,2-Dichloroethylene	ug/g dry	0.05	0.084	--	<0.05	--	<0.05
1,2-Dichloropropane	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
cis-1,3-Dichloropropylene	ug/g dry	0.05	--	--	<0.05	--	<0.05
trans-1,3-Dichloropropylene	ug/g dry	0.05	--	--	<0.05	--	<0.05
1,3-Dichloropropene, total	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Ethylbenzene	ug/g dry	0.05	2	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Hexane	ug/g dry	0.05	2.8	--	<0.05	--	<0.05
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.50	16	--	<0.50	--	<0.50
Methyl Isobutyl Ketone	ug/g dry	0.50	1.7	--	<0.50	--	<0.50
Methyl tert-butyl ether	ug/g dry	0.05	0.75	--	<0.05	--	<0.05
Methylene Chloride	ug/g dry	0.05	0.1	--	<0.05	--	<0.05
Styrene	ug/g dry	0.05	0.7	--	<0.05	--	<0.05
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	0.058	--	<0.05	--	<0.05
1,1,2,2-Tetrachloroethane	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Tetrachloroethylene	ug/g dry	0.05	0.28	--	<0.05	--	<0.05
Toluene	ug/g dry	0.05	2.3	<0.05	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	ug/g dry	0.05	0.38	--	<0.05	--	<0.05
1,1,2-Trichloroethane	ug/g dry	0.05	0.05	--	<0.05	--	<0.05
Trichloroethylene	ug/g dry	0.05	0.061	--	<0.05	--	<0.05
Trichlorofluoromethane	ug/g dry	0.05	4	--	<0.05	--	<0.05
Vinyl Chloride	ug/g dry	0.02	0.02	--	<0.02	--	<0.02
m/p-Xylene	ug/g dry	0.05	--	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g dry	0.05	--	<0.05	<0.05	<0.05	<0.05
Xylenes, total	ug/g dry	0.05	3.1	<0.05	<0.05	<0.05	<0.05
Hydrocarbons							
F1 PHCs (C6-C10)	ug/g dry	7	55	<7	<7	<7	<7
F2 PHCs (C10-C16)	ug/g dry	4	98	<4	<4	<4	<4
F3 PHCs (C16-C34)	ug/g dry	8	300	17	<8	52	<8
F4 PHCs (C34-C50)	ug/g dry	6	2800	19	<6	116	<6

NOTES:

[1] MOE's *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, 2011*

[2] Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition

MDL Method Detection Limit

-- No Value/Not Analysed

PHC Petroleum Hydrocarbon

Table 2
Summary of Soil Metals Analysis
Phase I Environmental Site Assessment & Subsurface Investigation
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

Parameter	Units	MDL	O. Reg. 153/04[1] Table 7[2] Industrial Property Use Coarse textured soil	Sample TP2-4	TP3-6	TP5-9	TP5-11
Sample Date (d/m/y)			--	05/08/2017	05/08/2017	05/08/2017	05/08/2017
Depth	m		--	0.8 - 0.9	1.5 - 1.6	0.9 - 1.0	1.4 - 1.5
Physical Characteristics			--				
% Solids	% by wt.	0.1	--	76.9	85.6	77.4	80.1
Metals							
Antimony	ug/g dry	1.0	7.5	<1.0	<1.0	<1.0	<1.0
Arsenic	ug/g dry	1.0	18	<1.0	<1.0	<1.0	<1.0
Barium	ug/g dry	1.0	390	85.2	58	114	72.1
Beryllium	ug/g dry	1.0	4	<1.0	<1.0	<1.0	<1.0
Boron	ug/g dry	1.0	120	8.3	7.9	9.1	13.1
Cadmium	ug/g dry	0.5	1.2	<0.5	<0.5	<0.5	<0.5
Chromium	ug/g dry	1.0	160	20.1	12.7	33.2	24.8
Cobalt	ug/g dry	1.0	22	7.5	7.3	9.2	6.2
Copper	ug/g dry	1.0	140	24	33.4	21.5	8.8
Lead	ug/g dry	1.0	120	15	9.8	13.5	13.4
Molybdenum	ug/g dry	1.0	6.9	<1.0	<1.0	<1.0	<1.0
Nickel	ug/g dry	1.0	100	16.3	15.3	19.3	13.8
Selenium	ug/g dry	1.0	2.4	<1.0	<1.0	<1.0	<1.0
Silver	ug/g dry	0.5	20	<0.5	<0.5	<0.5	<0.5
Thallium	ug/g dry	1.0	1	<1.0	<1.0	<1.0	<1.0
Uranium	ug/g dry	1.0	23	<1.0	<1.0	<1.0	<1.0
Vanadium	ug/g dry	1.0	86	30.7	20.6	39.6	34.6
Zinc	ug/g dry	1.0	340	43.2	38	41.7	23.7

NOTES:

[1] MOE's *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011*

[2] Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition

MDL Method Detection Limit

-- No Value/Not Analysed

APPENDIX A

CITY DIRECTORIES

ENVIRONMENTAL RISK INFORMATION SERVICE

Head Office: 80 Valleybrook Dr, Toronto, ON M3B 2S9
Physical Address: 38 Lesmill Rd, Toronto, ON M3B 2T5
Phone: 416-510-5204 • Fax: 416-510-5133
info@erisinfo.com • www.erisinfo.com

City Directory Information Source
Vernon's Ottawa, Ontario City Directory

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 2010	
Site Listing:	-Hindu Temple of Ottawa Carleton
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Ron's Rental World Inc -Ottawa Camping Trailers -U-Haul Co Ltd
4834 Bank Street	-Residential (1 Tenant)
4836 Bank Street	-Leitrim Home Hardware

4841 Bank Street	-Residential (1 Tenant)

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 2005/06	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 2000/01	
Site Listing:	-Address Not Listed

Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Ron's Rental World Inc -Ottawa Camping Trailers
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Country Depot -Co-op Store
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 1995/96	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed

4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 1988/89	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario

Year: 1986	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 1980	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed

4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 1976	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

PROJECT NUMBER: 20170417001	
Site Address:	4835 Bank Street, Ottawa, Ontario
Year: 1971	
Site Listing:	-Address Not Listed
Adjacent Properties:	
4800 Bank Street	-Address Not Listed
4815 Bank Street	-Address Not Listed
4834 Bank Street	-Address Not Listed
4836 Bank Street	-Address Not Listed
4841 Bank Street	-Address Not Listed

-All listings for businesses were listed as they are in the city directory.

-Listings that are residential are listed as “residential” with the number of tenants. The name of the residential tenant is not listed in the above city directory

APPENDIX B

LAND TITLE'S SEARCH

* CERTIFIED IN ACCORDANCE WITH THE LAND TITLES ACT * SUBJECT TO RESERVATIONS IN CROWN GRANT *

PROPERTY DESCRIPTION: PT LT 22 CON 5RF GLOUCESTER PTS 1 & 2, 5R3156; S/T & T/W NS271193 ; GLOUCESTER

PROPERTY REMARKS:

ESTATE/QUALIFIER:
FEE SIMPLE
LT CONVERSION QUALIFIED

RECENTLY:
RE-ENTRY FROM 04326-0303

PIN CREATION DATE:
1999/10/22

OWNERS' NAMES
HINDU TEMPLE OF OTTAWA-CARLETON INC.

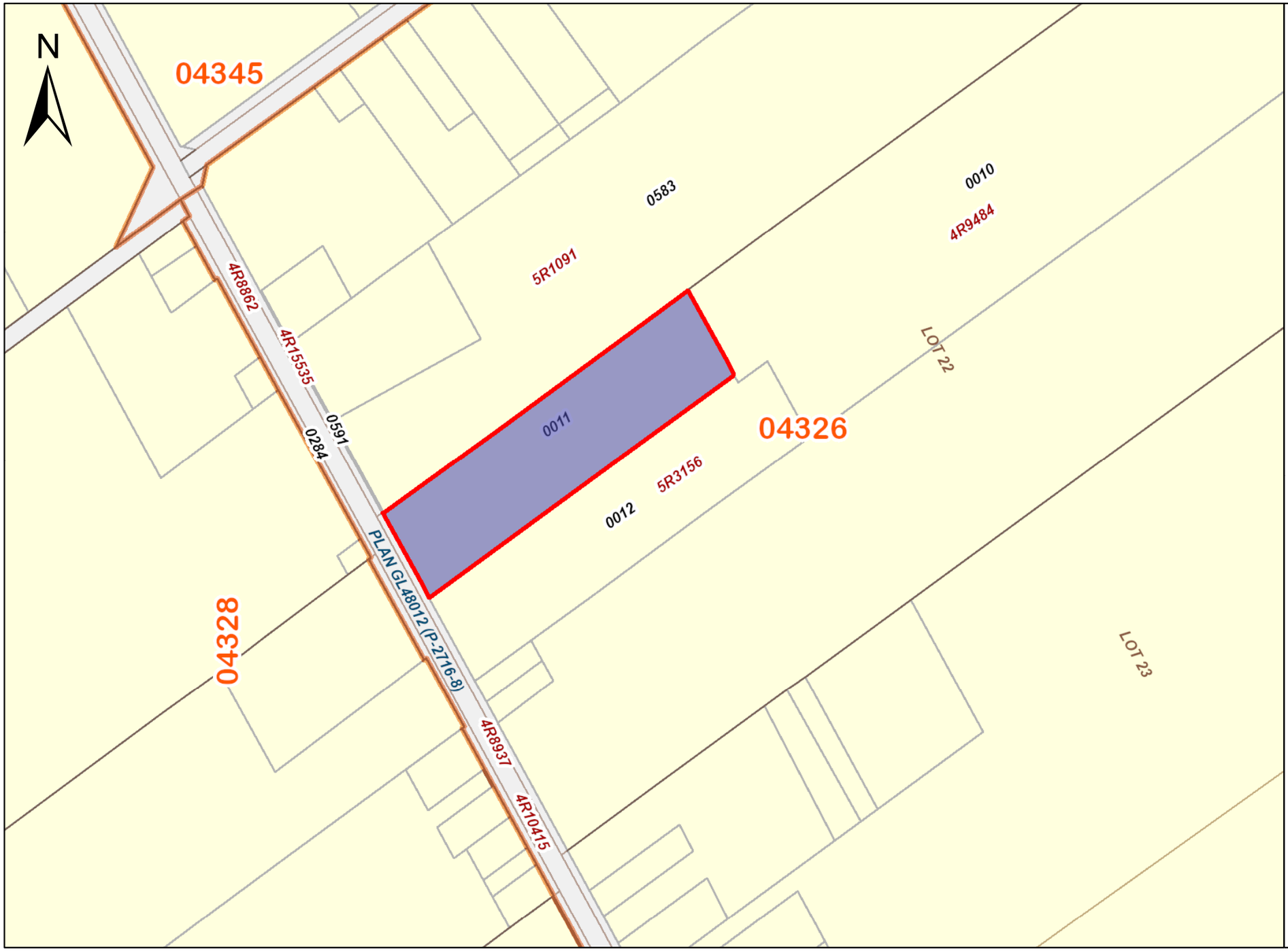
CAPACITY SHARE
BENO

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
EFFECTIVE 2000/07/29 THE NOTATION OF THE "BLOCK IMPLEMENTATION DATE" OF 1997/05/26 ON THIS PIN						
WAS REPLACED WITH THE "PIN CREATION DATE" OF 1999/10/22						
*** PRINTOUT INCLUDES ALL DOCUMENT TYPES (DELETED INSTRUMENTS NOT INCLUDED) ***						
***SUBJECT, ON FIRST REGISTRATION UNDER THE LAND TITLES ACT, TO:*						
*** SUBSECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES **						
*** AND ESCHEATS OR FORFEITURE TO THE CROWN.*						
*** THE RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF*						
*** IT THROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY*						
*** CONVENTION.*						
*** ANY LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.*						
***DATE OF CONVERSION TO LAND TITLES: 1999/10/25 ***						
GL75634	1964/11/12	BYLAW				C
5R3156	1977/09/28	PLAN REFERENCE				C
NS271193	1985/01/03	TRANSFER	$115,000		HINDU TEMPLE OF OTTAWA-CARLETON INC.	C
N303080	1985/09/03	AGREEMENT			THE CITY OF GLOUCESTER	C
N445104	1988/06/30	CHARGE	$500,000		THE ROYAL BANK OF CANADA	C
4R9484	1993/09/02	PLAN REFERENCE				C
N751901	1997/01/15	NOTICE				C
LT1312725	2000/08/23	NOTICE		HINDU TEMPLE OF OTTAWA-CARLETON INC.	THE CORPORATION OF THE CITY OF GLOUCESTER	C

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

* CERTIFIED IN ACCORDANCE WITH THE LAND TITLES ACT * SUBJECT TO RESERVATIONS IN CROWN GRANT *

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
LT1312726	2000/08/23	POSTPONEMENT		THE ROYAL BANK OF CANADA	THE CORPORATION OF THE CITY OF GLOUCESTER	C
	REMARKS: N445104 TO LT1312725					



ServiceOntario

PRINTED ON 17 APR, 2017 AT 12:36:28
FOR EEGOOLAB

SCALE

0 60 120 180 240 meters

PROPERTY INDEX MAP

OTTAWA-CARLETON(No. 04)

LEGEND

FREEHOLD PROPERTY	
LEASEHOLD PROPERTY	
LIMITED INTEREST PROPERTY	
CONDOMINIUM PROPERTY	
RETIRED PIN (MAP UPDATE PENDING)	
PROPERTY NUMBER	*0449*
BLOCK NUMBER	**08050**
GEOGRAPHIC FABRIC	
EASEMENT	

THIS IS NOT A PLAN OF SURVEY

NOTES

REVIEW THE TITLE RECORDS FOR COMPLETE PROPERTY INFORMATION AS THIS MAP MAY NOT REFLECT RECENT REGISTRATIONS

THIS MAP WAS COMPILED FROM PLANS AND DOCUMENTS RECORDED IN THE LAND REGISTRATION SYSTEM AND HAS BEEN PREPARED FOR PROPERTY INDEXING PURPOSES ONLY

FOR DIMENSIONS OF PROPERTIES BOUNDARIES SEE RECORDED PLANS AND DOCUMENTS

ONLY MAJOR EASEMENTS ARE SHOWN

REFERENCE PLANS UNDERLYING MORE RECENT REFERENCE PLANS ARE NOT ILLUSTRATED

Ontario

APPENDIX C

WELL RECORDS

316/52

UTM | 1 | 18 | Z | 4 | 5 | 3 | 7 | 6 | 0 | E

| 5 | R | 5 | 0 | 1 | 1 | 7 | 5 | 6 | 0 | N

Elev. | 4 | R | 0 | 3 | 1 | 5 |

Basin | 2 | 5 |

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 4 RF Lot 21 Date completed 20 (day) JULY month 62 year)

[redacted] dress BILLINGS BRIDGE

Casing and Screen Record

Inside diameter of casing 4

Total length of casing 18

Type of screen —

Length of screen —

Depth to top of screen —

Diameter of finished hole 4

Pumping Test

Static level 6

Test-pumping rate 6 G.P.M.

Pumping level 8

Duration of test pumping 1 HR

Water clear or cloudy at end of test CL

Recommended pumping rate 6 G.P.M.

with pump setting of 30 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CLAY	0	18		
LIMESTONE	18	45	45	F

(Water Record)

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? U

Drilling or Boring Firm M MEAGHER

Address [illegible]

Licence Number 6[illegible]

Name of Driller or Borer SIMO[illegible]

Address

Date AY 6 28

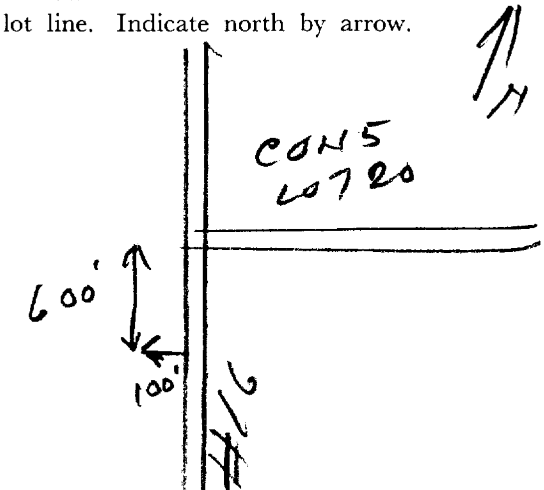
M Meagher
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.58

316/50

564

UTM | 1 | 8 | Z | 4 | 5 | 3 | 9 | 7 | 0 | E
Rideau Front
| 5 | R | 5 | 0 | 1 | 7 | 7 | 0 | 8 | 0 | N

Elev. | 4 | R | 0 | 3 | 3 | 0 |

Basin | 2 | 5 | | 2 | |

ONTARIO

15 № 2177

X

GROUND WATER BRANCH
19
MAY 20 1957
ONTARIO WATER
RESOURCES COMMISSION

The Water-well Drillers Act, 1954

Department of Mines

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester

[redacted] in Village, Town or City)

Address 40 Lawrance St Ottawa

(day) (month) (year)

Pipe and Casing Record		Pumping Test	
Casing diameter(s)	2"	Static level	6
Length(s)	21	Pumping rate	800 G.P.H
Type of screen		Pumping level	25 ft
Length of screen		Duration of test	2 hr

Well Log / **Water Record**

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Sand	0	7	60	54	Fresh
Bolders and Sand	7	20			
Wht Sand stone	20	60			

For what purpose(s) is the water to be used? House

Is water clear or cloudy? Clear

Is well on upland, in valley, or on hillside? Upland

Drilling firm F. R. Cornette

Address R.R. 2 Base line R.D. City View

Name of Driller F. R. Cornette

Address

Licence Number 395

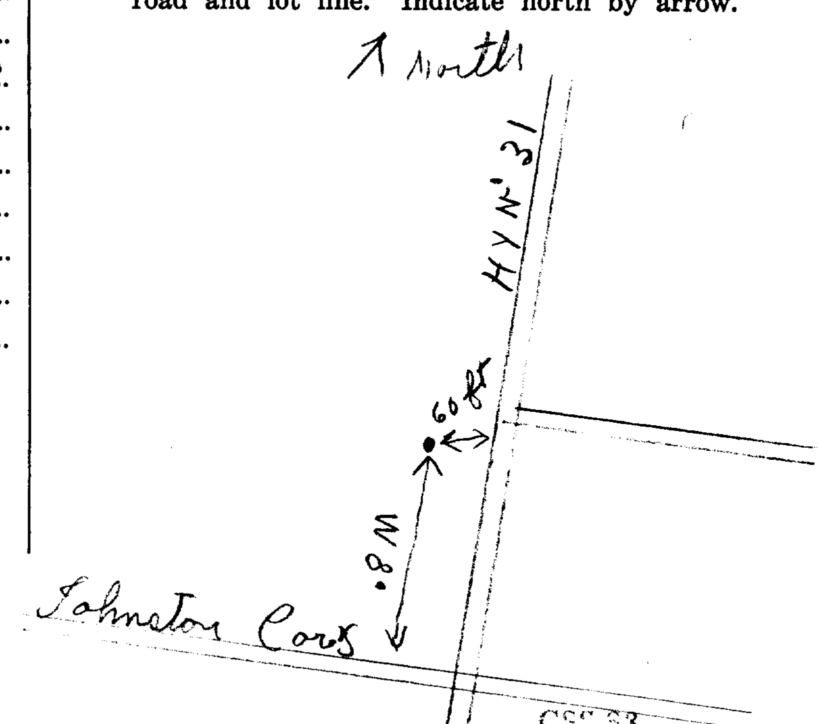
I certify that the foregoing statements of fact are true.

Date May 14/57 F. R. Cornette

Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

CSS 53

L.P. 316/52

UTM | 1 | 8 | Z | 4 | 5 | 3 | 8 | 6 | 0 | E

Rideau Front

| 5 | R | 5 | 0 | 1 | 7 | 3 | 3 | 0 | N

Elev. | 4 | R | 0 | 3 | 2 | 5 |

Basin | 2 | 5 |

GROUND WATER BRANCH 15 NOV 14 1961 ONTARIO WATER RESOURCES COMMISSION

№ 2170

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District: Carleton — Township, Village, Town or City: Gloucester

Con.: 4 R F — Lot: P.T.22 — Date completed: 6 (day) 10 (month) 1961 (year)

[redacted] Address: 28 Clarence St. Ottawa 2, Ont.

Casing and Screen Record

Inside diameter of casing: 6 3/16

Total length of casing: 21'

Type of screen: NONE

Length of screen: NONE

Depth to top of screen: NONE

Diameter of finished hole: 6"

Pumping Test

Static level: 20'

Test-pumping rate: 80 G.P.H.

Pumping level: 70'

Duration of test pumping: 1 hr.

Water clear or cloudy at end of test: clear

Recommended pumping rate: 80 G.P.H.

with pump setting of 80 feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
~~Till and Bolder rock. Grey hard lime stone~~	~~0~~	~~16~~	85	fresh
~~and sand stone.~~	~~16~~	~~25~~		
~~Sand Stone~~	~~25~~	~~89~~		
Boulder Till	0	16		
Hard Grey Limestone	16	25		
Sandstone	25	89	85	Fresh

For what purpose(s) is the water to be used? Co-operative

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm: J. B. Dufresne Co. Ltd.

Address: Ottawa, Ontario.

Licence Number: 194

Name of Driller or Borer: W. Roy

Address: Hull

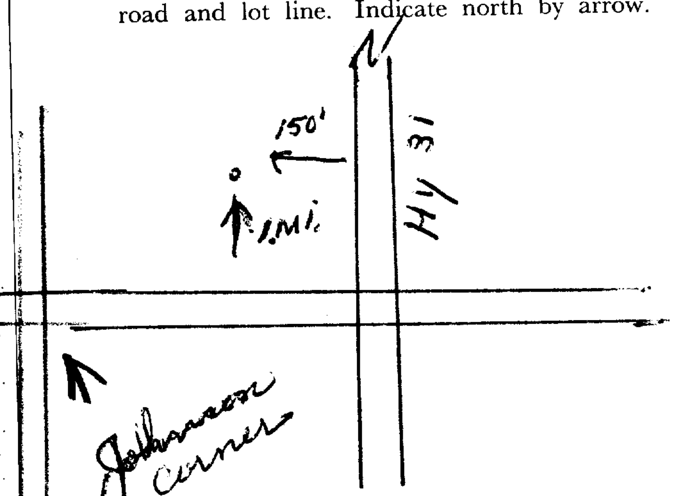
Date: Oct 10/60

J B Dufresne

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7 15M Sets 60-5930

OWRC COPY

316/52

UTM 18 Z 4 8 3 9 7 0 E

5 R 5 0 1 1 7 1 1 2 1 0 N

Elev. 4 R 9 3 3 0

Basin 2 5

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 4RP Lot 22 Date completed 29 (day) JUNE month 61 year)

[redacted] ddress BILLINGS BRIDGE

Casing and Screen Record	
Inside diameter of casing	4"
Total length of casing	10'
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	4"

Pumping Test	
Static level	6'
Test-pumping rate	4 G.P.M.
Pumping level	8
Duration of test pumping	1 HR
Water clear or cloudy at end of test	CLEAR
Recommended pumping rate	4 G.P.M.
with pump setting of	30' feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
LOAM	0	6		
GREY LIMESTONE	6	55	55	FRESH

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 M MEAGHER

Address OTTAWA

Licence Number 245

Name of Driller or Borer SAME

Address

Date AUG 9/61

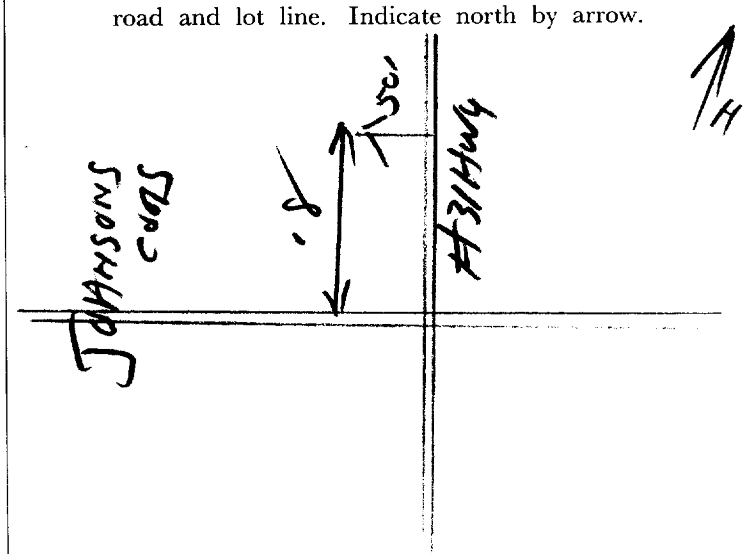
M Meagher
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M Sets 60-5930

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



ip 316/52

UTM |1|8|Z |4|5|3|8|0|0|E

|5|R |5|0|1|7|5|3|0|N

Elev. |4|R |0|3|1|5| 21

Basin |2|5|

~~2181~~ C

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District: CARLETON   Township, Village, Town or City: GLOUCESTER

Con. 4RF   Lot 21 ~~22~~   Date completed 26 (day) JULY (month) 62 (year)

[redacted]dress BILLINGS BRIDGE

Casing and Screen Record	
Inside diameter of casing	4
Total length of casing	21
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	4

Pumping Test	
Static level	8
Test-pumping rate	5 G.P.M.
Pumping level	10
Duration of test pumping	1 Hr
Water clear or cloudy at end of test	CC
Recommended pumping rate	5 G.P.M.
with pump setting of	30 feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CLAY	0	21		
LIMESTONE	21	46	46	F

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? ✓ (valley)

Drilling or Boring Firm: M MEAGHER

Address: OTTAWA

Licence Number: 618

Name of Driller or Borer: SAME

Address

Date: AUG 4

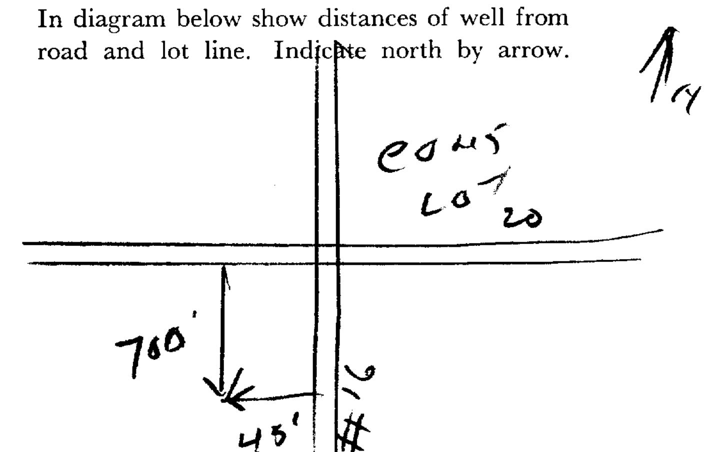
M Meagher
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.58

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

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

11 | 1512265 | MUNICIP. 150002 | CON. RF 05

COUNTY OR DISTRICT: Carleton
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Gloucester
CON., BLOCK, TRACT, SURVEY, ETC.: 5 RF
LOT: S Half 022
OWNER (SURNAME FIRST): [redacted]
ADDRESS:
DATE COMPLETED: DAY 24 MO. ~~Nov.~~ YR. 72

HING 01170150 | RC. 4 | ELEVATION 03316 | RC. | BASIN CODE 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
Brown	Clay	Sand & Stones	Sandy Clay & Stones	0	3
			Med. gray limestone	3	48

31 00036 as 28/12 | 00048 2/15

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0008	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0001	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0034	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.250	0+6"	0012
~~6"~~	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0048
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

PUMPING TEST

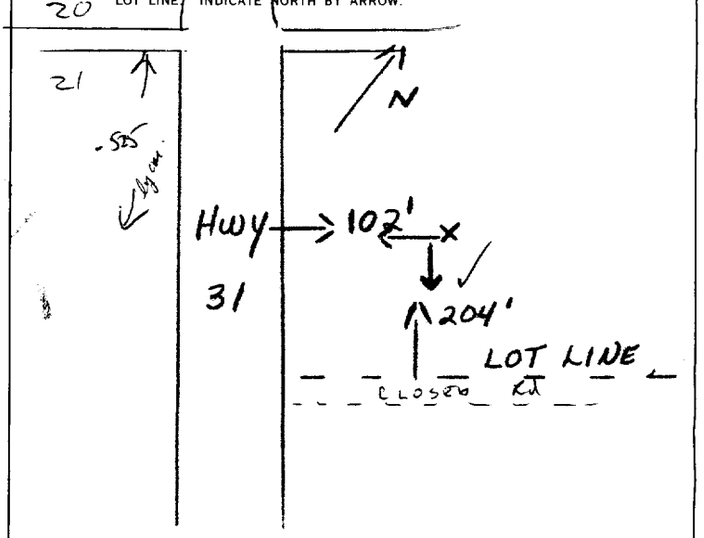
PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0008 GPM.	01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☒ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
001 FEET	048 FEET		004 FEET	004 FEET	004 FEET	004 FEET

IF FLOWING, GIVE RATE: GPM.
PUMP INTAKE SET AT: 48 FEET
WATER AT END OF TEST: ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 030 FEET
RECOMMENDED PUMPING RATE: 0008 GPM.
000.2 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ OTHER 9 ☐ NOT USED

METHOD OF DRILLING
1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

NAME OF WELL CONTRACTOR: F.E. Johnston Drilling Co. | LICENCE NUMBER: 3002
ADDRESS: P.O. Box 4134 Stn "E" Ottawa, Ont.
NAME OF DRILLER OR BORER: J. Remick | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: | SUBMISSION DATE DAY MO. YR.

OFFICE COPY

OFFICE USE ONLY
DATA SOURCE 1 | CONTRACTOR 3002 | DATE RECEIVED 150173
DATE OF INSPECTION | INSPECTOR K
REMARKS: P K WI

Well ID Number: 1512375
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	GLOUCESTER TOWNSHIP
Lot	022
Concession	RF 04
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 454020.70 Northing: 5017262.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	OBDN	SAND		0 ft	9 ft
WHIT	SNDS			9 ft	74 ft

Annular Space/Abandonment Sealing Record

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

Method of Construction & Well Use

Method of Construction	Well Use
Diamond	Domestic

Status of Well

Water Supply

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	GALVANIZED		20 ft
	OPEN HOLE		74 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 1703

Results of Well Yield Testing

After test of well yield, water was	CLEAR
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	8 GPM
Duration of Pumping	2 h:0 m
Final water level	12 ft
If flowing give rate	
Recommended pump depth	35 ft
Recommended pump rate	8 GPM
Well Production	PUMP
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	6 ft		
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15	12 ft	15	
20		20	
25		25	
30	12 ft	30	
40		40	
45	12 ft	45	
50		50	
60	12 ft	60	

Water Details

Water Found at Depth	Kind
74 ft	Fresh

Hole Diameter

Depth From	Depth To	Diameter

Audit Number:

Date Well Completed: November 27, 1972

Date Well Record Received by MOE: March 07, 1973

Updated: March 20, 2017
Rate Rate
Share facebook twitter Print
Tags

- Environment and energy,

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

B

31 G/5a

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11 | 1513436 | MUNICIP. 15004 | CON. RF C04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT 25-27
LETRIM Ottawa-Carleton	GLOUCESTER	IV RFC	022

OWNER (SURNAME FIRST) 28-47	ADDRESS	DATE COMPLETED 48-53
~~UNITED CO - OP OF ONTARIO~~ ONT	R. R. #6 OTTAWA, ONTARIO.	DAY 16 MO. 08 YR. 73

21 | ZONE 18 | EASTING 453850 | NORTHING 5017215 | RC. 6 | ELEVATION 0323 | RC. 4 | BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
Brown	Top Soil		Soft	0	4
Brown	Soil	Boulder	Hard	4	12
Grey	Limestone	Clay	Soft Porous	12	16
White	Limestone	Limestone Grey	Medium Hard	16	50

31 | 0004692 | 0012612131 | 0016215051 | 0050115

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0048	1 ☒ FRESH

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
06	1 ☒ STEEL	.188	0	~~22~~ 0022

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
2 ☒ BAILER	0005 GPM	01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
014 FEET	025 FEET	030 FEET	030 FEET	030 FEET	030 FEET

WATER LEVELS DURING: 1 ☒ PUMPING

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR

RECOMMENDED PUMP TYPE: ☒ SHALLOW | RECOMMENDED PUMP SETTING 030 FEET | RECOMMENDED PUMPING RATE 0005 GPM

50-53: 000.3

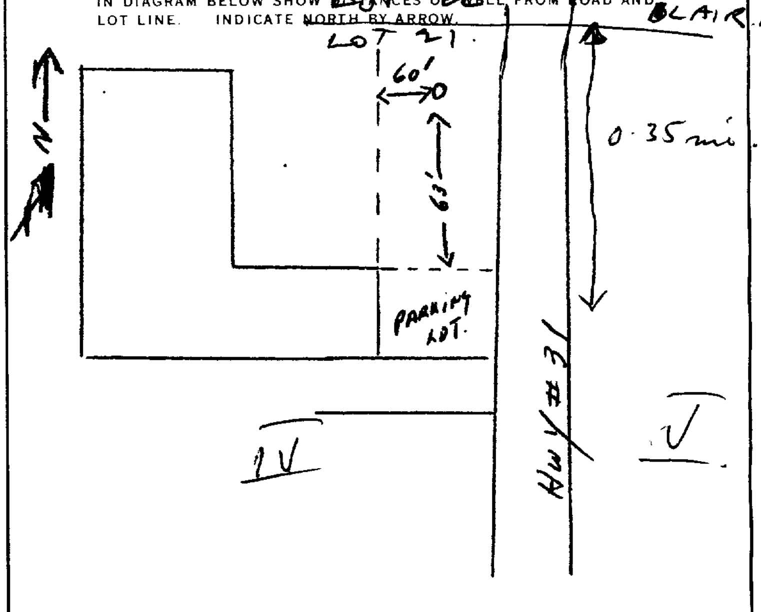
FINAL STATUS OF WELL: 1 ☒ WATER SUPPLY

WATER USE: 01 — 1 ☒ DOMESTIC

METHOD OF DRILLING: 4 ☒ ROTARY (AIR)

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
HAWTHORNE DRILLING LIMITED	2557

ADDRESS: Box 4218 STATION "E" OTTAWA ONTARIO

NAME OF DRILLER OR BORER	LICENCE NUMBER
YVON AUBIN	2557

SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE: DAY 25 MO. 9 YR. 73

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 2557 | DATE RECEIVED: 28 09 73

DATE OF INSPECTION | INSPECTOR

REMARKS: P-R

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

316/5a

Ontario

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11 — 1514664 — MUNICIP. 15002 — CON. RF — 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	~~II~~ RF III	022.

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
CDR Canadian Industries Ltd.	Hwy #31 Ottawa Ont	DAY 20 MO 02 YR 25

21 — ZONE 18 — EASTING 453793 — NORTHING 5017090 — RC 4 — ELEVATION 0340 — RC 4 — BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand Gravel	Boulders.	Dense	0	13
Black	Shale		Loose.	13	30
Grey	Limestone		Sound.	30	111
White	Sandstone		Sound	111	125

31 — 00136281113 00308117 01111215 01251118

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0032	1 ☑ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0111	1 ☑ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼ 06	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	~~22~~ 0022
5¾ 06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		22 0125	
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☑ PUMP 2 ☐ BAILER — PUMPING RATE: 0012 GPM — DURATION OF PUMPING: 01 HOURS 15 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☑ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
020 FEET	020 FEET		020 FEET	020 FEET	020 FEET	020 FEET

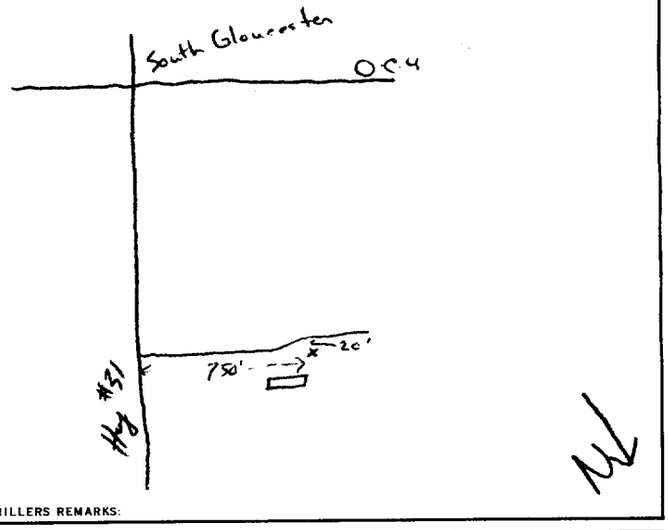
IF FLOWING, GIVE RATE: — GPM — PUMP INTAKE SET AT: 80 FEET — WATER AT END OF TEST: 1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP — RECOMMENDED PUMP SETTING: 080 FEET — RECOMMENDED PUMPING RATE: 0008 GPM

50-53: 0240 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 5317

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1 ☑ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 55-56 04: 1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☑ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 57 5: 1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☑ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Hawthorne Drilling Ltd — LICENCE NUMBER: 2558

ADDRESS: PO Box 4218 Stat. E.

NAME OF DRILLER OR BORER: A. Emond — LICENCE NUMBER: 2558

SIGNATURE OF CONTRACTOR — SUBMISSION DATE: DAY 24 MO. 2 YR. 25

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 2338 — DATE RECEIVED 63-68: 25 02 75 — 80

DATE OF INSPECTION — INSPECTOR

REMARKS: — P ✓ — WI

CSS-58

FORM 7 MOE 07-091

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The Ontario Water Resources Act

WATER WELL RECORD

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11

514664

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	III	22

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Canadian Industries Ltd	Hwy #31 Ottawa Ont	DAY 20 MO. 2 YR. 25

21 ZONE EASTING NORTHING RC ELEVATION RC BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand Gravel	Boulders.	Dense	0	13
Black.	Shale		Loose.	13	30
Grey	Limestone		Sound.	30	111
White	Sandstone		Sound	111	125

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
32	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
111	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	22.
5 7/8	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		22	125
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	12 GPM	1 HOURS 15 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
20 FEET	20 FEET	1 ☐ PUMPING 2 ☐ RECOVERY	20 FEET	20 FEET	20 FEET	20 FEET

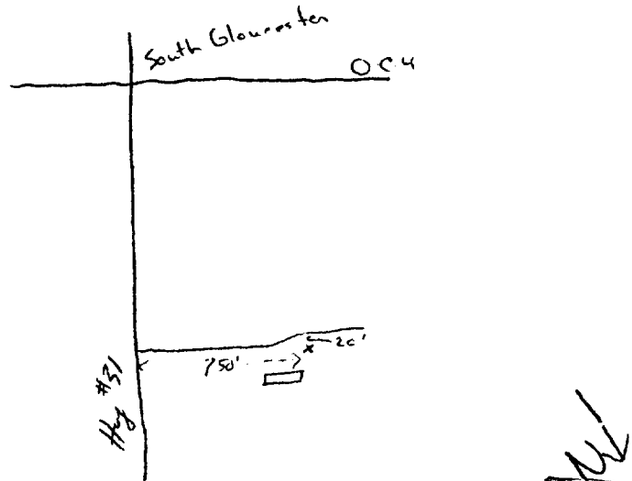
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
— GPM	80 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	80 FEET	8 GPM

— — — • — GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF DRILLING

1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☒ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Hawthorne Drilling Ltd	2558.

ADDRESS: PO Box 4218 Stat E.

NAME OF DRILLER OR BORER	LICENCE NUMBER
A. Emond.	2558

SIGNATURE OF CONTRACTOR

SUBMISSION DATE: DAY 24 MO. 2 YR. 25

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED

DATE OF INSPECTION | INSPECTOR

REMARKS:

P

WI

FORM 7 MOE 07-0

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APPENDIX D

ECOLOG ERIS REPORT

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Phase I ESA - 4835 Bank Street* *4835 Bank Street* *Ottawa ON*
Project No:	*170132.01*
Report Type:	*Standard Select Report*
Order No:	*20170417001*
Requested by:	*LRL Associates Ltd.*
Date Completed:	*April 20, 2017*

Environmental Risk Information Services
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

www.erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:		*Phase I ESA - 4835 Bank Street* *4835 Bank Street Ottawa ON*
Project No:		*170132.01*
Coordinates:		
	Latitude:	*45.310423*
	Longitude:	*-75.586149*
	UTM Northing:	*5,017,602.49*
	UTM Easting:	*454,052.62*
	UTM Zone:	*UTM Zone 18T*
Elevation:		*321 FT* *97.73 M*

Order Information:

Order No:	*20170417001*
Date Requested:	*April 17, 2017*
Requested by:	*LRL Associates Ltd.*
Report Type:	*Standard Select Report*

Historical/Products:

City Directory Search	*Subject Site plus 5 Adjacent Properties*
Insurance Products	*Fire Insurance Maps/Inspection Reports/Site Specific Plans*
Land Title Search	*Title Search*
Topographic Map	*Ontario Base Map (OBM)*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Within 0.25 km	Total
AAGR	Abandoned Aggregate Inventory	N	-	-	-
AGR	Aggregate Inventory	N	-	-	-
AMIS	Abandoned Mine Information System	N	-	-	-
ANDR	Anderson's Waste Disposal Sites	N	-	-	-
AUWR	Automobile Wrecking & Supplies	N	-	-	-
BORE	Borehole	N	-	-	-
CA	Certificates of Approval	Y	0	0	0
CFOT	Commercial Fuel Oil Tanks	N	-	-	-
CHEM	Chemical Register	N	-	-	-
CNG	Compressed Natural Gas Stations	N	-	-	-
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	N	-	-	-
CONV	Compliance and Convictions	N	-	-	-
CPU	Certificates of Property Use	N	-	-	-
DRL	Drill Hole Database	N	-	-	-
EASR	Environmental Activity and Sector Registry	N	-	-	-
EBR	Environmental Registry	Y	0	0	0
ECA	Environmental Compliance Approval	N	-	-	-
EEM	Environmental Effects Monitoring	N	-	-	-
EHS	ERIS Historical Searches	N	-	-	-
EIIS	Environmental Issues Inventory System	N	-	-	-
EMHE	Emergency Management Historical Event	N	-	-	-
EXP	List of TSSA Expired Facilities	N	-	-	-
FCON	Federal Convictions	N	-	-	-
FCS	Contaminated Sites on Federal Land	N	-	-	-
FOFT	Fisheries & Oceans Fuel Tanks	N	-	-	-
FST	Fuel Storage Tank	N	-	-	-
FSTH	Fuel Storage Tank - Historic	N	-	-	-
GEN	Ontario Regulation 347 Waste Generators Summary	Y	1	2	3
GHG	Greenhouse Gas Emissions from Large Facilities	N	-	-	-
HINC	TSSA Historic Incidents	N	-	-	-
IAFT	Indian & Northern Affairs Fuel Tanks	N	-	-	-
INC	TSSA Incidents	N	-	-	-
LIMO	Landfill Inventory Management Ontario	N	-	-	-
MINE	Canadian Mine Locations	N	-	-	-
MNR	Mineral Occurrences	N	-	-	-
NATE	National Analysis of Trends in Emergencies System (NATES)	N	-	-	-

Database	Name	Searched	Project Property	Within 0.25 km	Total
NCPL	Non-Compliance Reports	N	-	-	-
NDFT	National Defense & Canadian Forces Fuel Tanks	N	-	-	-
NDSP	National Defense & Canadian Forces Spills	N	-	-	-
NDWD	National Defence & Canadian Forces Waste Disposal Sites	N	-	-	-
NEBW	National Energy Board Wells	N	-	-	-
NEES	National Environmental Emergencies System (NEES)	N	-	-	-
NPCB	National PCB Inventory	N	-	-	-
NPRI	National Pollutant Release Inventory	N	-	-	-
OGW	Oil and Gas Wells	N	-	-	-
OOGW	Ontario Oil and Gas Wells	N	-	-	-
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	N	-	-	-
PAP	Canadian Pulp and Paper	N	-	-	-
PCFT	Parks Canada Fuel Storage Tanks	N	-	-	-
PES	Pesticide Register	N	-	-	-
PINC	TSSA Pipeline Incidents	N	-	-	-
PIPELINE INCIDENTS	National Energy Board Pipeline Incidents	N	-	-	-
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	N	-	-	-
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	N	-	-	-
RST	Retail Fuel Storage Tanks	N	-	-	-
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	0	0	0
SRDS	Wastewater Discharger Registration Database	N	-	-	-
TANK	Anderson's Storage Tanks	N	-	-	-
TCFT	Transport Canada Fuel Storage Tanks	N	-	-	-
VAR	TSSA Variances for Abandonment of Underground Storage Tanks	N	-	-	-
WDS	Waste Disposal Sites - MOE CA Inventory	N	-	-	-
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	N	-	-	-
WWIS	Water Well Information System	N	-	-	-
	Total:		1	2	3

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
1	GEN	Heart and Stroke Foundation	Hindu Temple 4835 Bank Street, Gloucester Ottawa ON K1X 1G6	ENE/91.4	-0.24	12

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name		Address	Dir/Dist (m)	Elev Diff (m)	Page Number
2	GEN	UPI INC.	39-454	HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	SW/250.0	1.34	12
2	GEN	UCO PETROLEUM INC. 39-454		HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	SW/250.0	1.34	12

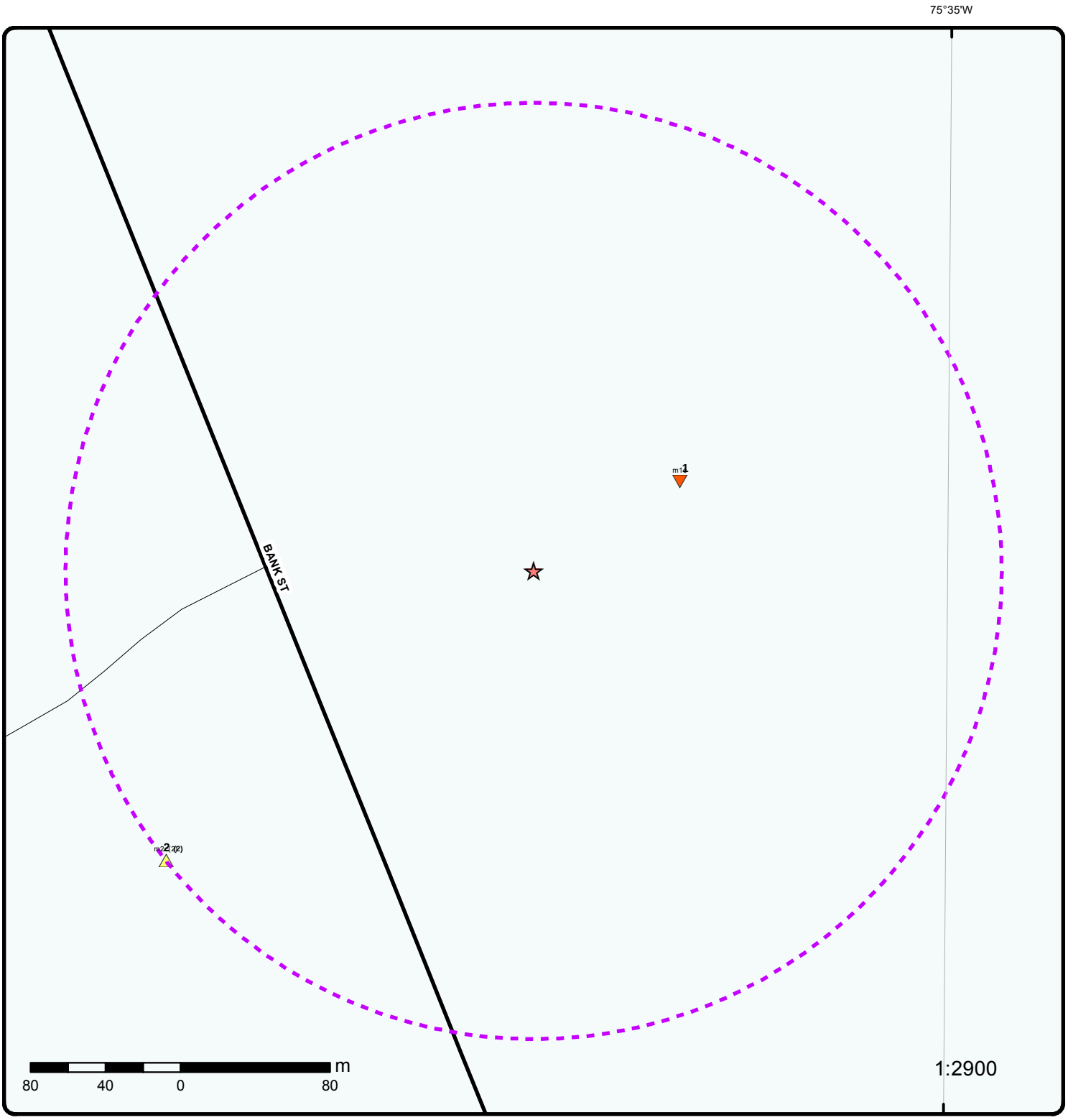
Executive Summary: Summary By Data Source

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Sep 2016 has found that there are 3 GEN site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation		Address	Direction	Distance (m)	Map Key
UCO PETROLEUM INC. 39-454		HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	SW	249.99	2
UPI INC.	39-454	HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	SW	249.99	2

Lower Elevation	Address	Direction	Distance (m)	Map Key
Heart and Stroke Foundation	Hindu Temple 4835 Bank Street, Gloucester Ottawa ON K1X 1G6	ENE	91.36	1



Map : 0.25 Kilometer Radius

Order No: 20170417001

Address: 4835 Bank Street, Ottawa, ON

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Expressway
- Principal Highway
- Secondary Highway
- Major Road
- Local road
- Trail
- Proposed Road
- Ferry Route/Ice Road
- Industrial and Resource - Regions
- Main Line
- Sidetrack
- Transit Line
- Abandoned Line
- National Park
- Provincial or Territorial Park
- Other Park
- Golf Course or Driving Range
- Park or Sports Field
- Other Recreation Area

Source: © 2015 DMTI Spatial Inc.

75°34'30"W

45°18'N

45°18'N

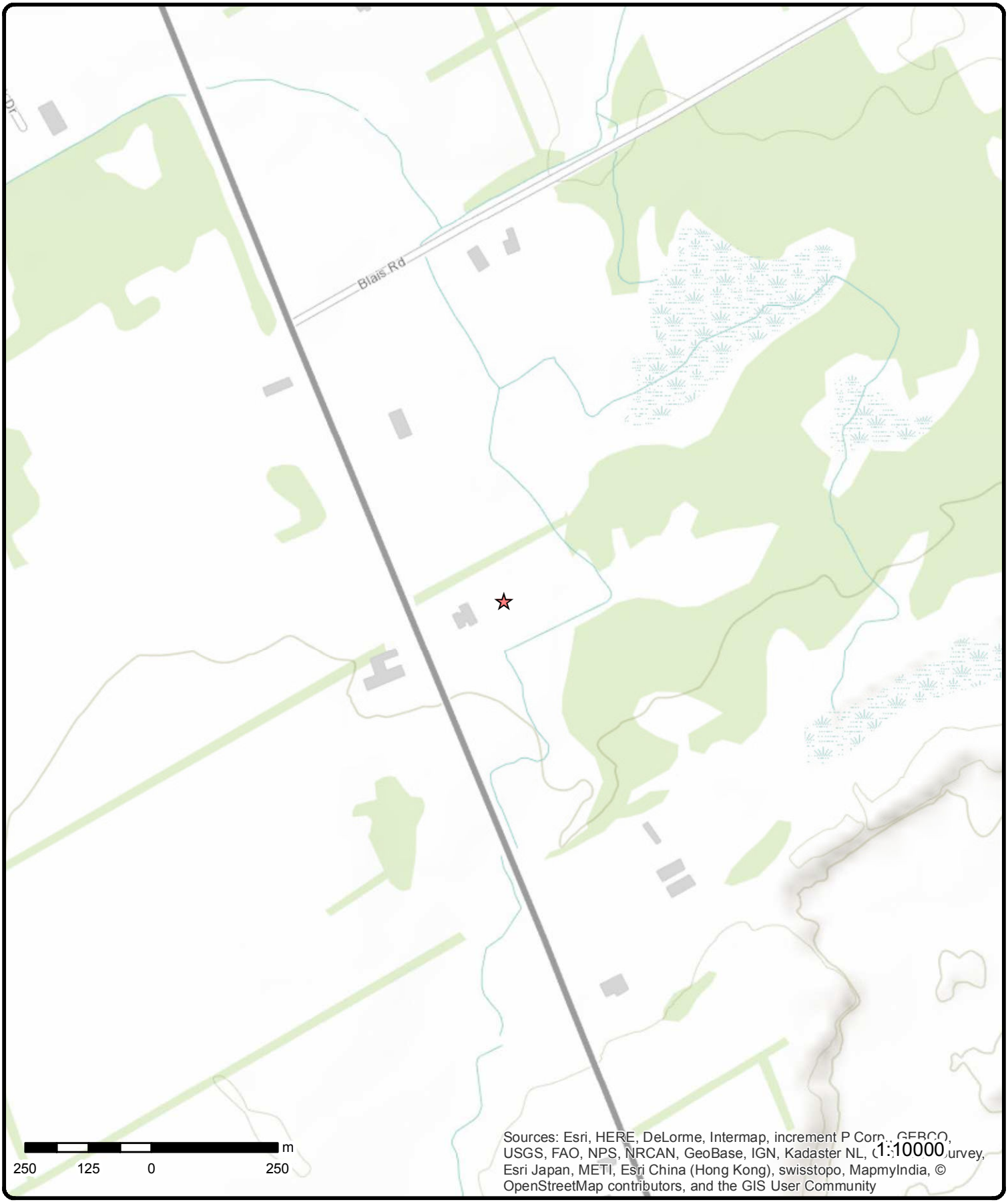
Aerial

Order No: 20170417001

Address: 4835 Bank Street, Ottawa, ON

Source: ESRI World Imagery

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



Topographic Map

Address: 4835 Bank Street, Ottawa, ON

Source: ESRI World Topographic Map

Order No: 20170417001

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
1	1 of 1	ENE/91.4	97.5	Heart and Stroke Foundation Hindu Temple 4835 Bank Street, Gloucester Ottawa ON K1X 1G6	GEN

PO Box Num:
Status: Registered
Country: Canada
Generator #: ON3001940
Approval Yrs:: As of Jul 2016
SIC Code:
SIC Description:

--Details--
Waste Code: 312 P
Waste Description: Pathological wastes

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	1 of 2	SW/250.0	99.1	UPI INC. 39-454 HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	GEN

PO Box Num:
Status:
Country:
Generator #: ON1446982
Approval Yrs:: 92,93,96,97,98
SIC Code: 5111
SIC Description: PETROLEUM PROD., WH.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	2 of 2	SW/250.0	99.1	UCO PETROLEUM INC. 39-454 HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	GEN

PO Box Num:
Status:
Country:
Generator #: ON1446982
Approval Yrs:: 94,95
SIC Code: 5111
SIC Description: PETROLEUM PROD., WH.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Unplottable Summary

Total: 15 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
CA	THE DOUGLAS MACDONALD DEV. CORP.	COMMERCIAL PLAZA BANK STREET	OTTAWA CITY ON	
CA	MACDONALD DEVELOPMENT CORP.	BANK ST.	OTTAWA CITY ON	
CA	CITY	BANK ST.	GLOUCESTER CITY ON	
CA	MACDONALD DEVELOPMENT CORP.-PLAZA	EASEMENT-BANK STREET	OTTAWA CITY ON	
CA	OSSORY CANADA INC.	PRIVATE BLDG. BANK ST.	OTTAWA CITY ON	
EBR	Thomas Cavanagh Construction Ltd.	Part Lot 22, Concession 4	Ottawa ON	
GEN	Hydro Ottawa Ltd.	Bank St	Ottawa ON	
GEN	SPIC & SPAN-VALETOR-CASH CLEANERS	BILLINGS BRIDGE PLAZA, BANK STREET C/O 1764 WOODWARD DRIVE	OTTAWA ON	K2C 0P8
SPL	PIONEER PETROLEUMS LTD.	BANK STREET SOUTH PIONEER GAS STATION. SERVICE STATION	OTTAWA CITY ON	
SPL	ONTARIO HYDRO	WOODDRIFFE TRANSFORMER STATION TRANSFORMER	OTTAWA CITY ON	
SPL	City of Ottawa <UNOFFICIAL>	on east side of Bank St. 750 metres north of Findlay Creek Dr.	Ottawa ON	
SPL	ONTARIO HYDRO	WOODRUFF TRANSFORMER STN. TRANSFORMER	OTTAWA CITY ON	
SPL	ONTARIO HYDRO	BANK ST TRANSFORMER	GLOUCESTER CITY ON	
SPL	ESSO PETROLEUM CANADA	BANK STREET SERVICE STATION	OTTAWA CITY ON	
SPL	ONTARIO HYDRO	WOODROFFE TRANSFORMER STATION TRANSFORMER	OTTAWA CITY ON	

Unplottable Report

Site: ***THE DOUGLAS MACDONALD DEV. CORP.***
COMMERCIAL PLAZA BANK STREET OTTAWA CITY ON

Database: ***CA***

Certificate #:	7-1304-86-
Application Year:	86
Issue Date:	10/28/1986
Approval Type:	Municipal water
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site: ***MACDONALD DEVELOPMENT CORP.***
BANK ST. OTTAWA CITY ON

Database: ***CA***

Certificate #:	3-1072-88-
Application Year:	88
Issue Date:	9/28/1988
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site: ***CITY***
BANK ST. GLOUCESTER CITY ON

Database: ***CA***

Certificate #:	3-0859-85-006
Application Year:	85
Issue Date:	8/1/85
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site: ***MACDONALD DEVELOPMENT CORP.-PLAZA***
EASEMENT-BANK STREET OTTAWA CITY ON

Database: ***CA***

Certificate #:	3-1864-86-
Application Year:	86

Issue Date: 12/19/1986
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***OSSORY CANADA INC.***
PRIVATE BLDG. BANK ST. OTTAWA CITY ON

Database: ***CA***

Certificate #: 3-0515-87-
Application Year: 87
Issue Date: 4/23/1987
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***Thomas Cavanagh Construction Ltd.***
Part Lot 22, Concession 4 Ottawa ON

Database: ***EBR***

Company Name:
Year: 2003
Notice Type: Instrument Decision
EBR Registry No.: IB03E3042
Instrument Type: Approval of licensee proposed amendment to a site plan - ARA s. 16 (2)
Proposal Date: 5/8/03
Ministry Ref. No.: FSD - PEM 04/03
Location: Part Lot 22, Concession 4, City of Ottawa,CITY OF OTTAWA
Proponent Address: RR 2 Ashton Ontario K0A 1B0
Notice Date:

Site: ***Hydro Ottawa Ltd.***
Bank St Ottawa ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON8798860
Approval Yrs:: 03,04
SIC Code:
SIC Description:

Site: ***SPIC & SPAN-VALETOR-CASH CLEANERS***
BILLINGS BRIDGE PLAZA, BANK STREET C/O 1764 WOODWARD DRIVE OTTAWA ON K2C 0P8

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0573413
Approval Yrs:: 86,87,88
SIC Code: 9721

SIC Description: POWER LAUND./CLEANERS

--Details--
Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: ***PIONEER PETROLEUMS LTD.***
BANK STREET SOUTH PIONEER GAS STATION. SERVICE STATION OTTAWA CITY ON

Database: ***SPL***

Ref No: 137358
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: CONTAINER OVERFLOW
Incident Dt: 2/20/1997
Incident Reason: ERROR
Incident Summary: PIONEER PETROLEUMS-4L GASOLINE TO GROUND,UNSAFESPILL RESPONSE BY STAFF.
MOE Reported Dt: 2/20/1997
Environmental Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20101

Site: ***ONTARIO HYDRO***
WOODDRIFFE TRANSFORMER STATION TRANSFORMER OTTAWA CITY ON

Database: ***SPL***

Ref No: 57467
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: COOLING SYSTEM LEAK
Incident Dt: 9/17/1991
Incident Reason: OTHER
Incident Summary: ONTARIO HYDRO CAPACITOR- 3 L P.C.B. OIL TO GROUND EX-SQUIRREL IS THE CAUSE
MOE Reported Dt: 9/17/1991
Environmental Impact: POSSIBLE
Nature of Impact: Soil contamination
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20101

Site: ***City of Ottawa <UNOFFICIAL>***
on east side of Bank St. 750 metres north of Findlay Creek Dr. Ottawa ON

Database: ***SPL***

Ref No: 4541-7VJ3B3
Contaminant Code: 44
Contaminant Name: SEWAGE,RAW UNCHLORINATED
Contaminant Quantity:
Incident Cause: Pipe Or Hose Leak
Incident Dt:
Incident Reason: Equipment Failure
Incident Summary: Ottawa Works Dept. - sewage to ground from forcemain.
MOE Reported Dt: 9/2/2009
Environmental Impact: Confirmed
Nature of Impact: Soil Contamination
Receiving Medium:
SAC Action Class: Land Spills

Sector Source Type: Sewage Treatment
Receiving Environment:
Incident Event:
Site Municipality:

Site: ***ONTARIO HYDRO***
WOODRUFF TRANSFORMER STN. TRANSFORMER OTTAWA CITY ON

Database: ***SPL***

Ref No: 26004
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: COOLING SYSTEM LEAK
Incident Dt: 9/30/1989
Incident Reason: EQUIPMENT FAILURE
Incident Summary: ONTARIO HYDRO - FAILED CAPACITOR SPILLED 6L PYRANOL ON GROUND
MOE Reported Dt: 9/30/1989
Environmental Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20101

Site: ***ONTARIO HYDRO***
BANK ST TRANSFORMER GLOUCESTER CITY ON

Database: ***SPL***

Ref No: 19785
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: COOLING SYSTEM LEAK
Incident Dt: 7/9/1988
Incident Reason: OTHER
Incident Summary: BACKENTRY - ONTARIO HYDROTRANSFORMER OIL (AMT U/K)ON GROUND
MOE Reported Dt: 7/11/1988
Environmental Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20105

Site: ***ESSO PETROLEUM CANADA***
BANK STREET SERVICE STATION OTTAWA CITY ON

Database: ***SPL***

Ref No: 147934
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: PIPE/HOSE LEAK
Incident Dt: 10/16/1997
Incident Reason: DAMAGE BY MOVING EQUIPMENT
Incident Summary: ESSO SERVICE STATION: 40 L GASOLINE TO GROUND
MOE Reported Dt: 10/16/1997
Environmental Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:

Incident Event:
Site Municipality: 20101

Site: ***ONTARIO HYDRO***
WOODROFFE TRANSFORMER STATION TRANSFORMER OTTAWA CITY ON

Database: ***SPL***

Ref No: 33711
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: COOLING SYSTEM LEAK
Incident Dt: 4/25/1990
Incident Reason: DAMAGE BY MOVING EQUIPMENT
Incident Summary: ONTARIO HYDRO - 2.5 L OF MINERAL OIL TO GROUND FROM CAPACITOR.
MOE Reported Dt: 4/25/1990
Environmental Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20101

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Sep 2016

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Nov 2016

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: Oct 31, 2016

Borehole: Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2014

Certificates of Approval: Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Commercial Fuel Oil Tanks: Provincial CFOT

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

Government Publication Date: Feb 28, 2017

Chemical Register: Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: Oct 31, 2016

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 31, 2012

Inventory of Coal Gasification Plants and Coal Tar Sites: Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions: Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Jan 2017

Certificates of Property Use: Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994-Mar 2017

Drill Hole Database: Provincial DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886-Aug 2015

Environmental Activity and Sector Registry: Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011-Mar 2017

Environmental Registry: Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994-Mar 2017

Environmental Compliance Approval: Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011-Mar 2017

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Aug 2016

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Emergency Management Historical Event: Provincial EMHE

The Emergency Management Historical Event data class will store the locations of historical occurrences of emergency events. Events captured will include those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance.

Government Publication Date: May 31, 2014

List of TSSA Expired Facilities: Provincial EXP

List of facilities with removed tanks which were once registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed automatically fall under the expired facilities inventory held by TSSA.

Government Publication Date: Feb 28, 2017

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: June 2000-Aug 2016

Fisheries & Oceans Fuel Tanks: Federal FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sept 2003

Fuel Storage Tank: Provincial FST

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

Government Publication Date: Feb 28, 2017

Fuel Storage Tank - Historic: Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary: Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Sep 2016

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013 - Dec 2014

TSSA Historic Incidents: Provincial HINC

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

TSSA Incidents: Provincial INC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: Feb 28, 2017

Landfill Inventory Management Ontario: Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Dec 31, 2013

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences: Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Feb 2016

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports: Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: Dec 31, 2014

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Wells: Federal NEBW

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-2014

Oil and Gas Wells: Private OGW

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Jan 2017

Ontario Oil and Gas Wells: Provincial OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-Oct 2016

Inventory of PCB Storage Sites: Provincial OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders: Provincial ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Mar 2017

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: 1988-Oct 2016

TSSA Pipeline Incidents: Provincial PINC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

Government Publication Date: Feb 28, 2017

National Energy Board Pipeline Incidents: Federal PIPELINE INCIDENTS

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008 - Dec 2016

Private and Retail Fuel Storage Tanks: Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994-Mar 2017

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-2013

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.
RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Dec 2016

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: Oct 31, 2016

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills: Provincial SPL

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Dec 2016

Wastewater Discharger Registration Database: Provincial SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-2014

Anderson's Storage Tanks: Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks: Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Jan 2015

TSSA Variances for Abandonment of Underground Storage Tanks: Provincial VAR

List of variances granted for abandoned tanks. Under the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code and Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

Government Publication Date: Feb 28, 2017

Waste Disposal Sites - MOE CA Inventory: Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: 1970-Mar 2017

Waste Disposal Sites - MOE 1991 Historical Approval Inventory: Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Jun 30, 2016

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E

AERIAL PHOTOGRAPHS

LRJ
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

PROJECT

PHASE I
ENVIRONMENTAL SITE ASSESSMENT &
SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE

AERIAL PHOTOGRAPH 1976
SOURCE: GEOOTTAWA
(NOT TO SCALE)

CLIENT	DATE	PROJECT	
HINDU TEMPLE OF OTTAWA CARLTON	MAY 2017	170132	AP1

LRJ
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

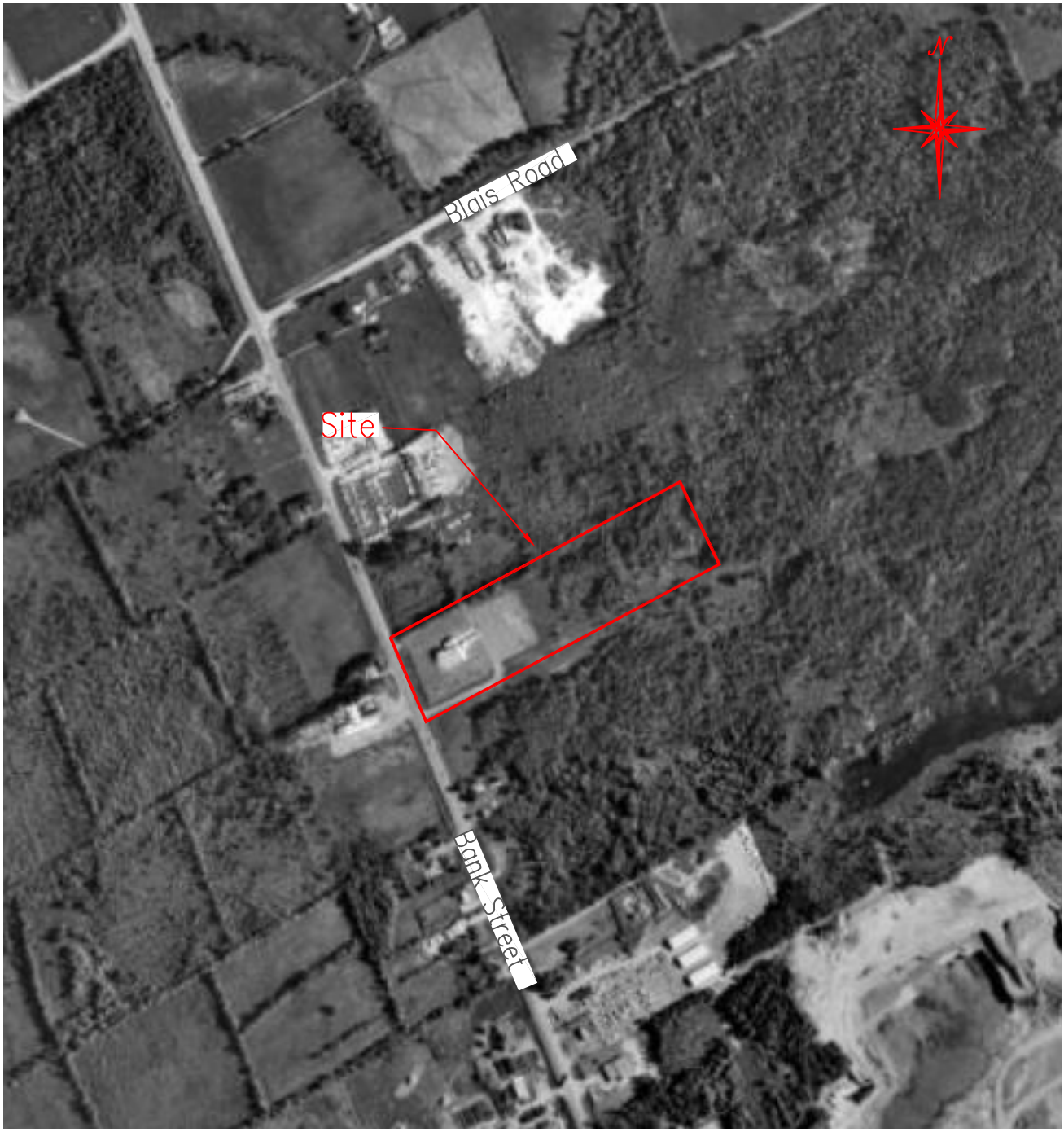
PROJECT

PHASE I
ENVIRONMENTAL SITE ASSESSMENT &
SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE

AERIAL PHOTOGRAOH 1991
SOURCE: GEOOTTAWA
(NOT TO SCALE)

CLIENT	DATE	PROJECT	
HINDU TEMPLE OF OTTAWA CARLTON	MAY 2017	170132	AP2



LRJ
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

PROJECT

PHASE I
ENVIRONMENTAL SITE ASSESSMENT &
SUBSURFACE INVESTIGATION
4835 BANK STREET
OTTAWA, ONTARIO

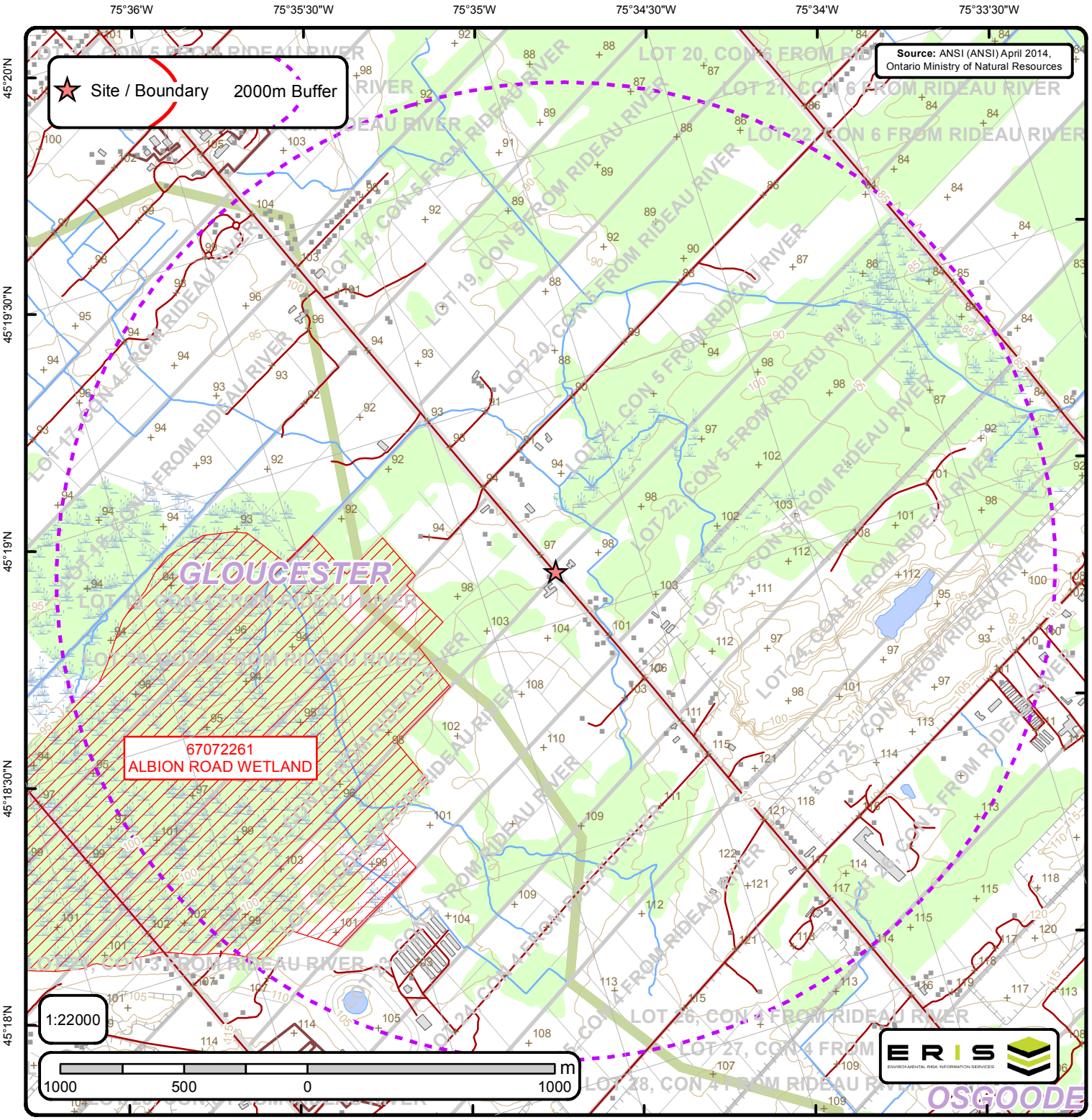
DRAWING TITLE

AERIAL PHOTOGRAPH 2014
SOURCE: GEOOTTAWA
(NOT TO SCALE)

CLIENT	DATE	PROJECT	
HINDU TEMPLE OF OTTAWA CARLTON	MAY 2017	170132	AP3

APPENDIX F

TOPOGRAPHIC MAP



Area of Natural & Scientific Interest (ANSI) Order No. 20170417001

Spot Height	Transportation Structure	Contour Line	Wooded Area
Building Point	Utility Line	Pit or Quarry	Conservation Authority
Towers	Water Structure	Waterbody	Conservation Area
Utility Site Point	Drainage Line Feature	Wetlands	Municipal Park
Misc. Line	River or Stream	Concession	Provincial Park
Railroads	Airports	Lots	National Park
Roads	Tanks	Municipalitiy	Nature Reserve
Trail	Building to Scale	Land Ownership	ANSI Area

ANSI Report

ANSI Units Found within 2000 m of
4835 Bank Street, Ottawa, ON

Order ID:
20170417001

ANSI Name: ALBION ROAD WETLAND |
ID: 67072261 | **Type:** Candidate ANSI, Life Science | **Significance:** Provincial | **Management Plan:** | **Area (sqm):** 2972242.969 |
Comments:

APPENDIX G

SITE VISIT PHOTOGRAPHS

SITE VISIT PHOTOGRAPHS

Our File Ref.: 170132
Client: Hindu Temple of Ottawa Carleton c/o Lloyd Phillips & Associates Ltd.
Project: Phase I Environmental Site Assessment & Subsurface Investigation
Site Location: 4835 Bank Street, Ottawa, Ontario

Photograph No. 1 Date: 4/19/2017 Description From east facing west across south of Site.	
Photograph No. 2 Date: 4/19/2017 Description Southeast facing west across parking area.	

Photograph No. 3 Date: 4/19/2017 Description Southeast to west across parking lot.	
Photograph No. 4 Date: 4/19/2017 Description South to north across grassed area to the east of parking lot.	

Photograph No. 5 Date: 4/19/2017 Description Garage, north west corner of parking lot.	
Photograph No. 6 Date: 4/19/2017 Description West perimeter of Site, north to south.	

Photograph No. 7 Date: 4/19/2017 Description West of Site, Bank Street followed by commercial business.	
Photograph No. 8 Date: 4/19/2017 Description Adjacent land north of Site, waste pile.	

APPENDIX H

TABLE 2 OF SCHEDULE D OF O.REG. 153/04

Ontario Regulation 153/04 – Schedule D
Summary of Potentially Contaminating Activities & Areas of Potential Environmental Concern

Acid and Alkali Manufacturing, Processing and Bulk Storage	Explosives and Firing Range	Petroleum-derived Gas Refining, Manufacturing, Processing and Bulk Storage
Adhesives and Resins Manufacturing, Processing and Bulk Storage	Fertilizer Manufacturing, Processing and Bulk Storage	Pharmaceutical Manufacturing and Processing
Airstrips and Hangars Operation	Fire Retardant Manufacturing, Processing and Bulk Storage	Plastics (including Fibreglass) Manufacturing and Processing
Antifreeze and De-icing Manufacturing and Bulk Storage	Fire Training	Port Activities, including Operation and Maintenance of Wharves and Docks
Asphalt and Bitumen Manufacturing	Flocculants Manufacturing, Processing and Bulk Storage	Pulp, Paper and Paperboard Manufacturing and Processing
Battery Manufacturing, Recycling and Bulk Storage	Foam and Expanded Foam Manufacturing and Processing	Rail Yards, Tracks and Spurs
Boat Manufacturing	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Rubber Manufacturing and Processing
Chemical Manufacturing, Processing and Bulk Storage	Gasoline and Associated Products Storage in Fixed Tanks	Salt Manufacturing, Processing and Bulk Storage
Coal Gasification	Glass Manufacturing	Salvage Yard, including automobile wrecking
Commercial Autobody Shops	Importation of Fill Material of Unknown Quality	Soap and Detergent Manufacturing, Processing and Bulk Storage
Commercial Trucking and Container Terminals	Ink Manufacturing, Processing and Bulk Storage	Solvent Manufacturing, Processing and Bulk Storage
Concrete, Cement and Lime Manufacturing	Iron and Steel Manufacturing and Processing	Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
Cosmetics Manufacturing, Processing and Bulk Storage	Metal Treatment, Coating, Plating and Finishing	Tannery
Crude Oil Refining, Processing and Bulk Storage	Metal Fabrication	Textile Manufacturing and Processing
Discharge of Brine related to oil and gas production	Mining, Smelting and Refining; Ore Processing; Tailings Storage	Transformer Manufacturing, Processing and Use
Drum and Barrel and Tank Reconditioning and Recycling	Oil Production	Treatment of Sewage equal to or greater than 10,000 litres per day
Dye Manufacturing, Processing and Bulk Storage	Operation of Dry Cleaning Equipment (where chemicals are used)	Vehicles and Associated Parts Manufacturing
Electricity Generation, Transformation and Power Stations	Ordnance Use	Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners
Electronic and Computer Equipment Manufacturing	Paints Manufacturing, Processing and Bulk Storage	Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products
Explosives and Ammunition Manufacturing, Production and Bulk Storage	Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	

APPENDIX I
TEST PIT LOGS

Test Pit Log: TP2

Project No.: 170132

Project: Phase I ESA & Subsurface Investigation

Client: Hindu Temple of Ottawa Carleton

Location: 4835 Bank Street, Ottawa, ON

Date: May 08, 2017

Field Personnel: JA

Excavation Method: Backhoe

Excavation Contractor: Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA				
Depth (ft / m)	Soil Description	Elev./Depth (m)	Sample Number	Laboratory Analysis	Combustible Soil Vapours (% LEL: 20, 40, 60, 80; ppm: 200, 400, 600, 800)	Water Level (Standpipe or Open Excavation)
0.0 / 0.0	Ground Surface	97.09				
	FILL Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs. Buried metal structure/waste at approximately 0.9 m bgs.	0.00				
			4	Metals, PHC, BTEX		
	End of Test Pit	96.19 0.90				
1.0 / 1.0						
2.0						
3.0						
4.0						
5.0						
6.0						

Easting: N/M

Northing: N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.09

Top of Riser Elev.: N/A

Excavation Width: 1.2 m

Excavation Length: 1.5 m

NOTES

Test pit terminated at 0.9 meters due to volume of water in pit.
PHC-Petroleum Hydrocarbons
BTEX-Benzene, Toluene, Ethylbenzene, Xylene
BGS- Below Ground Surface

Test Pit Log: TP3

Project No.: 170132
Project: Phase I ESA & Subsurface Investigation
Client: Hindu Temple of Ottawa Carleton
Location: 4835 Bank Street, Ottawa, ON
Date: May 08, 2017
Field Personnel: JA
Excavation Method: Backhoe
Excavation Contractor: Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Sample Number	Laboratory Analysis	Combustible Soil Vapours (% LEL: 20, 40, 60, 80; ppm: 200, 400, 600, 800)	Water Level (Standpipe or Open Excavation)
0.0 / 0.0	Ground Surface	97.75				
	TOPSOIL Sandy loam, dark brown, dry. Brick debris found in top 0.2 m bgs.	0.00 97.55				
	FILL Sandy silt, trace boulders, brown, dry. Tire debris found at approximately 0.8 m bgs.	0.20	5			
		96.95				
	TILL Silty sand, trace gravel, cobbles and boulders, brown, dry.	0.80	6	Metals, PHC, VOC		
1.0		96.05				
	End of Test Pit Refusal at 1.7 m bgs over inferred bedrock.	1.70				

Easting: 0454091
Northing: 5017670
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 97.75
Top of Riser Elev.: 98.98
Excavation Width: 1.2 m
Excavation Length: 1.5 m

NOTES

BGS- Below Ground Surface
PHC- Petroleum Hydrocarbons
VOC- Volatile Organic Compounds

Groundwater sample collected May 08, 2017 was submitted for Nitrate, Nitrite, Ammonia, and TKN.

Test Pit Log: TP5

Project No.: 170132
Project: Phase I ESA & Subsurface Investigation
Client: Hindu Temple of Ottawa Carleton
Location: 4835 Bank Street, Ottawa, ON
Date: May 08, 2017
Field Personnel: JA
Excavation Method: Backhoe
Excavation Contractor: Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Sample Number	Laboratory Analysis	Combustible Soil Vapours (% LEL: 20, 40, 60, 80; ppm: 200, 400, 600, 800)	Water Level (Standpipe or Open Excavation)
0.0 / 0.0	Ground Surface	98.78				
	TOPSOIL Silty loam some sand, dark brown, dry.	0.00	10			
		98.55				
1.0	**FILL** Sand, some silt, trace cobbles, brown, dry. Waste debris of metal and asphalt pieces at approximately 0.9 m bgs. Refusal at 1.5 m bgs over inferred bedrock.	0.23	9	Metals, PHC, BTEX		
2.0						
3.0 / 1.0						
4.0			11	Metals, PHC, VOC		
		97.28				
5.0	End of Test Pit	1.50				
6.0						

Easting: 0453945
Northing: 5017595
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 98.78
Top of Riser Elev.: 99.02
Excavation Width: N/M
Excavation Length: N/M

NOTES

BGS- Below Ground Surface
PHC- Petroleum Hydrocarbons
VOC- Volatile Organic Compounds
BTEX- Benzene, Toluene, Ethylbenzene, Xylene

Symbols and Terms Used on Borehole and Test Pit Logs

The following explains the data presented in the borehole and test pit logs.

1. Soil Description

The soil descriptions presented in this report are based on commonly accepted methods of classification and identification employed in geotechnical practice. Classification and identification of soil involves some judgement and LRL Associates Ltd. does not guarantee descriptions as exact, but infers accuracy to the extent that is common in current geotechnical practice. Boundaries between zones on the logs are often not distinct but transitional and were interpreted.

a. Proportion

The proportion of each constituent part, as defined by the grain size distribution, is denoted by the following terms:

Term	Proportions
trace	1% to 10%
some	10% to 20%
prefix (i.e. sandy, silt)	20% to 35%
and (i.e. sand and gravel)	35% to 50%

b. Compactness and Consistency

The state of compactness of granular soils is defined on the basis of the Standard Penetration Test. See Section 2c for more details. The consistency of clayey or cohesive soils is based on the shear strength of the soil, as determined by field vane tests and by a visual and tactile assessment of the soil strength.

The state of compactness of granular soils is defined by the following terms:

State of Compactness Granular Soils	Standard Penetration Number "N"
Very loose	0 - 4
Loose	4 - 10
Compact or medium	10 - 30
Dense	30 - 50
Very dense	over - 50

The consistency of cohesive soils is defined by the following terms:

Consistency Cohesive Soils	Undrained Shear Strength (Cu) (kPa)
Very soft	under 10
Soft	10 - 25
Medium or firm	25 - 50
Stiff	50 - 100
Very stiff	100 - 200
Hard	over - 200

2. Sample Data

a. Elevation depth

This is a reference to the geodesic elevation of the soil or to a benchmark of an arbitrary elevation at the location of the borehole or test pit. The depth of geological boundaries is measured from ground surface.

b. Type

Symbol	Type	Letter Code
	Auger	AU
	Split spoon	SS
	Shelby tube	ST
	Rock Core	RC

c. Sample Number

Each sample taken from the borehole is numbered in the field as shown in this column.

LETTER CODE (as above) + Sample Number

d. Blows (N) or RQD

This column indicates the Standard Penetration Number (N) as per ASTM D-1586. This is used to determine the state of compactness of the soil sampled. It corresponds to the number of blows

required to drive 300 mm of the split spoon sampler using a 622 kg*m/s^2 hammer falling freely from a height of 760 mm. For a 600 mm long split spoon, the blow counts are recorded for every 150 mm. The 'N' index is obtained by adding the number of blows from the 2nd and 3rd count. Technical refusal indicates a number of blows greater than 50.

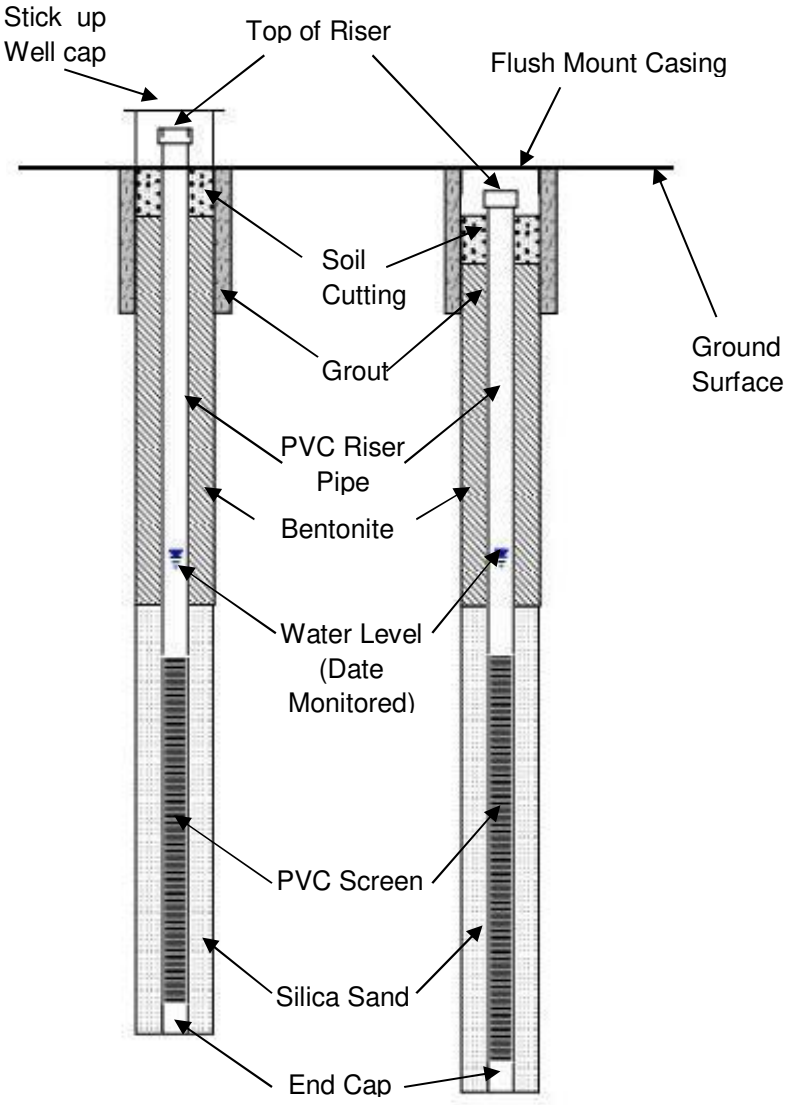
In the case of rock, this column presents the Rock Quality Designation (RQD). The RQD is calculated as the cumulative length of rock pieces recovered having lengths of 10 cm or more divided by the length of coring. The qualitative description of the bedrock based on RQD is given below.

Rock Quality Designation (RQD) (%)	Description of Rock Quality
0 – 25	very poor
25 – 50	poor
50 – 75	fair
75 – 90	good
90 – 100	excellent

e. Recovery (%)

For soil samples this is the percentage of the recovered sample obtained versus the length sampled. In the case of rock, the percentage is the length of rock core recovered compared to the length of the drill run.

3. General Monitoring Well Data



APPENDIX J

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.
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Certificate of Analysis

LRL Associates Ltd.

5430 Canotek Road
Ottawa, ON K1J 9G2
Attn: Jessica Arthurs

Client PO:
Project: 170132
Custody: 32312

Report Date: 12-May-2017
Order Date: 8-May-2017

Order #: 1719096

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1719096-01	TP2-4
1719096-02	TP3-6
1719096-03	TP5-9
1719096-04	TP5-11

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 12-May-2017
Order Date: 8-May-2017
Project Description: 170132

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	10-May-17	11-May-17
PHC F1	CWS Tier 1 - P&T GC-FID	10-May-17	11-May-17
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	8-May-17	9-May-17
REG 153: Metals by ICP/OES, soil	based on MOE E3470, ICP-OES	10-May-17	10-May-17
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	10-May-17	11-May-17
Solids, %	Gravimetric, calculation	12-May-17	12-May-17

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 12-May-2017
Order Date: 8-May-2017
Project Description: 170132

	Client ID:	TP2-4	TP3-6	TP5-9	TP5-11
	Sample Date:	08-May-17	08-May-17	08-May-17	08-May-17
	Sample ID:	1719096-01	1719096-02	1719096-03	1719096-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	76.9	85.6	77.4	80.1
Metals					
Antimony	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Barium	1.0 ug/g dry	85.2	58.0	114	72.1
Beryllium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Boron	1.0 ug/g dry	8.3	7.4	9.1	13.1
Cadmium	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Chromium	1.0 ug/g dry	20.1	12.7	33.2	24.8
Cobalt	1.0 ug/g dry	7.5	7.3	9.2	6.2
Copper	1.0 ug/g dry	24.0	33.4	21.5	8.8
Lead	1.0 ug/g dry	15.0	9.8	13.5	13.4
Molybdenum	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Nickel	1.0 ug/g dry	16.3	15.3	19.3	13.8
Selenium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Silver	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Thallium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Vanadium	1.0 ug/g dry	30.7	20.6	39.6	34.6
Zinc	1.0 ug/g dry	43.2	38.0	41.7	23.7
Volatiles					
Acetone	0.50 ug/g dry	-	<0.50	-	<0.50
Benzene	0.02 ug/g dry	-	<0.02	-	<0.02
Bromodichloromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Bromoform	0.05 ug/g dry	-	<0.05	-	<0.05
Bromomethane	0.05 ug/g dry	-	<0.05	-	<0.05
Carbon Tetrachloride	0.05 ug/g dry	-	<0.05	-	<0.05
Chlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
Chloroform	0.05 ug/g dry	-	<0.05	-	<0.05
Dibromochloromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1-Dichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05

Certificate of Analysis
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Report Date: 12-May-2017
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	Client ID:	TP2-4	TP3-6	TP5-9	TP5-11
	Sample Date:	08-May-17	08-May-17	08-May-17	08-May-17
	Sample ID:	1719096-01	1719096-02	1719096-03	1719096-04
	MDL/Units	Soil	Soil	Soil	Soil
1,2-Dichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
1,2-Dichloropropane	0.05 ug/g dry	-	<0.05	-	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	-	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	-	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	-	<0.05	-	<0.05
Ethylbenzene	0.05 ug/g dry	-	<0.05	-	<0.05
Ethylene dibromide (dibromoethan	0.05 ug/g dry	-	<0.05	-	<0.05
Hexane	0.05 ug/g dry	-	<0.05	-	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	-	<0.50	-	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	-	<0.50	-	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	-	<0.05	-	<0.05
Methylene Chloride	0.05 ug/g dry	-	<0.05	-	<0.05
Styrene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
Tetrachloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
Toluene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
Trichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
Trichlorofluoromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Vinyl chloride	0.02 ug/g dry	-	<0.02	-	<0.02
m,p-Xylenes	0.05 ug/g dry	-	<0.05	-	<0.05
o-Xylene	0.05 ug/g dry	-	<0.05	-	<0.05
Xylenes, total	0.05 ug/g dry	-	<0.05	-	<0.05
4-Bromofluorobenzene	Surrogate	-	106%	-	107%
Dibromofluoromethane	Surrogate	-	108%	-	107%
Toluene-d8	Surrogate	-	98.8%	-	99.7%
Benzene	0.02 ug/g dry	<0.02	-	<0.02	-
Ethylbenzene	0.05 ug/g dry	<0.05	-	<0.05	-
Toluene	0.05 ug/g dry	<0.05	-	<0.05	-
m,p-Xylenes	0.05 ug/g dry	<0.05	-	<0.05	-
o-Xylene	0.05 ug/g dry	<0.05	-	<0.05	-

Certificate of Analysis
Client: LRL Associates Ltd.
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Report Date: 12-May-2017
Order Date: 8-May-2017
Project Description: 170132

	Client ID:	TP2-4	TP3-6	TP5-9	TP5-11
	Sample Date:	08-May-17	08-May-17	08-May-17	08-May-17
	Sample ID:	1719096-01	1719096-02	1719096-03	1719096-04
	MDL/Units	Soil	Soil	Soil	Soil
Xylenes, total	0.05 ug/g dry	<0.05	-	<0.05	-
Toluene-d8	Surrogate	103%	-	105%	-
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	17	<8	52	<8
F4 PHCs (C34-C50)	6 ug/g dry	19	<6	116	<6

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	ug/g						
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 12-May-2017
Order Date: 8-May-2017
Project Description: 170132

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*3.53*		*ug/g*		*110*	*50-140*			
Surrogate: Dibromofluoromethane	*3.08*		*ug/g*		*96.2*	*50-140*			
Surrogate: Toluene-d8	*3.37*		*ug/g*		*105*	*50-140*			
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	*3.37*		*ug/g*		*105*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g dry	ND				40	
F2 PHCs (C10-C16)	ND	4	ug/g dry	ND				30	
F3 PHCs (C16-C34)	ND	8	ug/g dry	ND				30	
F4 PHCs (C34-C50)	ND	6	ug/g dry	ND				30	
Metals									
Antimony	ND	1.0	ug/g dry	ND				30	
Arsenic	ND	1.0	ug/g dry	ND			0.0	30	
Barium	326	10.0	ug/g dry	326			0.0	30	
Beryllium	ND	1.0	ug/g dry	ND			0.0	30	
Boron	7.60	1.0	ug/g dry	7.40			2.8	30	
Cadmium	ND	0.5	ug/g dry	ND			0.0	30	
Chromium	36.5	10.0	ug/g dry	36.5			0.0	30	
Cobalt	11.4	1.0	ug/g dry	11.5			0.8	30	
Copper	27.2	1.0	ug/g dry	27.7			1.8	30	
Lead	8.81	1.0	ug/g dry	9.27			5.1	30	
Molybdenum	ND	1.0	ug/g dry	ND			0.0	30	
Nickel	23.7	1.0	ug/g dry	23.9			0.8	30	
Selenium	ND	1.0	ug/g dry	1.20			0.0	30	
Silver	ND	0.5	ug/g dry	ND			0.0	30	
Thallium	ND	1.0	ug/g dry	ND			0.0	30	
Uranium	ND	1.0	ug/g dry	ND				30	
Vanadium	53.3	1.0	ug/g dry	53.2			0.2	30	
Zinc	56.0	1.0	ug/g dry	56.2			0.3	30	
Physical Characteristics									
% Solids	96.8	0.1	% by Wt.	96.9			0.0	25	
Volatiles									
Acetone	ND	0.50	ug/g dry	ND				50	
Benzene	ND	0.02	ug/g dry	ND				50	
Bromodichloromethane	ND	0.05	ug/g dry	ND				50	
Bromoform	ND	0.05	ug/g dry	ND				50	
Bromomethane	ND	0.05	ug/g dry	ND				50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND				50	
Chlorobenzene	ND	0.05	ug/g dry	ND				50	
Chloroform	ND	0.05	ug/g dry	ND				50	
Dibromochloromethane	ND	0.05	ug/g dry	ND				50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND				50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Ethylene dibromide (dibromoethane	ND	0.05	ug/g dry	ND				50	
Hexane	ND	0.05	ug/g dry	ND				50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g dry	ND				50	
Methyl Isobutyl Ketone	ND	0.50	ug/g dry	ND				50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND				50	
Methylene Chloride	ND	0.05	ug/g dry	ND				50	
Styrene	ND	0.05	ug/g dry	ND				50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Tetrachloroethylene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND				50	
Trichloroethylene	ND	0.05	ug/g dry	ND				50	
Trichlorofluoromethane	ND	0.05	ug/g dry	ND				50	
Vinyl chloride	ND	0.02	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: 4-Bromofluorobenzene	*2.11*		*ug/g dry*		*108*	*50-140*			
Surrogate: Dibromofluoromethane	*1.71*		*ug/g dry*		*87.8*	*50-140*			
Surrogate: Toluene-d8	*1.96*		*ug/g dry*		*100*	*50-140*			
Benzene	ND	0.02	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: Toluene-d8	*1.96*		*ug/g dry*		*100*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	197	7	ug/g		98.4	80-120			
F2 PHCs (C10-C16)	115	4	ug/g	ND	104	60-140			
F3 PHCs (C16-C34)	208	8	ug/g	ND	91.6	60-140			
F4 PHCs (C34-C50)	150	6	ug/g	ND	98.9	60-140			
Metals									
Antimony	291		ug/L	ND	116	70-130			
Arsenic	281		ug/L	1.47	112	70-130			
Barium	2230		ug/L	2090	55.8	70-130			QM-07
Beryllium	237		ug/L	3.56	93.2	70-130			
Boron	384		ug/L	148	94.4	70-130			
Cadmium	245		ug/L	2.35	97.1	70-130			
Chromium	908		ug/L	731	71.0	70-130			
Cobalt	427		ug/L	230	78.9	70-130			
Copper	786		ug/L	554	92.7	70-130			
Lead	401		ug/L	185	86.4	70-130			
Molybdenum	205		ug/L	5.19	80.0	70-130			
Nickel	674		ug/L	478	78.4	70-130			
Selenium	213		ug/L	23.9	75.7	70-130			
Silver	236		ug/L	6.31	91.8	70-130			
Thallium	204		ug/L	6.03	79.3	70-130			
Uranium	244		ug/L	ND	97.7	70-130			
Vanadium	1270		ug/L	1060	83.1	70-130			
Zinc	1300		ug/L	1120	72.6	70-130			
Volatiles									
Acetone	10.1	0.50	ug/g		101	50-140			
Benzene	3.79	0.02	ug/g		94.8	60-130			
Bromodichloromethane	2.78	0.05	ug/g		69.6	60-130			
Bromoform	2.32	0.05	ug/g		58.1	60-130			
Bromomethane	4.19	0.05	ug/g		105	50-140			
Carbon Tetrachloride	3.40	0.05	ug/g		85.0	60-130			
Chlorobenzene	3.17	0.05	ug/g		79.4	60-130			
Chloroform	2.75	0.05	ug/g		68.8	60-130			
Dibromochloromethane	2.61	0.05	ug/g		65.2	60-130			
Dichlorodifluoromethane	3.94	0.05	ug/g		98.6	50-140			
1,2-Dichlorobenzene	3.05	0.05	ug/g		76.3	60-130			
1,3-Dichlorobenzene	3.12	0.05	ug/g		78.1	60-130			
1,4-Dichlorobenzene	3.19	0.05	ug/g		79.7	60-130			
1,1-Dichloroethane	3.49	0.05	ug/g		87.4	60-130			
1,2-Dichloroethane	3.41	0.05	ug/g		85.3	60-130			
1,1-Dichloroethylene	3.18	0.05	ug/g		79.5	60-130			
cis-1,2-Dichloroethylene	2.57	0.05	ug/g		64.3	60-130			
trans-1,2-Dichloroethylene	3.67	0.05	ug/g		91.7	60-130			
1,2-Dichloropropane	3.65	0.05	ug/g		91.2	60-130			
cis-1,3-Dichloropropylene	2.86	0.05	ug/g		71.4	60-130			
trans-1,3-Dichloropropylene	2.91	0.05	ug/g		72.8	60-130			
Ethylbenzene	4.44	0.05	ug/g		111	60-130			
Ethylene dibromide (dibromoethane	2.89	0.05	ug/g		72.3	60-130			
Hexane	4.78	0.05	ug/g		119	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.9	0.50	ug/g		119	50-140			
Methyl Isobutyl Ketone	7.02	0.50	ug/g		70.2	50-140			
Methyl tert-butyl ether	6.53	0.05	ug/g		65.3	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methylene Chloride	3.33	0.05	ug/g		83.2	60-130			
Styrene	3.96	0.05	ug/g		99.0	60-130			
1,1,1,2-Tetrachloroethane	2.78	0.05	ug/g		69.6	60-130			
1,1,2,2-Tetrachloroethane	2.66	0.05	ug/g		66.5	60-130			
Tetrachloroethylene	3.07	0.05	ug/g		76.7	60-130			
Toluene	3.93	0.05	ug/g		98.3	60-130			
1,1,1-Trichloroethane	2.68	0.05	ug/g		66.9	60-130			
1,1,2-Trichloroethane	3.00	0.05	ug/g		75.1	60-130			
Trichloroethylene	2.93	0.05	ug/g		73.4	60-130			
Trichlorofluoromethane	4.47	0.05	ug/g		112	50-140			
Vinyl chloride	2.43	0.02	ug/g		60.7	50-140			
m,p-Xylenes	7.83	0.05	ug/g		97.8	60-130			
o-Xylene	4.38	0.05	ug/g		110	60-130			
Surrogate: 4-Bromofluorobenzene	*2.62*		*ug/g*		*81.9*	*50-140*			
Benzene	3.79	0.02	ug/g		94.8	60-130			
Ethylbenzene	4.44	0.05	ug/g		111	60-130			
Toluene	3.93	0.05	ug/g		98.3	60-130			
m,p-Xylenes	7.83	0.05	ug/g		97.8	60-130			
o-Xylene	4.38	0.05	ug/g		110	60-130			

Qualifier Notes:

Login Qualifiers :

Container(s) - Bottle and COC sample ID don't match - Sample ID on Chain of Custody read TP3-4, sample container read TP2-4.
Applies to samples: TP2-4

Container(s) - Bottle and COC sample ID don't match - Sample ID on Chain of Custody read TP4-6, sample container read TP3-6.
Applies to samples: TP3-6

QC Qualifiers :

QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.