PHASE TWO ENVIRONMENTAL SITE ASSESSMENT REPORT

EXISTING COMMERCIAL PROPERTY
5065 COUNTY ROAD 21,
HALIBURTON, ONTARIO
PROJECT NO. G024152E1

Prepared for:

THOMAS PONTIAC BUICK
Mr. Bill Campbell
100 University Avenue West
Cobourg, Ontario
K9A 4L1

GEO-LOGIC INC.

Geotechnical Engineers
And Hydrogeologists

347 Pido Road
Unit 29
Peterborough, Ontario
K9J 6X7
www.geologic.ca

OCTOBER 2012

TABLE OF CONTENTS

ENCLOSURES

TABLES

APPENDICES*

***Note:** Enclosure numbering and Appendix lettering continues in sequence from the Phase One ESA.

GEO-LOGIC INC.
347 Pido Road, Unit 29
Peterborough, Ontario K9J 6X7
Tel: (705) 749-3317
Fax: (705) 749-9248
www.geo-logic.ca
QMS ISO 9001 : 2008

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT REPORT
EXISTING COMMERCIAL PROPERTY
5065 COUNTY ROAD 21,
HALIBURTON, ONTARIO
PROJECT NO. G024152E1

1.0 EXECUTIVE SUMMARY

Based on the results of a Phase One Environmental Site Assessment (ESA), a Phase Two ESA was conducted by Geo-Logic Inc. (Geo-Logic) for 5065 County Road 21, Haliburton, Municipality of Dysart et al, Haliburton County, Ontario ('the Property"). The Property consists of an estimated 5.5 ha and is currently an active car dealership with automotive service. The irregular shaped lot fronts onto County Road 21 on the south and Mallard Road on the northeast. The area is municipally serviced for sewer and privately for water. Based on information compiled, the first developed use was in 2005-2006 as a commercial property.

The Phase One ESA identified areas of potential environmental concern (APECs) which include storage tanks for waste oil and an oil water separator and the use for automotive auto body service.

The Phase Two ESA included the exploration of the subsurface materials by the advancing two (2) boreholes and sampling the well. Representative soil samples were tested for a common suite metals, petroleum hydrocarbons (PHC fractions F1 to F4) and Volatile Organic Compounds (VOCs). Results of the chemical analysis were compared, and meet, the Ministry of Environment (MOE) Table 2 Full Depth Generic Site Condition Standards for Use in a Potable Groundwater Condition (Commercial property use) (MOE, April 15, 2011).

The well sample was tested for PHCs and BTEX and the results meet the MOE Full Depth Generic Site Condition Standards for Use in a Potable Groundwater Condition (Commercial property use) (MOE, April 15, 2011).

Based on our observations, the information collected, and the present and proposed future land use, it is our professional opinion that there is a low level of concern from an environmental perspective and is suitable for the current zoned use.

2.0 INTRODUCTION

2.1 SITE DESCRIPTION

This report presents the findings of a Phase Two Environmental Site Assessment (ESA) that was completed for an existing property located at 5065 County Road 21, Haliburton, Municipality of Dysart et al, Haliburton County, Ontario (herein referred to as "the Property"). The Property consists of an estimated 5.5 ha and is currently an active car dealership with automotive service. The facility was recently developed in 2005- 2006 from an undeveloped lot. The area is municipally serviced for sewer and privately for water. The assessment was conducted to evaluate the Property for potential environmental issues in accordance with our proposal PG-1678 dated of August 31, 2012 (Appendix A).

2.2 PROPERTY OWNERSHIP

97265 Ontario Limited is the owner since since 2003. No environmental concerns are registered on title. The Phase One ESA document should presents additional information with regards to historical ownership.

2.3 CURRENT AND PROPOSED FUTURE USES

The Property is currently an active car dealership with automotive service and is zoned Highway Commercial (CH) Zone. Geo-Logic Inc. is not aware of any proposed future changes to the usage.

2.4 APPLICABLE SITE CONDITION STANDARD

The Property is currently privately serviced for water. The applicable site condition standard for is the Ministry of the Environment (MOE) Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (Commercial property use) (MOE, April 15, 2011, "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the *Environmental Protection Act"*). The MOE Standards provide generic soil and groundwater quality standards for certain chemicals based on combinations of the following site-specific conditions:

- *Property Use Type* – Residential/Parkland/Institutional (RPI) or Industrial/Commercial/ Community (ICC) properties. The proposed future use will remain as a commercial property. Therefore, analytical results will be compared with the ICC Standards.
- *Restoration of Groundwater Quality* – Potable or non-potable. Potable water is obtained from a well. The potable groundwater condition will be applied.
- *Restoration Depth* – Full depth or stratified depth. For comparative purposes, results will be compared to full depth standards.
- *Soil Texture* – Coarse or medium to fine textured soils. Medium to fine textured soils are defined under Section 42 of Ontario Regulation 153/04 as soil that contain more than 50 percent by mass of particles that are 75 µm or smaller in mean diameter. Coarse textured standards may be used if at least 1/3 of the soil at the property by volume consists of coarse textured soil. The results of this testing indicated that the soils at the Property are predominantly Sand. The coarse textured standards will be used.
- *Shallow Soil Property* – Based on Geo-Logic's understanding of the stratigraphy, the overburden soils are more than two (2) meters in thickness. As such, the Property is not considered to be a shallow soil property.
- *Water Body* – No water bodies are located on or within 30 m of the Property and specific standards relating to the protection of water bodies will not be considered.
- *Environmentally Sensitive Areas* – No environmentally sensitive areas are located within 30 m of the Property and specific standards relating to background conditions will not be considered.

3.0 BACKGROUND INFORMATION

3.1 PHYSICAL SETTING

The Property borders on County Road 21 on the south and Mallard Road on the northeast. The area is a mix of commercial and residential properties. The area is privately serviced for water and municipally serviced for sewer services.

The inferred groundwater flow direction is expected to be to the south, southeast towards Grass Lake, approximately 0.3km south. A storm water pond was required for the construction of the building, the pond is located along the east border. Storm water drains in the paved areas is directed to the storm water pond. The topography is relatively flat due to fill materials. The Property is elevated with a steep slope to the southeast towards Grass Lake.

The physiographic region is described as the Haliburton Highlands Region. The surrounding topography is dominated by a thin veneer of glacial drift overlying Precambrian bedrock. The area is dominated by ridge and valley structures controlled by the bedrock surface.

3.2 PAST INVESTIGATIONS

No past Environmental reports were available.

4.0 SCOPE OF THE INVESTIGATION

The Phase Two ESA activities have been conducted in accordance with Ontario Regulation 153/04 (as amended) and in general accordance with the document entitled "CSA Z769-00, Phase II Environmental Site Assessment, re-affirmed 2004" for conducting ESAs.

4.1 OVERVIEW OF SITE INVESTIGATION

An investigation was conducted by Geo-Logic to characterize the soil and groundwater. The field activities included two (2) boreholes drilled by Strata Soil Sampling using a track mounted drill rig. Soil sampling was completed by Geo-Logic. Test holes were completed through the fill material into the underlying native sand.

The following scope of work was conducted to satisfy the Phase Two ESA requirements:

1. Advanced, sampled and logged two (2) representative test holes. The test holes were advanced to 4.9 metres below existing grade (mbeg). All test holes were sampled and monitored for volatile hydrocarbon vapours using a RKI Instruments Eagle 2 hydrocarbon gas detector.

2. Representative samples of the soil were subjected to chemical analyses to assess soil quality and historical use of the Property (i.e. fill materials). Soil samples were analyzed for a common suite of metals; petroleum hydrocarbons fractions F1 to F4 (PHCs); and Volitile Organic Compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX) to assess potential impacts.

3. A representative groundwater sample was subjected to chemical analyses to assess water quality. The groundwater sample was analyzed for petroleum hydrocarbons fractions F1 to F4 (PHCs) and benzene, toluene, ethylbenzene, and xylenes (BTEX) to assess potential impacts.

4. Analyzed data obtained from the investigation and presented the findings in this report with conclusions and recommendations. The analytical results were compared to the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (commercial property use and coarse textured soils) under the current (April 15, 2011) standards (MOE, "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the *Environmental Protection Act"*).

4.2 MEDIA INVESTIGATED

Soil and groundwater conditions were investigated with a focus on areas identified in the Phase One ESA. Areas of potential environmental concern (APECs) related to the presence of aboveground and underground storage tanks and automotive repair services. The following field investigation activities were completed:

- Advancement of two (2) boreholes;
- Laboratory analysis of four (4) representative soil samples;
- Water level measurements conducted at the onsite well;
- Sampling of groundwater at the onsite well; and
- Laboratory analysis of one (1) representative groundwater sample.

The Phase Two investigation locations are presented on the Test Hole Plan, Plate 5.

4.3 PHASE ONE CONCEPTUAL SITE MODEL

A Phase One conceptual site model is provided as Plate 4. The model provides a basic overview, approximate locations of underground utilities and corridors, basic geological and hydrogeological information and any other pertinent data that may affect the Phase One ESA.

Local groundwater is inferred to flow towards Grass Lake. Surface soils are comprised mainly of sand fill used to level the property for construction and parking areas, the underlying soils are predominantly comprised of fine to coarse textured sands. Public utilities for sewer, hydro and bell lines are located along County Road 21. The property has a private well and propane utility. Runoff is controlled by private storm drains in paved areas directed to an onsite storm water pond located along the southeast border.

4.4 DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

A sampling and analysis plan was prepared based upon information from the Phase One ESA and focused on soil and groundwater. The sampling plan is provided in Appendix F. Deviations to the sampling and analysis plan were completed based upon Property conditions and location of underground services. A groundwater sample was collected directly from the onsite well. No other significant deviations were made from the sampling and analysis plan.

4.5 IMPEDIMENTS

No impediments were encountered during the subsurface investigation program.

5.0 INVESTIGATION METHOD

5.1 GENERAL

In accordance with the Regulation, this section of the report describes the field methods utilized during the investigation. The field activities were completed in accordance with MOE protocols, Geo-Logic standard operating procedures and standard industry practices. The Phase Two ESA boreholes and well sampling were completed on September 17, 2012. The investigative tasks completed included the following, as described in detail in the following subsections:

- Advancement of boreholes at select locations;
- Completion of field screening measurements;
- Collection of soil samples;
- Analytical testing;
- Residual soil management;
- Measurements and field testing of groundwater; and
- Quality assurance and quality control measures.

Elevation surveying was not completed as part of this field program. Prior to the commencement of the subsurface investigation, Geo-Logic completed the appropriate public utility notifications and reviewed onsite private utilities with the property owner.

5.2 DRILLING AND EXCAVATING

The subsurface exploration program consisted of two (2) boreholes drilled by Strata Soil Sampling on September 17, 2012 using a track mounted drill rig. The test hole locations are illustrated on Plate 5. The test holes were advanced to a maximum depth of 4.9 mbeg. The borehole logs (Appendix G) provide an overview of the subsurface soil conditions encountered.

The boreholes had a surficial layer of asphalt or gravel followed by fill materials of sand and gravel. The fill was observed to be damp and in a relatively loose to compact state of density. Native silt and sand materials were observed underlying the fill. Groundwater was not encountered. Auger refusal at depths of 4.8m was presumed to infer the presence of bedrock however the presence of bedrock was not verified. Borehole logs are provided in Appendix G.

5.3 SOIL SAMPLING

Based on the sampling plan, field observations, headspace analysis of organic vapour readings, and visual and olfactory evidence of potential contamination, Geo-Logic personnel collected soil samples for laboratory analysis directly from undisturbed samples. A new dual tube liner was used for each advancement of the drilling process. Soil samples to be submitted for chemical analysis were placed into clean laboratory prepared sample bottles. Fresh nitrile gloves were worn when collecting the samples. Based upon the sampling plan, the soil observed, the field screening results (i.e. headspace analysis) and professional judgment, soil samples were selected for chemical analysis, kept in a cooler on ice and delivered to SGS Canada Inc.

The following soil samples were submitted for analysis:

- BH-1 SS-3 – sample depth from 1.8 to 2.3 mbeg was analyzed for PHC and VOCs;
- BH-2 SS-4 – sample depth from 3.7 to 4.8 mbeg was analyzed for PHC and VOCs;
- BH-1 SS-1 – sample depth from 0.1 to 1.2 mbeg was analyzed for metals; and
- BH-2 SS-1 – sample depth from 0.1 to 1.2 mbeg was analyzed for metals

5.4 FIELD SCREENING MEASUREMENTS

Field screening measurements were completed using a RKI Instruments Eagle 2 portable gas detector. The subsurface soil samples obtained during the test hole program were subjected to hydrocarbon vapour testing or "headspace analysis" using the gas detector. Prior to sample collection events, the gas detector was inspected and calibrated according to the manufacturer's recommendations. The vapour readings from each test holes were at trace levels and do not indicate the presence of hydrocarbons or organic compounds as shown on logs in Appendix G.

5.5 GROUNDWATER: MONITORING WELL INSTALLATION

Groundwater was not encountered by the drilling activities. In efforts to monitor groundwater water levels, the onsite drilled well was used for sampling and measurements for groundwater.

5.6 GROUNDWATER: FIELD MEASUREMENT OF WATER QUALITY

Water quality parameters such as pH, temperature or conductivity were not measured as the well is in use and considered developed.

5.7 GROUNDWATER: SAMPLING

Groundwater sampling consisted of a bailer sample collected from the top of the water column at the onsite well to observe for light non-aqueous phase liquids (i.e. gasoline) from fuel spills and leaks. No gasoline or sheen was observed. A sample of the groundwater from the onsite well was submitted for analysis of PHC and BTEX.

5.8 SEDIMENT: SAMPLING

Sediment sampling was not required.

5.9 ANALYTICAL TESTING

The analytical testing was completed in accordance with the requirements of Ontario Regulation 153/04 (as amended) and associated MOE analytical guidance documents. Sampling was completed based upon information available from the Phase One ESA, activities of the area, visual and olfactory observations, field screening and professional judgment.

The analytical testing was completed at SGS Canada Inc. in Lakefield. The laboratory is accredited with the Canadian Association for Laboratory Accreditation (CALA) for the parameters tested during this investigation. Sampling and analysis were completed for a general suite of metals, PHCs and VOCs in soil. Copies of the certificates of analysis are provided in Appendix H of this report.

Soil samples were submitted to Geo-Logic's geotechnical laboratory in Peterborough for grain size analysis and moisture content. The results of the geotechnical testing are provided in Appendix G.

5.10 RESIDUE MANAGEMENT PROCEDURES

Clean soil cuttings were backfilled into the test holes.

5.11 ELEVATION SURVEYING

An elevation survey was not completed of the test hole locations.

5.12 QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

The Quality Assurance and Quality Control (QAQC) program was implemented during the ESA to ensure quality data was generated. Soil samples were collected with pre-cleaned sampling equipment and placed directly into laboratory supplied dedicated jars.

Samples were submitted under chain-of-custody protocol to analytical laboratories that were accredited with the CALA for the parameters tested for. From the time of collection to the time of submission to the laboratory, samples were kept cool to maintain sample integrity.

The Quality Assurance and Quality Control (QAQC) measures implemented by the laboratory were maintained throughout the investigation and are included in the laboratory's Certificate of Chemical Analysis included in Appendix H. There were no QAQC issues.

6.0 REVIEW AND EVALUATION

Geo-Logic completed the Phase Two ESA investigation activities to address the APECs defined in the Phase One ESA. This review and evaluation section describes the results of the Phase Two ESA investigation.

6.1 GEOLOGY

Reference is made to the borehole logs in Appendix G for details of the boreholes including local soil and geology classification, and inferred stratigraphy. The stratigraphy in the areas where test holes were advanced was generally comprised of sand fill and sand with varying amounts of fines and gravel. The fill is described as brown damp to moist and loose to compact in density. Bedrock was not encountered although outcrops are observed in the area.

6.2 GROUNDWATER: ELEVATIONS AND FLOW DIRECTION

The groundwater elevations were not assessed. Shallow groundwater flow is inferred to be south towards Grass Lake.

6.3 GROUNDWATER: HYDRAULIC GRADIENTS

An assessment of the groundwater hydraulic gradient was not calculated for this investigation.

6.4 FINE-MEDIUM SOIL TEXTURE

The soils will be compared to the coarse textured MOE Standards based on the gradation testing completed on representative soils of the sand encountered at the Property. Greater than 1/3 of the soil at the Property was greater than 50 percent sand and gravel by mass, therefore, the coarse textured MOE Standards will be used.

6.5 SOIL: FIELD SCREENING

Field screening of total organic vapours was measured by Geo-Logic of each sample using a RKI Instruments Eagle 2 hydrocarbon gas detector. The screened soil samples had no elevated vapour readings. Based on field screening results, there is no indication of volatile organic or petroleum hydrocarbon impact in the subsurface soils.

6.6 SOIL QUALITY

In total, four (4) representative samples, collected on September 17, 2012, were submitted for analysis. The laboratory certificates of analysis are provided in Appendix H.

Two (2) soil samples of shallow soil materials were submitted for analysis of metals. The results of the metals testing in soil are summarized in Table 1 and compared against MOE Table 2 Standards for Commercial Property use in a potable groundwater condition. The results of the analytical testing meet the MOE Table 2 Site Condition Standards.

TABLE 1: SUMMARY OF METAL PARAMETERS IN SOIL

PARAMETER	SAMPLE IDENTIFICATION		MOE PROVINCIAL STANDARDS Table 2
	BH-1 SS-1 (0.1–1.2 mbeg) Sept 17, 2012	BH-2 SS-1 (0.1–1.2 mbeg) Sept 17, 2012	
Antimony	<0.8	<0.8	40
Arsenic	1.2	0.8	18
Barium	62	65	670
Beryllium	0.17	0.17	8
Cadmium	0.06	0.05	1.9
Chromium (Total)	7.9	7.3	160
Cobalt	5.0	5.6	80
Copper	14	13	230
Lead	1.6	1.9	120
Mercury	<0.1	<0.1	3.9
Molybdenum	0.6	0.6	40
Nickel	6.2	6.4	270
Selenium	<0.7	<0.7	5.5
Silver	0.37	0.32	40
Thallium	0.12	0.15	3.3
Vanadium	30	36	86
Zinc	21	24	340

Notes:
All analytical results presented as µg/g (parts per million) unless otherwise noted.
"<" indicates parameter is below the laboratory reporting limit (i.e. non-detect); "NS" indicates no standard available.
MOE "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011, Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for commercial property use (coarse textured soils)
mbeg = metres below existing grade; HWE = hot water extract

Two (2) soil samples were submitted for analysis of PHC and VOCs. Soil samples were selected from soils sampled from locations adjacent to the automotive auto body service and aboveground and underground storage tank locations. No elevated hydrocarbon vapours were detected.

All VOC parameters were reported below their respective detection limits. The BTEX/PHC parameters are summarized in Table 2 and compared against MOE Table 2 Standards for commercial property use in a potable groundwater condition. The results of the PHC and VOC analytical testing meet the MOE Table 2 Site Condition Standards.

TABLE 2: SOIL HYDROCARBON AND VOCs SUMMARY

Parameter	SAMPLE IDENTIFICATION		MOE Provincial Standards (TABLE 2)
	BH-1 SS-3 (1.8-2.3mbeg) Sept 17, 2012	BH-2 SS-4 (3.7-4.84mbeg) Sept 17, 2012	
Benzene	<0.05	<0.05	0.32
Toluene	<0.05	<0.05	6.4
Ethylbenzene	<0.05	<0.05	1.1
Xylenes m,p-	<0.05	<0.05	Total xylenes 26
Xylenes o-	<0.05	<0.05	
PHC F1	<10	<10	55
PHC F2	<10	<10	230
PHC F3	<50	50	1700
PHC F4	<50	<50	3300

Notes: All units in ppm (ug/g). < - indicates parameter was below the detection limit.
(mbeg) = metres below existing grade
Provincial Standards "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", dated April 15, 2011, Table 2: Full Depth Generic Site Standards in a Potable Ground Water Condition for Commercial Property Use

6.7 GROUNDWATER QUALITY

The onsite well was sampled to assess the local groundwater for the hydrocarbon parameters of BTEX and PHCs. The Certificates of Analysis are included in Appendix H. The results are summarized in Table 3 and compared against MOE Table 2 Standards for commercial property use in a potable groundwater condition. The chemical results from the groundwater testing indicate that the groundwater meets with the Table 2 Full Depth Generic Site Conditions for the hydrocarbon parameters of BTEX and PHCs.

TABLE 3: SUMMARY OF PHCs AND BTEX IN GROUNDWATER

Parameter	**Onsite Well Sept 17, 2012**	MOE Provincial Standards Table 2*****
Benzene	<1	5
Toluene	<1	24
Ethylbenzene	<1	2.4
Total Xylenes	<1	300
PHC F1	<25	55
PHC F2	<100	230
PHC F3	<500	500
PHC F4	<500	500

Notes:

All analytical results are presented in µg/g (parts per million)
"<" indicates parameter is below the laboratory reporting limit;
*MOE "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011, Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for commercial property use (coarse textured soils)
mbeg = metres below existing grade

A sample of the well groundwater was also submitted for general chemistry analyses. The Certificate of Analysis is included in Appendix H. The data is summarized and compared with the Ontario Drinking Water Standards (O.D.W.S.) below in Table 4. In general, the majority of the parameters from the well meet the O.D.W.S. Parameters not meeting the O.D.W.S are all grouped under aesthetic objectives that may impair the taste, odour or colour of the water.

TABLE 4: BACKGROUND WATER QUALITY SUMMARY

	SAMPLE LOCATION	Ontario Drinking Water Standards
PARAMETER	5065 CR 21 Drilled Well Sept 17, 2012	
Sodium	2.08	200
Potassium	2.63	--
Calcium	30.9	--
Magnesium	5.15	--
Hardness	98.3	80 to 100
Alkalinity	92	30 to 500
Carbonate		--
Bicarbonate		--
Fluoride	0.30	1.5
Sulphate	9.2	500
Chloride	1.3	250
Ortho Phosphate		--
Nitrite –N	<0.005	1.0
Nitrate –N	<0.013	10
Ammonia-N	<0.04	--
Colour (T.C.U.)	**11**	5
Turbidity (N.T.U.)	**10.3**	5
Conductivity (umhos/cm)	213	--
pH (units)	8.0	6.5 to 8.5
Iron	**1.41**	0.3
Copper	0.0027	1.0
Manganese	**0.0526**	0.05
Zinc	0.002	5.0

Notes: All units are ppm (μg/g) unless otherwise stated. (<) indicates levels are below the detectable limits.

6.8 SEDIMENT QUALITY

This section is not applicable, as sediment was not encountered at the property.

6.9 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

The sampling holding times were met and the samples were properly preserved after collection for the Phase Two ESA. The Quality Assurance and Quality Control (QAQC) measures implemented by the laboratory were maintained throughout the investigation. There were no QAQC issues.

6.10 PHASE TWO CONCEPTUAL SITE MODEL

Based on the investigative work completed, a Phase Two conceptual site model was prepared, the model is provided as Plate 6. The model indicates the general locations of intrusive sampling and the soil conditions encountered. Based upon the Phase Two ESA that was conducted, the APECs have been addressed and there is no additional environmental work warranted.

7.0 CONCLUSIONS

The supporting data upon which our conclusions are based have been presented in the previous sections of this report. The environmental assessment represents a "snapshot" in time. Consideration has been given to the known Property history, the physical setting, adjacent land use and current regulatory requirements in developing the terms of reference for this study. Geo-Logic cannot guarantee the reliability of information provided by others. However, whenever possible, verification of authenticity was attempted.

Based on our observations, the field investigation program and laboratory results, the following conclusions are presented:

- Soil tested on the Property meets the MOE Table 2 Standards for a commercial land use for the parameters tested including Metals, PHCs and VOCs;
- No impacts to the Property were observed during the drilling and excavation related to the fill materials, automotive service activities, fuel spills; and,
- Groundwater encountered in the onsite well did not contain any hydrocarbon odour, hydrocarbon sheen, dissolved hydrocarbons or free product. Analysis of a water sample from the well met all Table 2 parameters for PHCs and BTEX. No impacts to the groundwater are expected.

Based on our observations, the information collected, and the present and proposed future land use, it is our professional opinion that there is a low level of concern from an environmental perspective. The Property is suitable for its current zoning designation. It is Geo-Logic's opinion that no further testing or field investigation is warranted.

7.1 SIGNATURES

The following signatures are provided of Geo-Logic staff that prepared and conducted the Phase Two ESA. Mr. Nyle McIlveen, the qualified person with respect to this project, has provided his opinion and confirms that the findings and conclusions in this document were completed in accordance with the Regulation 153/04, as amended.

Following the References section of this report is the Statement of Limitations. These limitations are an integral part of this report. Should questions arise regarding any aspect of our report, please contact our office.

Sincerely yours,

Geo-Logic Inc.
GEOTECHNICAL ENGINEERS
AND HYDROGEOLOGISTS

Steven J. Gagné, H.B.Sc.

Nyle C. McIlveen, P. Eng.

/bs

8.0 REFERENCES

Canadian Standards Association (CSA) Z769-00, "Phase II Environmental Site Assessment", reaffirmed 2004.

Chapman and Putnam, 1966. The Physiography of Southern Ontario, 2nd Edition. University of Toronto Press.

Chapman and Putnam, 1984. The Physiography of Southern Ontario, 3rd Edition. Ministry of Natural Resources.

Environmental Protection Act, R.S.O. 1990, and associated regulations.

Occupational Health and Safety Act, R.S.O. 1990, and associated regulations.

Ontario Ministry of the Environment, 2011. Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act (*Environmental Protection Act* 153/04, as amended by O. Reg. 511/09, O. Reg. 245/10 and O. Reg. 179/11).

STATEMENT OF LIMITATIONS

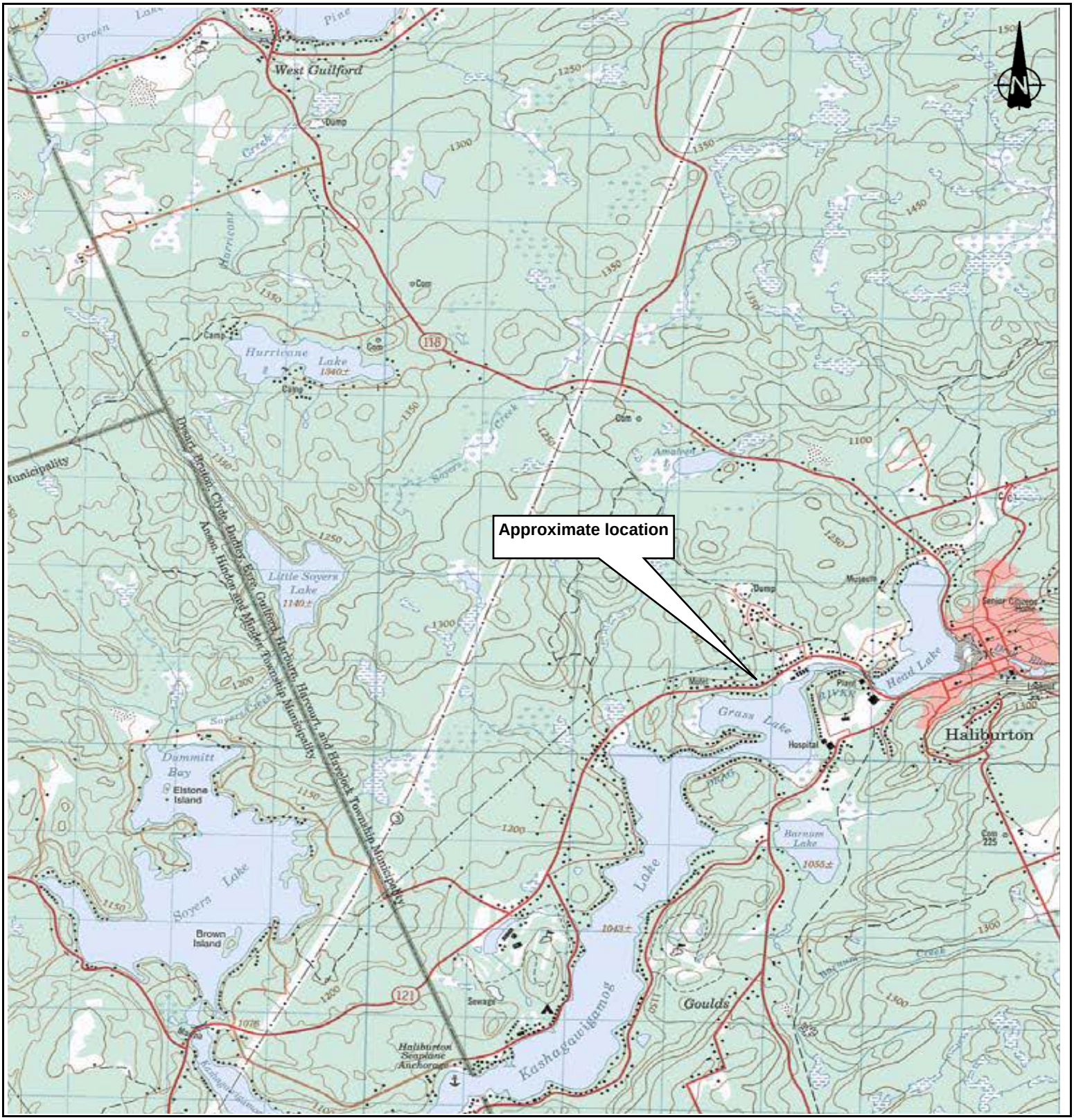
This report is intended solely for Mr. Bill Campbell representing Thomas Pontiac Buick in assessing the environmental concerns of the property identified with a municipal address of 5065 County Road 21, Haliburton, Municipality of Dysart et al, Haliburton County, Ontario, and is prohibited for use by others without Geo-Logic's prior written consent. This report is considered Geo-Logic's professional work product and shall remain the sole property of Geo-Logic. Any unauthorized reuse, redistribution of or reliance on the report shall be at the Client and recipient's sole risk, without liability to Geo-Logic. Client shall defend, indemnify and hold Geo-Logic harmless from any liability arising from or related to Client's unauthorized distribution of the report. No portion of this report may be used as a separate entity; it is to be read in its entirety and shall include all supporting drawings and appendices.

The conclusions and recommendations made in this report are in accordance with our present understanding of the project, the current site use, surface and subsurface conditions, and are based on available information, a site reconnaissance on the date set out in the report, records review and interviews with appropriate people and the work scope approved by the Client and described in the report and should not be construed as a legal opinion. Therefore, our liability is limited to interpreting accurately the information made available to us and assessing the property information investigated during this Phase Two environmental assessment. The services were performed in a manner consistent with that level of care and skill ordinarily exercised by members of environmental engineering professions currently practicing under similar conditions in the same locality. No other representations, and no warranties or representations of any kind, either expressed or implied, are made. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties.

Soil and groundwater conditions between and beyond the test locations may differ both horizontally and vertically from those encountered at the test locations and conditions may become apparent during future projects which could not be detected or anticipated at the time of our investigation. Should any conditions at the site be encountered which differ from those found at the test locations, we request that we be notified immediately in order to permit a reassessment of our recommendations. If changed conditions are identified, no matter how minor, the recommendations in this report shall be considered invalid until sufficient review and written assessment of said conditions by Geo-Logic is completed.

The conclusions in this report are based on available information, documentation and discussions with appropriate people associated with the property. Therefore, our liability is limited to interpreting accurately the information made available to us and assessing the property information at the test hole locations investigated during the Phase Two ESA.

ENCLOSURES



VICINITY PLAN

Phase One Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Base map complied from Energy, Mines and Resources Canada Map 31 E/2 dated 1996 (aerial photography 1994).

DATE: September 2012

SCALE: 1 : 50000

JOB NUMBER: G024152E1

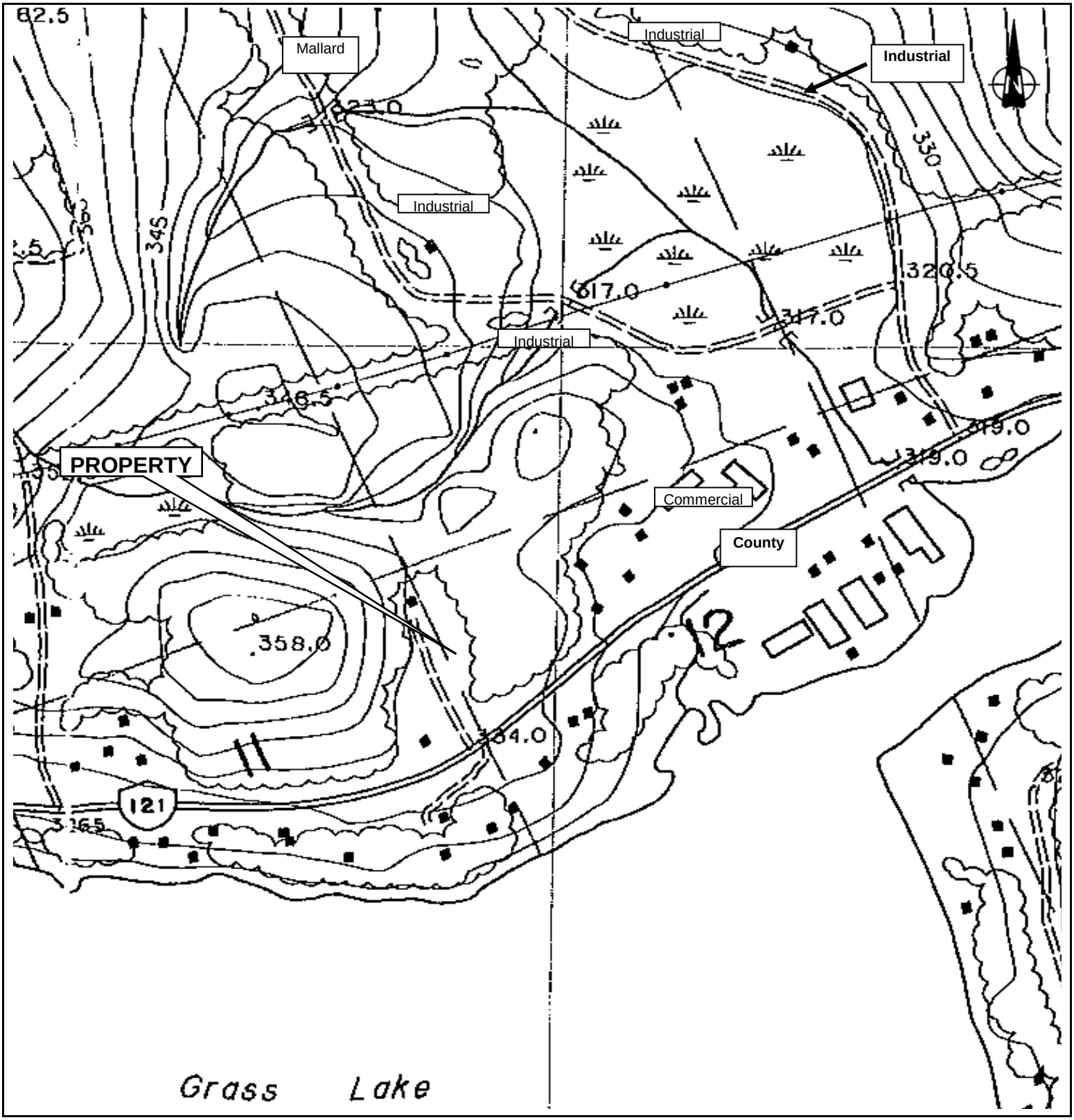
DRAWING NUMBER: PLATE 1

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29

PETERBOROUGH, ON K9J 6X7

(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca



PROPERTY PLAN

Phase One Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Source: From Ontario Ministry of Natural Resources. Air Photography 1984; Published 1991 UTM Zone 17 6900 49900

DATE: September 2012

SCALE: 1 : 10 000

JOB NUMBER: G04152E1

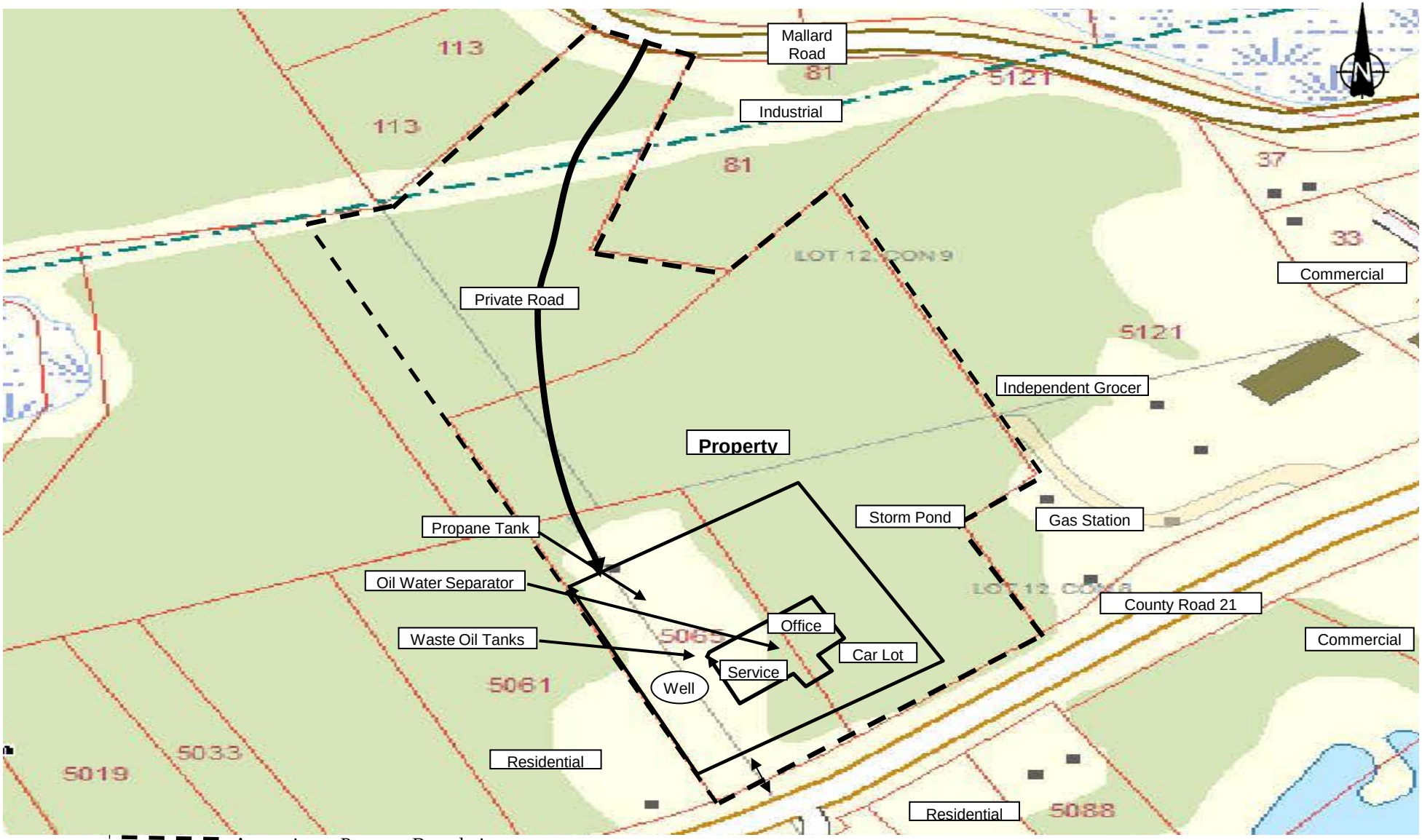
DRAWING NUMBER: PLATE 2

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29

PETERBOROUGH, ON K9J 6X7

(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca



PLOT PLAN

Phase One Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Compiled from interactive maps - Haliburton County

DATE: September 2012

SCALE: NTS

JOB NUMBER: G024152E1

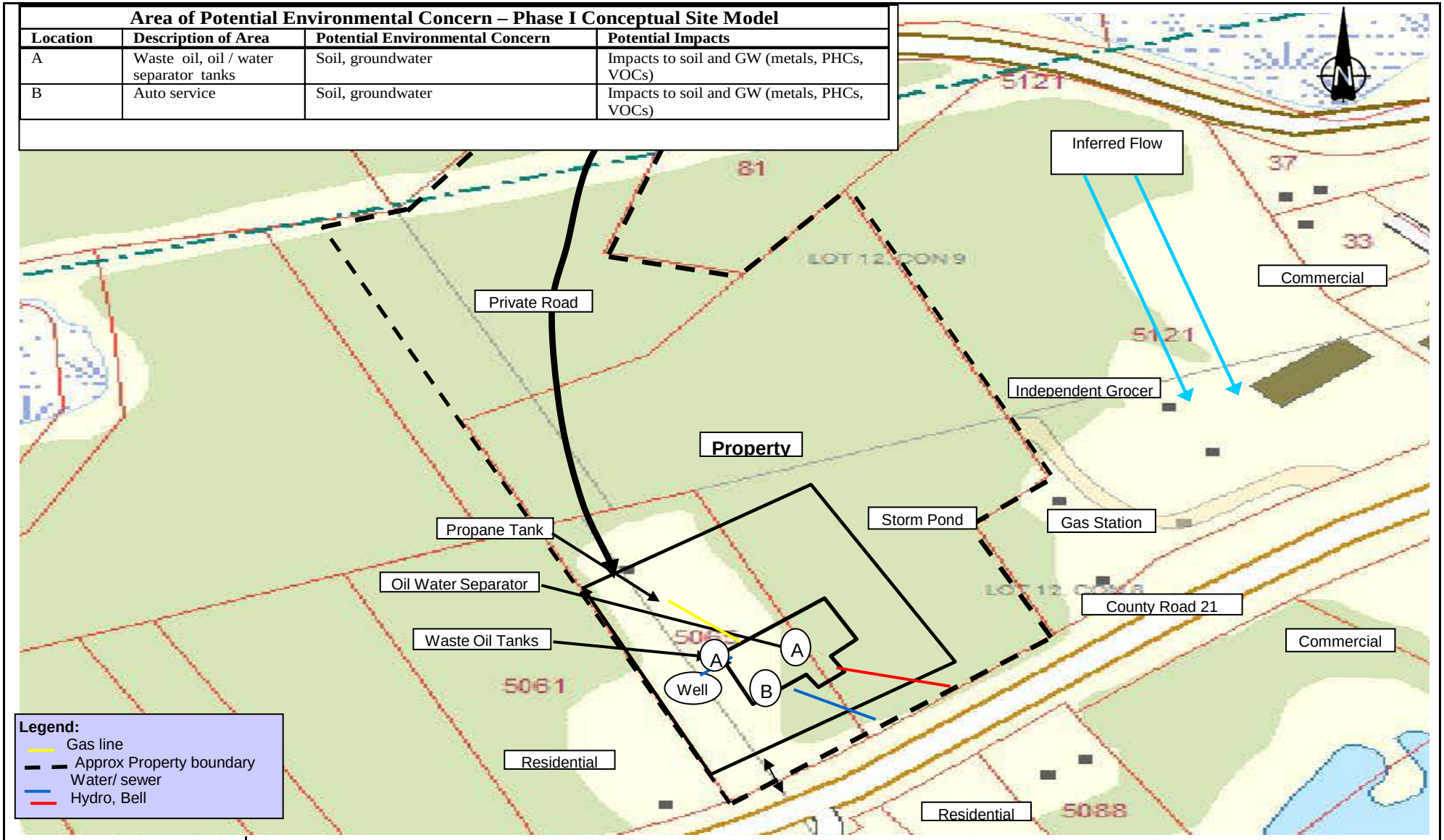
DRAWING NUMBER: PLATE 3

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29
PETERBOROUGH, ON K9J 6X7
(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca

Area of Potential Environmental Concern – Phase I Conceptual Site Model

Location	Description of Area	Potential Environmental Concern	Potential Impacts
A	Waste oil, oil / water separator tanks	Soil, groundwater	Impacts to soil and GW (metals, PHCs, VOCs)
B	Auto service	Soil, groundwater	Impacts to soil and GW (metals, PHCs, VOCs)



PHASE ONE CONCEPTUAL SITE MODEL

Phase One Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Compiled from interactive maps - Haliburton County

DATE: September 2012

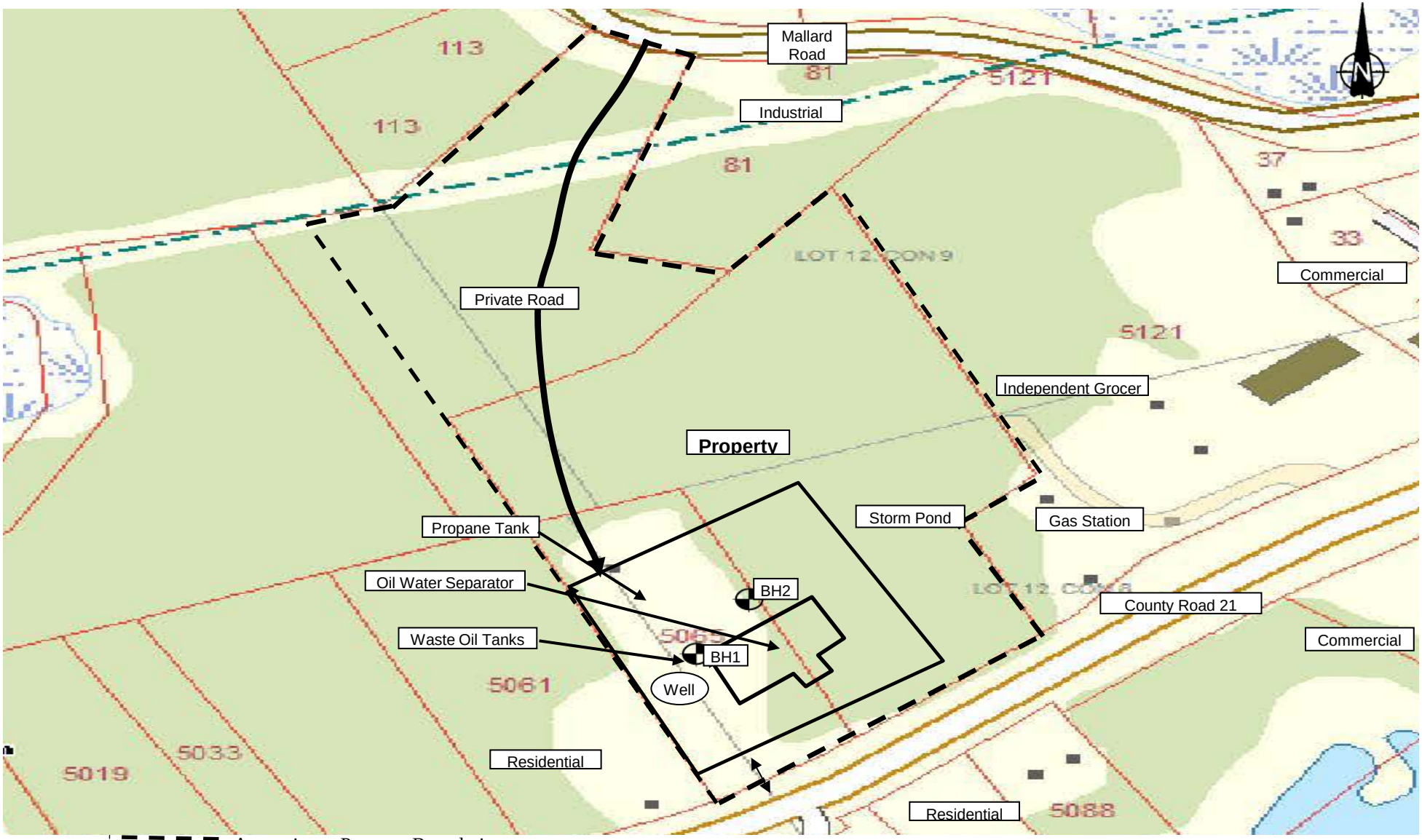
SCALE: NTS

JOB NUMBER: G024152E1

DRAWING NUMBER: PLATE 4

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29
PETERBOROUGH, ON K9J 6X7
(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca



Approximate Property Boundaries

TEST HOLE PLAN

Phase TWO Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Compiled from interactive maps - Haliburton County

DATE: September 2012

SCALE: NTS

JOB NUMBER: G024152E1

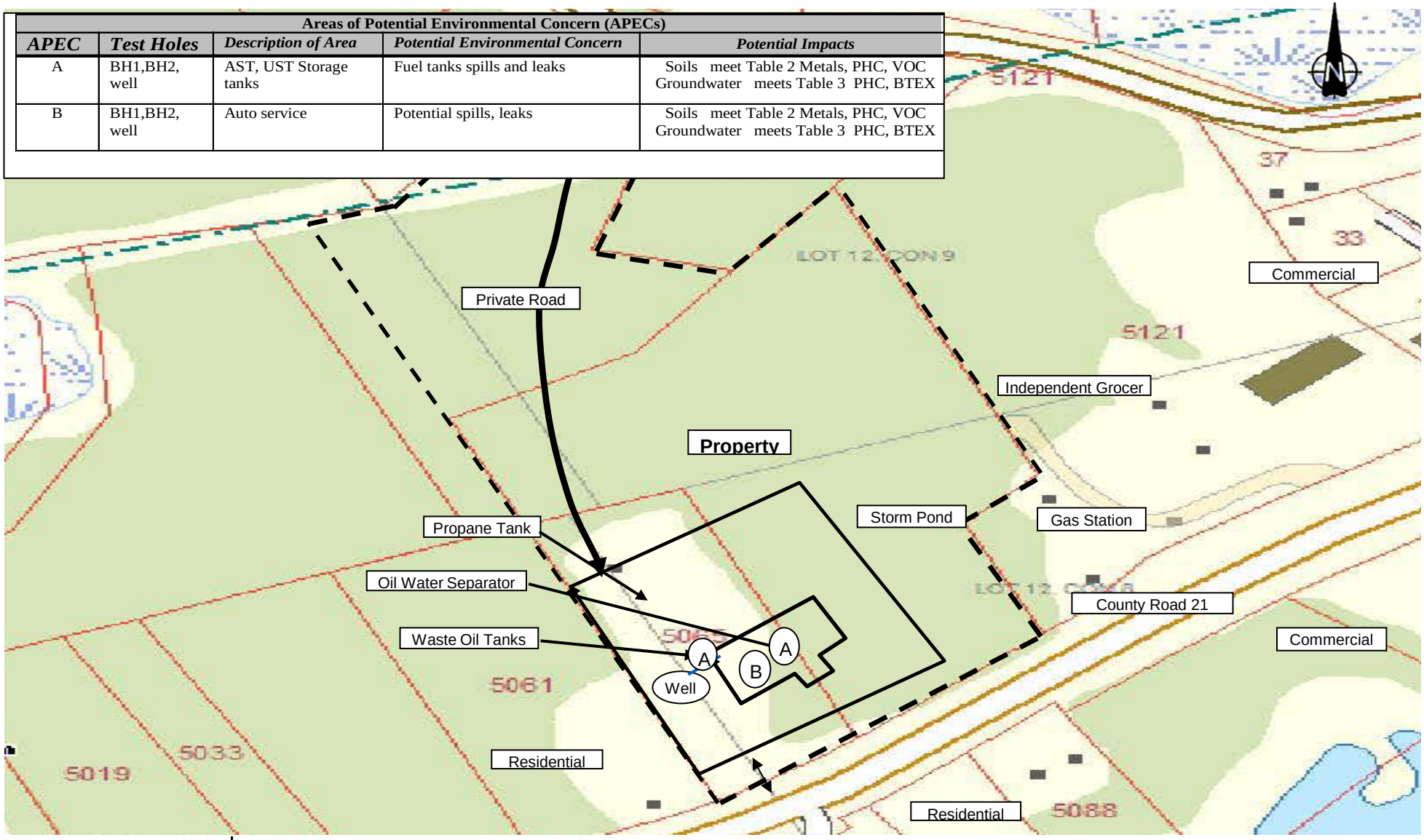
DRAWING NUMBER: PLATE 5

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29
PETERBOROUGH, ON K9J 6X7

(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca

Areas of Potential Environmental Concern (APECs)				
APEC	***Test Holes***	***Description of Area***	***Potential Environmental Concern***	***Potential Impacts***
A	BH1,BH2, well	AST, UST Storage tanks	Fuel tanks spills and leaks	Soils meet Table 2 Metals, PHC, VOC Groundwater meets Table 3 PHC, BTEX
B	BH1,BH2, well	Auto service	Potential spills, leaks	Soils meet Table 2 Metals, PHC, VOC Groundwater meets Table 3 PHC, BTEX



PHASE TWO CONCEPTUAL SITE MODEL

Phase TWO Environmental Site Assessment
5065 County Road 21
Haliburton, ON

Compiled from interactive maps - Haliburton County

DATE: September 2012

SCALE: NTS

JOB NUMBER: G024152E1

DRAWING NUMBER: PLATE 6

GEO-LOGIC INC.

347 PIDO ROAD, UNIT 29
PETERBOROUGH, ON K9J 6X7
(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca

APPENDIX F

SAMPLING AND ANALYSIS PLAN

APPENDIX F Sampling and Analysis Plan
PROJECT: G024151E1 Phase Two ESA
Client: Thomas
Location: 154 Industrial Park Road, Haliburton

Borehole/ Testpits*	Maximum Depth (mbeg)**	Well	SOIL	GROUNDWATER***	RATIONALE
BH1	4 - 6m	No	metals, PHC, VOC		unkown quality of fill, automotive repair
BH2	4 - 6m	No	metals, PHC, VOC		unkown quality of fill, automotive repair
Drilled Well		Yes		PHC, BTEX and General Water Chemistry	

Notes:

*Refer to Drilling Plan for locations. Refer to Proposal and Tech Instructions for details.

**Depth to be reduced depending on materials. Advance borehole to water table plus 1m.

***If groundwater is encountered - Purge wells 3 times prior to sampling.

***If groundwater is not encountered, wells will not be installed and no groundwater sampling to occur.

Soil sampling to be conducted based upon field screening, historical use of the area, observations, and professional judgment

Sample MDLs to meet MOE Table 2 Standards.

Collect soil samples from undisturbed material. For BTEX and PHC F1, must use vials with methanol.

Samples to be submitted to SGS Laboratory. Regular TAT.

Soil sampling and monitoring well locations can be moved based upon observations in the field.

APPENDIX G

SOIL DATA

REFERENCE No.: G024152E1 ENCLOSURE No.: G-1

www.geo-logic.ca

BOREHOLE No.: BH1

ELEVATION:

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Thomas Pontiac

PROJECT: Environmental Site Assessment

LOGGED BY: TP DATE: September 17, 2012

DRILLING COMPANY: Strata Soil Sampling METHOD: Direct Push

NOTES:

LEGEND

- SS - SPLIT SPOON
- AS - AUGER SAMPLE
- ST - SHELBY TUBE
- CS - CORE SAMPLE
- ▼ - WATER LEVEL

Depth ft	Depth m	m Below Existing Grade	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	Type and Number	Recovery %	Moisture Content %	Vapours ppm	Penetraion Index N	Shear test (Cu) / Sensitivity (S) / Water content (%) / Atterberg limits (W_p W_l) / "N" Value (blows / 12 in.-30 cm) / △ Field / ☐ Lab / ◆ RQD / ◎ CONE — 10 20 30 40 50 60 70 80 90	COMMENTS
		0.0		GROUND SURFACE							
		0.08		ASPHALT							
				Brown Sand FILL, Trace Gravel, Damp, Compact	1			5			
					2			5			
		1.83		Brown SILT, Trace Clay, Moist, Firm	3			0			
		3.05		Brown SAND with Gravel, Moist, Compact	4			0			
		3.66		Brown/ Red SAND with Gravel, Moist, Loose	5			0			wet
		4.88		END OF BOREHOLE							Rock encountered

REFERENCE No.: G024152E1 ENCLOSURE No.: G-2

www.geo-logic.ca

BOREHOLE No.: BH2

ELEVATION:

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Thomas Pontiac

PROJECT: Environmental Site Assessment

LOGGED BY: TP DATE: September 17, 2012

DRILLING COMPANY: Strata Soil Sampling METHOD: Direct Push

NOTES:

LEGEND

- SS - SPLIT SPOON
- AS - AUGER SAMPLE
- ST - SHELBY TUBE
- CS - CORE SAMPLE
- ▼ - WATER LEVEL

Depth (ft)	Depth (m)	m Below Existing Grade	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	Type and Number	Recovery %	Moisture Content %	Vapours ppm	Penetraion Index N	Shear test (Cu) △ Field / Sensitivity (S) □ Lab; ○ Water content (%); W_p W_l Atterberg limits (%); × "N" Value (blows / 12 in.-30 cm); ◆ RQD ◎ CONE (10 20 30 40 50 60 70 80 90)	COMMENTS
		0.0		GROUND SURFACE							
		0.08		GRANULAR B							
1				Brown Sand FILL, Trace Gravel, Damp, Compact							
	0.5			Trace organics 1.3m							
2					1			5			
3											
	1.0										
4											
5	1.5				2-1			0			
6		1.83		Brown Sandy SILT, Moist, Firm							
	2.0			Some orange staining							
7					2-2		13	10		○	
8		2.44		Brown SILT, Moist, Compact							
	2.5										
9											
10	3.0				3-1			10			
11		3.35		Brown Silty SAND, Moist, Loose							
	3.5				3-2			10			
12		3.66		Brown Red SAND with Gravel, Moist, Loose							
13	4.0										
14					4			10			
	4.5										
15											
16		4.88		END OF BOREHOLE							wet
	5.0										

BOREHOLE LOG ENVIRO G024152E1 12-10-15 LOGS.GPJ GEOLOGIC.GDT 10/15/12

APPENDIX H

CERTIFICATES OF CHEMICAL ANALYSIS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

September-26-12

Geo-Logic Inc.
Attn : Todd Palmer

347 Pido Rd., Unit #29
Peterborough, ON
K9J 6Z8,

Phone: 705-749-3317
Fax:

Date Rec. : 18 September 2012
LR Report: **CA14548-SEP12**
Reference: G024152E1

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MAC	6: AO/OG	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	7: 5065 CR 21
Sample Date & Time								17-Sep-12 12:00
Temperature Upon Receipt [°C]	---	---	---	---	---	---	---	7.0
UV Transmittance [%]	20-Sep-12	13:17	---	---	100	100%	100%	90.1
Alkalinity [mg/L as CaCO3]	21-Sep-12	12:24	---	30-500	< 2	100%	98%	92
Colour [TCU]	20-Sep-12	13:06	---	5	< 3	100%	100%	11
Conductivity [µS/cm]	21-Sep-12	12:23	---	---		100%	100%	206
pH [no unit]	21-Sep-12	12:23	---	6.5-8.5		100%	100%	8.00
Total Suspended Solids [mg/L]	21-Sep-12	12:08	---	---	< 2	102%	99%	12
Turbidity [NTU]	19-Sep-12	13:34	1	5				10.3
Organic Nitrogen [mg/L]	21-Sep-12	14:57	---	0.15	0.1	---	---	< 0.05
Total Kjeldahl Nitrogen [mg/L]	21-Sep-12	14:57	---	---	< 0.05	100%	96%	0.05 <MDL
Ammonia+Ammonium (N) [mg/L]	20-Sep-12	13:27	---	---	< 0.04	100%	98%	0.04 <MDL
Total Organic Carbon [mg/L]	19-Sep-12	15:58	---	5	< 1.0	104%	96%	1.5
Chloride [mg/L]	25-Sep-12	16:24	---	250	< 0.03	---	---	1.3
Fluoride [mg/L]	21-Sep-12	11:20	1.5	---	< 0.06	100%	100%	0.30
Nitrite (as N) [mg/L]	24-Sep-12	16:41	1	---	< 0.005	100%	100%	0.005 <MDL
Nitrate (as N) [mg/L]	24-Sep-12	16:41	10	---	< 0.013	100%	101%	0.013 <MDL
Sulphate [mg/L]	25-Sep-12	16:24	---	500	< 0.06	100%	107%	9.2
Hardness (dissolved) [mg/L as CaCO3]	20-Sep-12	14:04	---	80-100	---	---	---	98.3

OnLine LIMS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA14548-SEP12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MAC	6: AO/OG	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	7: 5065 CR 21
Aluminum (dissolved) [mg/L]	25-Sep-12	08:28	---	0.1	< 0.0002	110	101%	0.0037
Arsenic (dissolved) [mg/L]	25-Sep-12	08:28	0.025	---	< 0.0002	100%	101%	< 0.0002
Boron (dissolved) [mg/L]	25-Sep-12	08:28	5	---	< 0.0002	99%	101%	0.0142
Barium (dissolved) [mg/L]	25-Sep-12	08:28	1	---	< 0.00001	100%	97%	0.0202
Calcium (dissolved) [mg/L]	20-Sep-12	14:04	---	---	0.03	98%	100%	30.9
Cadmium (dissolved) [mg/L]	25-Sep-12	08:28	0.005	---	< 0.000003	100%	95%	< 0.000003
Copper (dissolved) [mg/L]	25-Sep-12	08:28	---	1	< 0.0005	105%	100%	0.0027
Chromium (dissolved) [mg/L]	25-Sep-12	08:28	0.05	---	< 0.0005	100%	94%	< 0.0005
Iron (dissolved) [mg/L]	20-Sep-12	14:04	---	0.3	< 0.003	98%	97%	1.41
Potassium (dissolved) [mg/L]	20-Sep-12	14:04	---	---	< 0.006	98%	104%	2.63
Magnesium (dissolved) [mg/L]	20-Sep-12	14:04	---	---	0.003	98%	97%	5.15
Manganese (dissolved) [mg/L]	25-Sep-12	08:28	---	0.05	< 0.00001	100%	102%	0.0526
Sodium (dissolved) [mg/L]	20-Sep-12	14:04	20*	200	< 0.01	98%	101%	2.08
Phosphorus (dissolved) [mg/L]	20-Sep-12	14:04	---	---	< 0.009	97%	100%	< 0.009
Lead (dissolved) [mg/L]	25-Sep-12	08:28	0.01	---	< 0.00002	100%	98%	0.00029
Antimony (dissolved) [mg/L]	25-Sep-12	08:28	0.006	---	< 0.0002	100%	99%	0.0003
Selenium (dissolved) [mg/L]	25-Sep-12	08:28	0.01	---	< 0.001	100%	94%	0.001
Uranium (dissolved) [mg/L]	25-Sep-12	08:28	0.02	---	< 0.000001	100%	94%	0.00356
Zinc (dissolved) [mg/L]	25-Sep-12	08:28	---	5	< 0.001	105	94%	0.002
Cation sum [meq/L]	---	---	---	---	---	---	---	2.2
Anion Sum [meq/L]	---	---	---	---	---	---	---	2.06
Anion-Cation Balance [% difference]	---	---	---	---	---	---	---	3.14
Ion Ratio	---	---	---	---	---	---	---	1.06
Total Dissolved Solids (calculated) [mg/L]	---	---	---	---	---	---	---	106
Conductivity (calculated) [µS/cm]	---	---	---	---	---	---	---	213
Langelier's Index [@4°C]	---	---	---	---	---	---	---	-0.46
Saturation pH [pHs @ 4°C]	---	---	---	---	---	---	---	8.46
CCME F1 (C6-C10) [ug/L]	19-Sep-12	12:38	1000	25	< 25	99%	88%	< 25
CCME F2 (C10-C16) [ug/L]	20-Sep-12	09:15	1000	100	< 100	NSS	85%	< 100
CCME F3 (C16-C34) [ug/L]	20-Sep-12	09:15	1000	500	< 500	NSS	85%	< 500
CCME F4 (C34-C50) [ug/L]	20-Sep-12	09:15	1000	500	< 500	NSS	85%	< 500
Chromatogram returned to baseline at nC50 [Yes / No]	20-Sep-12	09:15	---	---	---	---	---	Yes
Benzene [ug/L]	19-Sep-12	12:38	5	1	< 1	ND	96%	< 1
Ethylbenzene [ug/L]	19-Sep-12	12:38	2.4	1	< 1	100%	110%	< 1

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA14548-SEP12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MAC	6: AO/OG	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	7: 5065 CR 21
Toluene [ug/L]	19-Sep-12	12:38	24	1	< 1	97%	101%	< 1
Xylene (total) [ug/L]	19-Sep-12	12:38	300	1	---	---	---	< 1
m/p-xylene [ug/L]	19-Sep-12	12:38	---	1	< 1	100%	121%	< 1
o-xylene [ug/L]	19-Sep-12	12:38	---	1	< 1	99%	110%	< 1

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

September-26-12

Geo-Logic Inc.
Attn : Todd Palmer

347 Pido Rd., Unit #29, Peterborough
, K9J 6Z8
Phone: 705-749-3317, Fax:

Date Rec. : 18 September 2012
LR Report: **CA14547-SEP12**
Reference: G024152E1

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	12: BH-1-SS-1	13: BH-2-SS-1	14: BH-1-SS-3	15: BH-2-SS-4
Sample Date & Time						17-Sep-12 12:00	17-Sep-12 12:00	17-Sep-12 12:00	17-Sep-12 12:00
pH	19-Sep-12	12:23				7.50	7.14	---	---
SAR [---]	---	---				0.27	0.26	---	---
Conductivity [mS/cm]	25-Sep-12	14:27		100%	100%	0.23	0.06	---	---
Mercury [µg/g]	21-Sep-12	14:27	< 0.1	93%	93%	< 0.1	< 0.1	---	---
Antimony [µg/g]	24-Sep-12	15:51	< 0.8	100%	101%	< 0.8	< 0.8	---	---
Arsenic [µg/g]	24-Sep-12	15:51	< 0.5	103%	103%	1.2	0.8	---	---
Barium [µg/g]	24-Sep-12	15:51	< 0.01	102%	102%	62	65	---	---
Beryllium [µg/g]	24-Sep-12	15:51	< 0.02	99%	98%	0.17	0.17	---	---
Cadmium [µg/g]	24-Sep-12	15:51	< 0.02	103%	97%	0.06	0.05	---	---
Chromium [µg/g]	24-Sep-12	15:51	< 0.5	110%	97%	7.9	7.3	---	---
Cobalt [µg/g]	24-Sep-12	15:51	< 0.01	99%	98%	5.0	5.6	---	---
Copper [µg/g]	24-Sep-12	15:51	< 0.1	100%	97%	14	13	---	---
Lead [µg/g]	24-Sep-12	15:51	< 0.05	100%	97%	1.6	1.9	---	---
Molybdenum [µg/g]	24-Sep-12	15:51	< 0.1	119%	98%	0.6	0.6	---	---
Nickel [µg/g]	24-Sep-12	15:51	< 0.1	102%	99%	6.2	6.4	---	---
Selenium [µg/g]	24-Sep-12	15:51	< 0.7	100%	99%	< 0.7	< 0.7	---	---
Silver [µg/g]	24-Sep-12	15:51	< 0.01	92%	96%	0.37	0.32	---	---
Thallium [µg/g]	24-Sep-12	15:51	< 0.02	100%	96%	0.12	0.15	---	---
Vanadium [µg/g]	24-Sep-12	15:51	< 3	102%	98%	30	36	---	---
Zinc [µg/g]	24-Sep-12	15:51	< 0.7	102%	99%	21	24	---	---
Moisture Content [%]	21-Sep-12	07:50	---	---	---	---	---	18.7	8.2
Chromatogram returned to baseline at nC50 [Yes / No]	21-Sep-12	07:50	---	---	---	---	---	Yes	Yes

OnLine LIMS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA14547-SEP12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	12: BH-1-SS-1	13: BH-2-SS-1	14: BH-1-SS-3	15: BH-2-SS-4
CCME F1 (C6-C10) [mg/kg]	20-Sep-12	13:54	< 10	ND	90%	---	---	< 10	< 10
CCME F2 (C10-C16) [mg/kg]	21-Sep-12	07:50	< 10	ND	104%	---	---	< 10	< 10
CCME F3 (C16-C34) [mg/kg]	21-Sep-12	07:50	< 50	ND	104%	---	---	< 50	< 50
CCME F4 (C34-C50) [mg/kg]	21-Sep-12	07:50	< 50	ND	104%	---	---	< 50	< 50
Benzene [µg/g]	21-Sep-12	12:15	< 0.02	ND	95%	---	---	< 0.02	< 0.02
Ethylbenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	94%	---	---	< 0.05	< 0.05
Toluene [µg/g]	21-Sep-12	12:15	< 0.05	ND	93%	---	---	< 0.05	< 0.05
Xylene (total) [µg/g]	21-Sep-12	12:15	---	---	---	---	---	< 0.05	< 0.05
m/p-xylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	94%	---	---	< 0.05	< 0.05
o-xylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
Acetone [µg/g]	21-Sep-12	12:15	< 0.5	ND	101%	---	---	< 0.5	< 0.5
Bromodichloromethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05
Bromoform [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
Bromomethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
Carbon tetrachloride [µg/g]	21-Sep-12	12:15	< 0.05	ND	94%	---	---	< 0.05	< 0.05
Chlorobenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	93%	---	---	< 0.05	< 0.05
Chloroform [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
Dibromochloromethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	98%	---	---	< 0.05	< 0.05
Dichlorodifluoromethane Soil [µg/g]	21-Sep-12	12:15	< 0.05	ND	89%	---	---	< 0.05	< 0.05
1,2-Dichlorobenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05
1,3-Dichlorobenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
1,4-Dichlorobenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05
1,1-Dichloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	94%	---	---	< 0.05	< 0.05
1,2-Dichloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
1,1-Dichloroethylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	90%	---	---	< 0.05	< 0.05
cis-1,2-Dichloroethylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
trans-1,2-Dichloroethylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	92%	---	---	< 0.05	< 0.05
1,2-Dichloropropane [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05
cis-1,3-dichloropropene [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05
trans-1,3-dichloropropene [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
Ethylenedibromide [µg/g]	21-Sep-12	12:15	< 0.05	ND	98%	---	---	< 0.05	< 0.05
n-Hexane [µg/g]	21-Sep-12	12:15	< 0.05	ND	93%	---	---	< 0.05	< 0.05
Methyl ethyl ketone [µg/g]	21-Sep-12	12:15	< 0.5	ND	98%	---	---	< 0.5	< 0.5
Methyl isobutyl ketone [µg/g]	21-Sep-12	12:15	< 0.5	ND	96%	---	---	< 0.5	< 0.5
Methyl-t-butyl Ether [µg/g]	21-Sep-12	12:15	< 0.05	ND	103%	---	---	< 0.05	< 0.05
Methylene Chloride [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
Styrene [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	96%	---	---	< 0.05	< 0.05

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA14547-SEP12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	9: QC - Blank	10: QC - DUP % Recovery	11: QC - STD % Recovery	12: BH-1-SS-1	13: BH-2-SS-1	14: BH-1-SS-3	15: BH-2-SS-4
Tetrachloroethylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
1,2,4-Trichlorobenzene [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
1,1,1-Trichloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	94%	---	---	< 0.05	< 0.05
1,1,2-Trichloroethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	97%	---	---	< 0.05	< 0.05
Trichloroethylene [µg/g]	21-Sep-12	12:15	< 0.05	ND	95%	---	---	< 0.05	< 0.05
Trichlorofluoromethane [µg/g]	21-Sep-12	12:15	< 0.05	ND	211%	---	---	< 0.05	< 0.05
Vinyl Chloride [µg/g]	21-Sep-12	12:15	< 0.02	ND	95%	---	---	< 0.02	< 0.02

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES
nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES
C50 response factors within 70% of nC10 + nC16 + nC34 average: YES
Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS