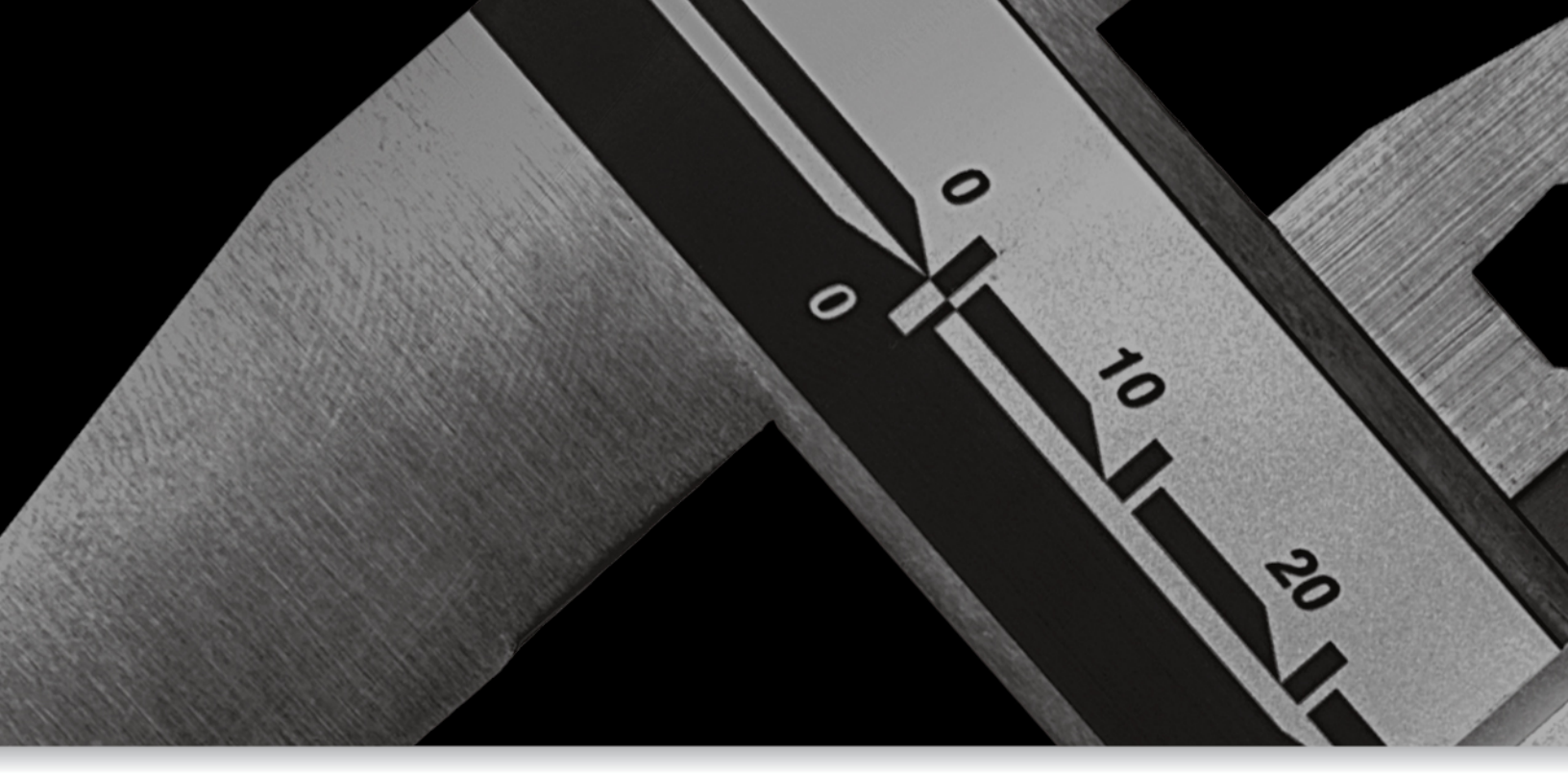
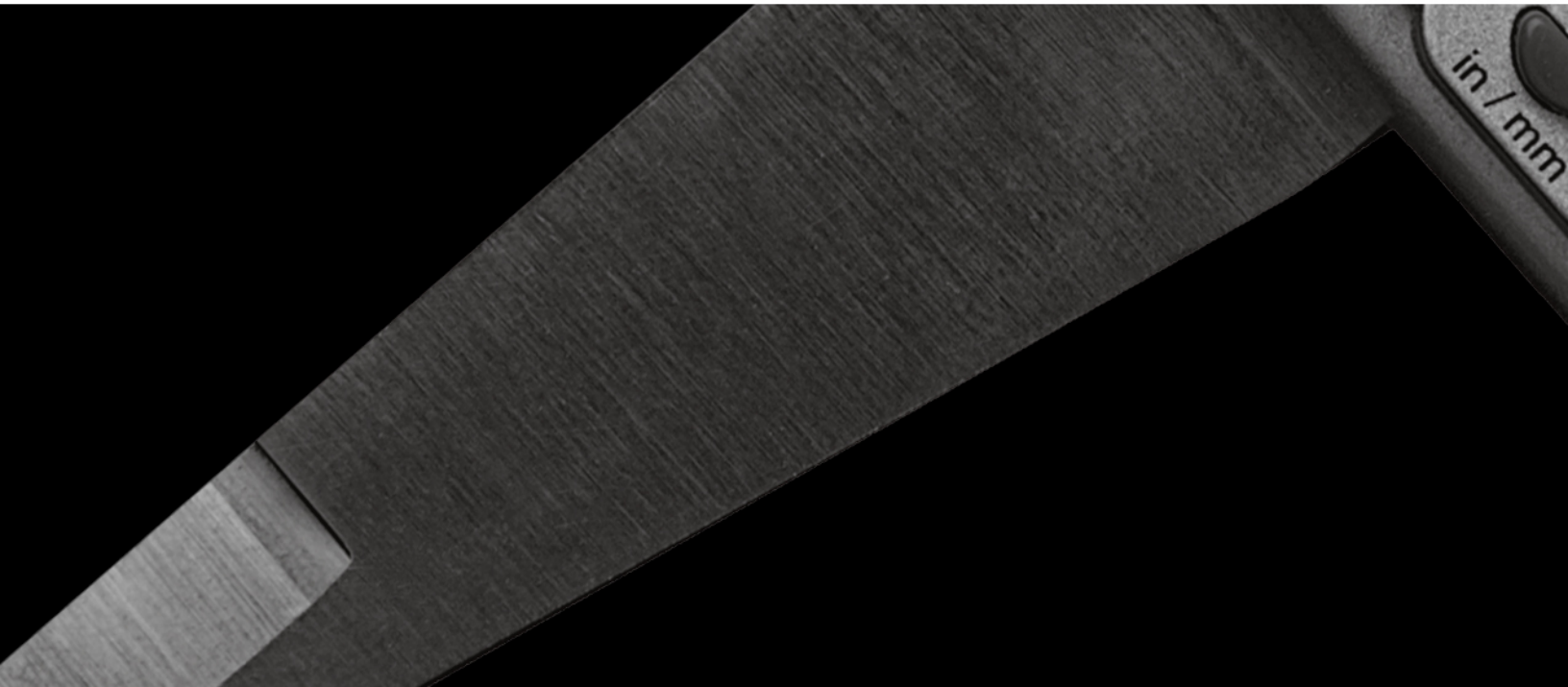


REPORT: T021272-E2

3223701 Canada Inc.
Phase Two Environmental Site Assessment
2940 and 2946-2948 Baseline Road
Ottawa, Ontario

December 17, 2014



INSPEC·SOL
ENGINEERING SOLUTIONS

3223701 Canada Inc.

Phase Two Environmental Site Assessment
2940 and 2946-2948 Baseline Road
Ottawa, Ontario

Date : **December 17, 2014**	Our Ref. : **T021272-E2**

INSPEC·SOL
ENGINEERING SOLUTIONS

3223701 Canada Inc.
C/o Brigil Construction Inc.
98 Rue Lois,
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Phase Two Environmental Site Assessment
2940 and 2946-2948 Baseline Road
Ottawa, Ontario

Reference No.: T021272-E2
December 17, 2014

Prepared by :

Luke A. Lopers, P.Eng.

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1.0 EXECUTIVE SUMMARY

Inspec-Sol Inc. (Inspec-Sol) has previously prepared a *Phase One Environmental Site Assessment (ESA)* (Ref No: T021272-E1, dated May 5, 2014) for the owner of the Site. The Phase One ESA was conducted in response to the due diligence requirements and the City of Ottawa municipal planning requirements.

The Phase One ESA identified four (4) potentially contaminating activities (PCAs) on the Site and four (4) PCAs on neighbouring properties in the Phase One Study Area. The on-Site PCA, (former fuel storage tanks, a former construction equipment service and repair facility and presence of PHC impacted soil) were considered to represent areas of potential environmental concern (APECs) for the subject Site. Additionally, the former presence of fuel storage tanks on the adjacent property to the east was considered an APEC for the Site.

The Phase Two Environmental Site assessment was conducted based on the APECs identified in the Phase One ESA to determine if contamination was present at the Site. A previous Environmental Soil Investigation (ESI), completed by others in 2013, involved advancement of ten (10) boreholes, five (5) of which were completed with groundwater monitoring wells. The current investigation, completed to supplement the findings and data collected as part of the 2013 ESI, involved the advancement of two (2) additional boreholes which were completed with groundwater monitoring wells with screens set within the overburden silty clay. A total of nine (9) soil samples were submitted for laboratory analysis of a combination of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEXs), polycyclic aromatic hydrocarbons (PAHs) and pH parameters. Eight (8) groundwater samples, including a duplicate sample, were submitted for laboratory analysis of metals, PHCs, volatile organic compounds (VOCs), BTEXs, PAHs and pH.

Analysis of the overburden soil revealed one (1) petroleum hydrocarbon exceedance of the O.Reg. 153/04 Table 3 residential land use criteria in one (1) of the analysed soil samples from the east-central portion of the Site. All other soil parameters were in compliance with the O.Reg. 153/04 Table 3 criteria. All of analysed groundwater sample results were in compliance with the O.Reg. 153/04 Table 3 criteria.

Based on the information collected to date, a local soil removal program must be completed to allow the property to be in compliance for the proposed land use (Table 3, residential, coarse grained soils). Based on the detected soil contaminants (fuels), the locations where

soil contamination has been detected and the configuration of the Site, the source of the contamination is suspected to be leakage or spillage from equipment used/stored on-Site. The principle area of concern is the fill on the east-central of the Site. A remedial action plan and soil management program is recommended to be developed with the client in order to manage and dispose of the contaminated soil at the time of development and ensure verification testing is completed to document that the removal was successful and to allow the Site to be in compliance with the O.Reg. 153/04 criteria.

2.0 INTRODUCTION

2.1 Site Description

Location and Identifier

The Site is located at 2940 and 2946-2948 Baseline Road in Ottawa, Ontario. The Site is legally described as Lot 35, Concession 3, Rideau Front and Part of Road Allowance between Concession 2 Ottawa Front and Concession 3 Rideau Front, Nepean, now in the City of Ottawa. The property identification numbers associated with the site are 046940048 and 046940570. The location of the Site within the City of Ottawa is shown on Drawing T021272-E2-1 Site Location Plan, in the Figures Section following the text of this report. In all aspects of this report the Phase Two property is referred to as the Site or Phase Two Property.

Size and Boundaries

The Site is rectangular in shape and covers an area of approximately 2.5 Hectares. The Site is located in an area that is developed for mixed residential and commercial use and is bordered to the east and west by commercial properties, to the south by residential properties and to the north by Baseline Road followed by residential properties. The boundaries of the Site and location of the subject buildings (industrial/commercial buildings) are shown on Drawing T021272-E2-2 Borehole Location Plan, in the Figures Section following the text of this report.

2.2 Property Ownership

The current registered owners of the Site are 3223701 Canada Inc. and 6967230 Canada Inc. 3223701 Canada Inc. (Client) has retained Inspec-Sol to conduct the Phase Two ESA for the purposes of municipal submission for redevelopment of the Site. Mr. Jean-Luc Rivard can be contacted on behalf of 3223701 Canada Inc. The 3223701 Canada Inc. office is located at 98 Rue Lois, Gatineau, Quebec, J8Y 3R7.

2.3 Current and Proposed Future Uses

The east portion of the Site is zoned in a Business Park Industrial Zone (IP[1530]), while the west portion of the Site is zoned in a General Mixed Use Zone (GM H[18.5]).

It is understood that the client intends to redevelop the eastern portion of the Site for residential use, and as such, a record of site condition (RSC) will be required. We understand that the intended property use for the western portion of the Site is to remain commercial use.

2.4 Applicable Site Condition Standard

The Site is located in an urban developed area of the City of Ottawa that is supplied with municipal water and sewer services and is considered as being non-potable water use as per Section 35 of the Ontario Regulation 153/04 as amended 2011 (O.Reg. 153/04).

The proposed property use is residential use.

The nearest surface water body is Graham Creek, located approximately 90 m north and 90 m east of the Site. There is no portion of the site within 30 m of a surface water body, and the Site does not include a surface water body.

The Site is not within or adjacent to an area of natural significance. The pH of the soil was tested and observed to be within the range of 5-9. The site is not classified as an environmentally sensitive property, hence the generic criteria of Tables 1 to 9 of O.Reg. 153 are considered applicable.

Based upon boreholes completed on the property and known geology of the area, the depth to bedrock is expected to be greater than a range of 12.7 m to 16.7 m. The site is hence not classified as a shallow soil property.

The soils underlying the Site consist of granular fill followed by predominantly silty clay. Because grain size analysis has not been completed as part of this investigation, the Site will be compared to coarse grained soil criteria, which generally provide a more conservative comparison to the O.Reg. 153/04 criteria.

Accordingly, the generic O.Reg.153/04 Table 3 (residential) criteria are considered the applicable Site comparison.

This report presents the information, data and interpretation in a format in general accordance with O.Reg. 153/04. It is understood that the client intends to file a Record of Site Condition (RSC) with the Ontario Ministry of the Environment (MOE) for the Site. Additional work will be required to be fully compliant with the MOE RSC application submission process.

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

Surface Water

The Site does not contain any surface water bodies. The nearest surface water body is Graham Creek, located approximately 90m north and 90m east of the Site.

Topography and Drainage

The Site is approximately level with Baseline Road to the north and the surrounding neighbouring properties to the south, east and west. The regional topography in the general area of the Site slopes gently downwards towards the north and northeast.

Stormwater at the Site is directed by overland flow on improved Site surface to catch basins located on Baseline Road and in the paved areas of the Site, which drain into the municipal storm sewer system. Some infiltration can be expected in the gravel/grassed/vegetated areas of the Site.

3.2 Past Investigations

Inspec-Sol received five (5) reports for review for the Site; these reports were provided by the client. The five (5) reports were completed between 2009 and 2013 by Trow Associates Inc. (Trow), Exp Services Inc. (Exp) and Paterson Group Inc. (Paterson). The following is a summary of the reviewed reports and their findings.

- "*Phase I ESA Update, 2940 Baseline Road, Ottawa*" prepared by Trow Associates Inc., dated August 2009;

This report updated previous investigations which were conducted at the Site by Trow (Phase I and II ESAs, 2000) and Watters Environmental (2007); these reports were not provided and were not reviewed. These reports reportedly identified the presence of contaminated soil on the Site.

The Phase I Update stated that the Site building (2940 Baseline Road) was constructed in 1962, expanded in the 1970's and had a two-storey office addition constructed in 1986. At the time of the 2009 Phase I ESA Update the garage and office on the main floor of the building were vacant; however, these areas of the building had most recently been occupied by Battlefield Construction Equipment. The upper floor of the Site building and exterior buildings were used as office space and equipment storage for R.M. Gardiner Construction Equipment Co. Ltd. The presence of underground storage tanks (USTs) and aboveground storage tanks (ASTs) and waste oil drums were identified to have formerly been located on the Site. Based on reviewed information, general Site housekeeping practices were suspected to have been poor. A potable water well was identified within the building; the well water was reportedly distributed throughout the building for consumption. Trow identified the former presence of USTs, ASTs and drums as areas of potential environmental concern (APECs) and recommended additional investigation to assess these APECs. A designated substance survey (DSS) was also recommended to assess the potential presence of asbestos in the subject building, prior to any demolition activities.

- "*Environmental Site Remediation Program, Industrial Property, 2940 Baseline Road, Ottawa, Ontario*" prepared by Paterson Group Inc., dated December 23, 2009 – Report was Incomplete Missing Figures;

Eight (8) test pits were advanced in selected areas on the Site to investigate APECs which were reportedly identified in previous reports. Petroleum hydrocarbon (PHC) soil contamination was identified to the east and southeast of the building in the area of former ASTs, USTs and pump islands and to the south of the building, in the area of former drum and equipment storage. A remedial excavation was advanced to a maximum depth of approximately 3.3m below ground surface (mBGS) to remove the contaminated soil; the soil excavation was reportedly advanced to approximately 0.3 m below the groundwater table. Approximately 4,339 metric tonnes of soil were sent to a waste disposal site. Soil sampling was completed of the base and sidewalls of the remedial excavation. All soil samples, which were considered final, were in compliance with the O.Reg. 153/04 Table 2 criteria.

Two post remediation groundwater monitoring wells were installed in the remedial excavation footprint; these wells were installed to straddle the groundwater table. The groundwater analytical results were in compliance with the O.Reg. 153/04 Table 2 criteria.

The report concluded that all of contaminated soil identified during previous Site investigations had been remediated.

- "*Phase I - Environmental Site Assessment, Commercial Property, 2946-2948 Baseline Road, Ottawa, Ontario*" prepared by Paterson Group Inc., dated December 1, 2010.

The Phase I ESA stated that the Site building (2946-2948 Baseline Road) was constructed prior to 1978 and has been occupied by commercial tenants since construction. The historical research identified a small scale sand pit operation on the south portion of the Site and adjacent property to the east in the 1960's. The adjacent property (east portion of the Site) was identified as a vacant equipment rental property, however, given previous remedial and exploratory investigations completed by Paterson on this property it was not suspected to have impacted the subject Property (west portion of the Site). A Phase II ESA was not recommended for this property. The presence of potential asbestos containing materials were identified within the subject building and a DSS was recommended prior to building demolition.

- "*Phase I Environmental Site Assessment, 2946-2948 Baseline Road, Ottawa, Ontario*" prepared by Exp Services Inc., dated January 17, 2013.

The Phase I ESA stated that the Site building (2946-2948 Baseline Road) was constructed in 1977 and had been vacant (undeveloped) land prior to that period. The historical research indicated that this property had been occupied by commercial operations since development. No further environmental work was recommended for the Site at the time of this report. Exp recommended that a DSS be completed prior to any renovations or demolition of the subject building.

- "*Environmental Soil Investigation, Proposed Development, 2940, 2946 & 2948 Baseline Road, Ottawa, Ontario*" prepared by SPL Consultants Limited, dated June, 2013;

The Environmental Soil Investigation (ESI) was completed at the time of a geotechnical investigation for the proposed redevelopment of the Site. This report states that it should not be considered a Phase Two Environmental Site Assessment (ESA) under O.Reg. 153/04 and that a Phase Two ESA will be completed in the future to support the filing of a Record of Site Condition (RSC).

Ten (10) boreholes were drilled on the Site to depths ranging from 1.4 m to 19.8 m BGS. Four (4) of the boreholes were outfitted with groundwater monitoring wells. Soil samples were collected at regular intervals and screened for visual and olfactory observations of potential contamination; no evidence of impacts was reportedly observed. Eight (8) soil samples were selected for laboratory analysis. One (1) of the eight (8) analysed samples exceeded the O.Reg. 153/04 Table 2 and Table 3 criteria for the F3 and F4 ranges of PHCs. The development and sampling of the groundwater monitoring wells was not completed as part of the ESI.

The ESI recommended that Phase One ESA and Phase Two ESA reports be completed for the Site to comply with O.Reg. 153/04 to meet the requirements to file a RSC with the MOE. An environmental remediation program was recommended to remediate the soil exceedances identified during the ESI. A DSS was recommended for the subject building prior to any demolition work.

In addition to the five (5) reports received from the Client, Inspec-Sol also prepared the following report for the Site, which was reviewed prior to conducting this assessment:

- *"Phase One Environmental Site Assessment, 2940 and 2946-2948 Baseline Road, Ottawa, Ontario"* Reference No. T021272-E1, prepared by Inspec-Sol Inc., dated May 5, 2014.

The Phase One ESA was completed for the Site, which contained a mixed use commercial/industrial building on the east portion of the Site and a multi-tenant commercial building on the west portion of the Site. The Site buildings were two (2) storey slab-on-grade buildings, which were heated by natural gas fired furnaces. The remainder of the Site consisted of asphalt or gravel covered parking areas, and landscaped sections.

Potentially contaminating activities (PCAs), including former fuel storage tanks and a former construction equipment service and repair facility were identified on the Site as part of this assessment. The presence of PHC impacted soil, in excess of the O. Reg. 153/04 Table 3

criteria, was also identified during a review of previous environmental reports. These PCAs were considered to represent areas of potential environmental concern (APECs) for the Site.

Four (4) PCAs were identified on neighbouring properties in the Phase One Study Area as part of this assessment, two (2) are considered to represent APECs for the subject Site. These APECs for the Site include the former presence of fuel storage tanks on the adjacent property to the east.

A Phase Two Environmental Site Assessment in compliance with O.Reg. 153/04 was recommended and proposed to focus on the east portion of the Site. An environmental remediation program was also recommended on the east portion of the Site to meet the Ministry of the Environment Record of Site Condition requirements.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

The 2013 Environmental Soil Investigation completed by SPL Consultants Limited should be read in conjunction with this report. The findings of this previous investigation have been used to supplement this Phase Two ESA.

Previous Investigations

The initial fieldwork for the Site was completed by Trow Associates Inc. (Trow) prior to March of 2000. The initial field work involved drilling at least eleven (11) boreholes. Nine (9) of the boreholes (BH1(MW), BH3(MW), BH4(MW), BH5(MW), BH7(MW), BH8(MW), BH9(MW), BH10(MW) and BH11(MW)) were outfitted with groundwater monitoring wells to measure groundwater levels and collect groundwater samples. No information was provided to Inspec-Sol regarding the sample collection or monitoring well installation protocols/details in these boreholes.

- Boreholes/Monitoring wells BH3(MW), BH7(MW), BH9(MW), BH10(MW) and BH11(MW) were located across the northeast portion of 2940 Baseline Road to assess the former underground storage tank (UST) and to delineate soil and groundwater impacts in this area.
- Boreholes/Monitoring wells BH4(MW), BH5(MW and BH8(MW) were located across the central portion of 2940 Baseline Road to assess the former fuel storage tanks and pump islands in this area of the Site.
- Boreholes/Monitoring wells BH1(MW), BH7(MW) and BH10(MW) were located to the south of the building at 2940 Baseline Road to assess the

former equipment storage activities and on-Site repair and service operations in this area.

Analytical results from the initial investigation determined that soil and overburden groundwater in the vicinity of the former pump island and underground storage tanks on the northeast portion of 2940 Baseline Road had been impacted with petroleum hydrocarbons. An environmental remediation program was completed on the northeast portion of 2940 Baseline Road by Paterson Group Inc. in 2009. The remediation program involved the excavation and off-Site disposal of approximately 4,339 metric tonnes of impacted soil.

Following the environmental remediation program, SPL Consultants Limited (SPL) completed an Environmental Soil Investigation (ESI) in conjunction with a geotechnical investigation at the Site. Borehole advancement as part of this ESI was conducted on May 1 and May 7, 2013, by means of a truck mounted power drill rig equipped for environmental soil sampling. Drilling was conducted by George Downing Estates Drilling and was supervised by SPL. Samples were recovered using 50 mm diameter split spoon samplers advanced to the sampling depth with a hydraulic hammer. Borehole locations were selected to assess APECs for the Site and to accommodate the requirements of the geotechnical investigation. A total of ten (10) boreholes were drilled as part of the ESI (BH13-1 to BH13-10). Monitoring wells were installed in four (4) of the boreholes (BH13-2, BH13-3, BH13-5, and BH13-7).

- Borehole BH13-1 and BH13-7 were advanced to depths of 12.7 m and 8.2 m, respectively and were located to the north and northwest of the commercial/industrial building addressed as 2940 Baseline Road. These boreholes was placed to investigate quality of the soil and groundwater on the north portion of the Site, in the interpreted down-gradient orientation of the former repair and service garage operations.
- Borehole BH13-2 was advanced to a depth of 16.5 m, and was located to the east of the commercial/industrial building addressed as 2940 Baseline Road. This borehole was placed to investigate quality of the soil and groundwater in the area of the previous environmental remediation program.
- Borehole BH13-3 was advanced to a depth of 18.3 m, and was located to the west of the Quonset hut building. This borehole was placed to investigate quality of the soil and groundwater in the area of former fuel storage tanks.

- Borehole BH13-4, BH13-5 and BH13-6 were advanced to depths of 14.8 m, 15.4 m and 19.8 m respectively and were located on the south portion of the 2940 Baseline Road property. These boreholes were placed to investigate quality of the soil and groundwater in the area of former construction equipment storage yard on the southeast portion of the Site.
- Boreholes BH13-8, BH13-9 and BH13-10 were drilled to depths varying from 1.4 m to 1.8 m primarily for geotechnical purposes.

Soil samples were collected for environmental purposes during borehole advancement between May 1 and May 7, 2013. The following five (5) samples were submitted to the laboratory: BH13-2 SS7, BH13-3 SS1, BH13-4 SS1, BH13-5 SS1, BH13-6 SS1A, BH13-8 SS1. The samples were submitted to ALS Canada Ltd. in Ottawa, under Chain of Custody (COC) 128939 on May 8, 2013. The analysis was carried out according to O.Reg 153/04 requirements. The samples were analysed for a combination of Petroleum Hydrocarbons F1-F4 (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEXs), Polycyclic Aromatic Hydrocarbons (PAHs), metals and inorganics parameters. One (1) duplicate soil sample: QA/QC was submitted to ALS Canada Ltd. in Ottawa Ontario on May 8, 2013 under Chain of Custody 128939 for Quality Assurance and Quality Control.

Current Investigation

A Sampling and Analysis Plan (SAP) was prepared to define the scope and field requirements of this Phase Two Environmental Site Assessment. A copy of the SAP is presented in Appendix A.

The existing monitoring wells (by SPL and Trow) were developed and sampled on August 5, 2014, by removing at least three (3) well volumes, or purging the wells dry three (3) times. Prior to well development, Inspec-Sol measured the static water levels of the five (5) monitoring wells BH1(MW), BH7(MW), BH13-2, BH13-5 and BH13-7. Groundwater samples were then collected from these monitoring wells. A duplicate groundwater sample was collected from BH7(MW). The groundwater samples were submitted to Exova Laboratories Ltd. in Ottawa, under COC No.: 172504 on August 5, 2014. The samples were submitted for analysis of a combination of PHCs, BTEXs, PAHs and Volatile Organic Compounds (VOCs) and pH parameters. The analysis was carried according to O. Reg. 153/04 requirements.

Five (5) existing monitoring wells were present on the Site at the time of this assessment. Three (3) monitoring wells were present on the Site from the ESI completed by SPL in 2013. Two (2) remaining monitoring wells from the Phase II ESA completed by Trow in 2000 were

also present. The monitoring well installed to assess former fuel storage to the northwest of the Quonset hut (APEC 2), installed by SPL in 2013, and was found to have been destroyed prior to this assessment. Additionally, soil contamination was identified to the southeast of the Quonset hut (APEC 4) in the 2013 SPL ESI, however, no assessment of groundwater quality was completed in this area of the Site. Inspec-Sol recommended a drilling program in order to assess the soil and groundwater quality in the area of the aforementioned APECs, which was previously unassessed.

Underground utilities were identified prior to drilling activities for any private and public services on behalf of Inspec-Sol. Copies of the underground utility clearances are included in Appendix B.

New borehole advancement was conducted by Inspec-Sol on November 18, 2014, by means of a truck mounted CME 55 power drill rig equipped for environmental soil sampling. Samples were recovered using 50 mm diameter split spoon samplers advanced to the sampling depth with a hydraulic hammer.

- Borehole BH14-1 (MW) was advanced to a depth of 5.2 m, and was located in the vicinity of the former fuel storage to the northwest of the Quonset hut, to investigate quality of the soil and groundwater on in this area of the Site (APEC 2).
- Borehole BH14-2 (MW) was advanced to a depth of 5.2 m, and was located in the vicinity of the identified contaminated soil to the southeast of the Quonset hut, to investigate quality of the soil and groundwater on in this area of the Site (APEC 4).

Soil samples were collected during borehole advancement. The following two (2) samples were submitted to the laboratory: BH1-14-SS4 and BH2-14-SS5. The samples were submitted to Exova Laboratories Ltd. in Ottawa, under Chain of Custody (COC) No. 176527 on November 18, 2014. The analysis was carried out according to O. Reg. 153/04 requirements. The samples were tested for a combination of Polycyclic Aromatic Hydrocarbons (PAHs), Petroleum Hydrocarbons F1-F4 (PHCs), Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs) and pH parameters.

A return visit was conducted following the drilling to sample the newly installed monitoring wells. The new monitoring wells were developed on the day of drilling, November 18, 2014, by removing at least three (3) well volumes. On November 25, 2014, Inspec-Sol returned to the Site to measure the static water levels of the two (2) newly installed monitoring wells

BH14-1 (MW) and BH14-2 (MW) and to collect groundwater samples. The groundwater samples were submitted to Exova Laboratories Ltd. in Ottawa, under COC No.: 176526 on November 25, 2014. The samples were submitted for analysis of a combination of metals, PHCs, VOCs and pH parameters. The analysis was carried according to O. Reg. 153/04 requirements.

4.2 Media Investigated

Rationale for Inclusion of Various Media

Based on known historic potentially contaminating activities (PCAs) in the Phase One Study Area area of the Site, it was suspected that there may have been contamination in the overburden soil and groundwater. A Phase One study area is defined in O.Reg. 153/04 as 250 m from the Site's property limits, or any other property beyond this limit that the qualified person considers should be included. PCAs in the Phase One Study area which are considered to represent areas of potential environmental concern (APECs) for the Site consisted of former underground and aboveground storage tanks, a former equipment repair and service garage and identified PHC impacted soil on the Site and former USTs located on the adjacent property to the east. Accordingly, analysis of soil samples was conducted in the borehole locations. Additional soil investigation was completed in the vicinity of APEC 2 and APEC 4 as part of this investigation.

The aforementioned PCAs were considered to have had the potential to have impacted the Site groundwater. Inspec-Sol instrumented two boreholes with overburden groundwater monitoring wells as part of this investigation. To supplement the groundwater quality assessment, five existing groundwater monitoring wells were also sampled. Four (4) boreholes on the Site were outfitted with groundwater monitoring wells (BH13-2, BH13-3, BH13-5 and BH13-7) by SPL in 2013, three (3) of which were screened in the overburden and one (1) of which was screened in the bedrock; one of the SPL overburden wells (BH13-3) was destroyed prior to this investigation. Additionally, two (2) existing monitoring wells were found to be present on the Site from a Phase II ESA completed by Trow in 2000; monitoring well construction details were not provided for these wells, however, based on their total depths and depth to bedrock, these wells were screened in overburden. The groundwater was sampled from the aforementioned monitoring wells using a peristaltic pump following well development, and purging the day of sampling.

There were no surface water bodies or sediments observed at the Site during the Phase Two ESA, and therefore no sampling of surface water or sediment was conducted at the time of this investigation.

4.3 Phase One Conceptual Site Model

The Phase One Property is located at Civic Nos. 2940 and 2946-2948 Baseline Road in Ottawa, Ontario (Site or Property) and is approximately 2.5 hectares in area. The Site is legally described as Lot 35, Concession 3, Rideau Front and Part of Road Allowance between Concession 2 Ottawa Front and Concession 3 Rideau Front, Nepean, now in the City of Ottawa. The property identification numbers associated with the site are 046940048 and 046940570. The Site has Latitude and Longitude coordinates of 45° 20' 06" N, 75° 47' 57" W. The east portion of the Site is zoned in a Business Park Industrial Zone (IP[1530]), while the west portion of the Site is zoned in a General Mixed Use Zone (GM H[18.5]).

According to an environmental chain of title for the Site, City Directories and previous environmental reports, the first developed use of the east portion of the Site was for commercial/industrial purposes in 1962. The west portion of the Site was first developed for commercial purposes in 1978. The Property has been used for commercial and/or industrial purposes from at least 1962 to present.

The Site and surrounding properties are located in a predominantly residential and commercial sector of the City of Ottawa. The Phase One Study area is serviced by municipal water and sewer services and is in a non-potable area, as acknowledged by the City of Ottawa. The Site has a water supply well for the east portion of the Site; however, this well is not used to supply potable water. Electrical and natural gas services are available from private utility companies.

No water bodies or areas of natural significance are present at the Site. A water well is present on the east portion of the Site, within the building at Civic No. 2940 Baseline Road, however, this water well is used for wash water supply only and is not used for drinking water supply. Graham Creek, the closest surface water body, is present approximately 90 m north and 90 m east of the Site and is indicated in the Conceptual Site Model. The topography of the Site is relatively flat and level to adjacent neighbouring properties.

<u>Subsurface Conditions</u>

The soil conditions are expected to consist of sand and gravel followed by silty clay type soil over interbedded limestone and shale bedrock at approximately 16.5 m below grade (m BG) and an overburden groundwater table, measured between approximately 2 to 3 m BG.

Given the location of the APECs (as discussed below) for the subject Site with respect to the location of these services, the depth to groundwater and the anticipated depth of these services, the underground utility service corridors are not anticipated to migration of contaminants on the Site. Since that APECs were identified for the Site, the absence or uncertainty of any information is not expected to affect the validity of the conceptual site model or the conclusions of this assessment.

Potentially Contaminating Activities (PCAs)

Based on the known information of the general area of the Site, there were four (4) on-Site PCAs, and four (4) off-Site PCAs identified.

1. A former underground storage tank (UST) was identified on the northeast portion of the Site.
2. Former aboveground storage tank (ASTs) were identified on the east portion of the Site.
3. A former service garage and equipment repair facility was identified on the northeast portion of the Site.
4. Identified surficial soil petroleum hydrocarbon contamination was identified on the east portion of the Site during a previous environmental soil investigation.
5. Former fuel storage tanks were identified on the adjacent property to the east.
6. Historical Oil Spill was reported at the intersection of Baseline Road at Monterey Drive, located approximately 100 m northeast on the Site.
7. A railway line is located approximately 150 m south of the Site.
8. A historical mineral oil spill from a transformer was reported at 142 Valley Stream Drive, located approximately 80 m south of the Site.

Areas of Potential Environmental Concern (APECs)

Five (5) of the potentially contaminating activities are considered to represent areas of potential environmental concern for the Site:

1. A former underground storage tank (UST) was identified on the northeast portion of the Site.
2. Former aboveground storage tank (ASTs) were identified on the east portion of the Site.
3. A former service garage and equipment repair facility was identified on the northeast portion of the Site.
4. Identified surficial soil petroleum hydrocarbon contamination was identified on the east portion of the Site during a previous environmental soil investigation.
5. Former fuel storage tanks were identified on the adjacent property to the east.

Contaminants of Potential Concern (CPCs)

The contaminants of potential concern (CPCs) in soil and groundwater for the Site were based on the APECs identified at the Site during Phase One ESA and during previous environmental work programs at the Site. The following CPCs for the Site were suspected to be associated with fuel storage tanks at the Site and the adjacent property to the east and with the former use of the Site as a heavy equipment contractor/rental business with an associated service garage and repair facility:

1. Petroleum Hydrocarbons ranges F1-F4 (PHCs).
2. Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs).
3. Polycyclic Aromatic Hydrocarbons (PAHs).
4. Volatile Organic Compounds (VOCs).
5. Heavy Metals.

4.4 Deviations From Sampling and Analysis Plan

Sampling and analysis plans were not provided for the Phase II ESA completed by Trow in 2000 or for the ESI completed by SPL in 2013. Inspec-Sol prepared a Sampling and Analysis Plan for groundwater sampling of the existing monitoring wells and subsequently for the drilling and soil and groundwater sampling for the new boreholes prior to completing this Phase Two ESA; copies of the Sampling and Analysis Plans are presented in Appendix A.

Collection and submission of groundwater samples for laboratory analysis was proposed from all existing on-Site groundwater monitoring wells. The monitoring well in BH13-3 could not be located at the time of sampling on August 5, 2014. It is suspected that this monitoring well had been destroyed by snow plowing during the winter months. Inspec-Sol subsequently recommended a drilling program in order to assess the groundwater and soil quality in the area of the destroyed monitoring well (BH13-3) and the area of the Site with previously identified contaminated soil (BH13-4), which was previously unassessed.

No other deviations were made to the Sampling and Analysis Plan (SAP).

4.5 Impediments

The monitoring well in BH13-3 could not be located at the time of sampling on August 5, 2014, as it was suspected this monitoring well had been destroyed. A replacement monitoring well (BH14-1) was installed in the former area of BH13-3.

5.0 INVESTIGATION METHOD

5.1 General

The investigation method took into account the surficial features of the Site and the PCAs and APECs on the Site and in the Phase Two Study area. Based upon these conditions, two (2) boreholes with split spoon soil sampling and installation of two (2) groundwater monitoring wells were considered required to supplement the previous 2013 ESI. The 2013 ESI consisted of the placement of ten (10) soil boreholes installation of five (5) groundwater monitoring wells. The placement of the aforementioned boreholes and monitoring wells was considered adequate to assess if contaminants of potential concern (CPCs) would be detected within the soil and groundwater at the Site.

The fieldwork as part of this assessment included advancement of two (2) boreholes, and selection of soil samples for testing based upon visual, olfactory and quantitative vapour readings of head space. The two (2) boreholes were then equipped with groundwater monitoring wells to allow collection of water level data, and sample collection for testing of CPCs from the overburden aquifer. The boreholes were surveyed relative to an easily identified benchmark (catch basin in the vicinity of BH1(MW)) in the field; a provided geodetic elevation of 77.66 m.

Samples were immediately returned and turned over to an accredited laboratory under Chain of Custody control for chemical analysis of CPCs. Quality control procedures were followed.

The following sections present more detailed descriptions of each activity of the investigation.

5.2 Drilling and Excavating

Drilling of boreholes BH14-1 and BH14-2 was conducted on November 18, 2014 by Downing Estate Drilling Ltd. of Hawkesbury Ontario, using a truck mounted CME power drill rig. Drilling was conducted under full-time supervision and direction by Inspec-Sol personnel. Samples were recovered using 50 mm diameter split spoon samplers advanced to the sampling depth with a hydraulic hammer, and washed with soapy water between uses to avoid cross contamination. Soil samples were collected continuously to the maximum proposed depth of drilling.

5.3 Soil: Sampling

Equipment

Split spoon soil samples were recovered from BH14-1 and BH14-2 on November 18, 2014 using 50 mm diameter continually advanced stainless steel split spoon samplers advanced with a hydraulic hammer, and washed between uses, as stated in the SAP. Samples of soil intended for PHCs F1 range and VOCs analysis were collected using 2cc syringes and placed in methanol vials supplied by the laboratory. Additional soil samples were collected in laboratory supplied jars, and in Ziploc bags for headspace analysis.

Description

The findings reflect that there are generally two (2) main soil types within the depth investigated, namely:

- Fill; and,
- Silty Clay.

The subsurface soil encountered in the 2014 Inspec-Sol boreholes locations is described in the following sections, and is presented graphically on the Field Logs, in Appendix B, at the end of this report.

Silty Sand and Gravel (fill)

A layer of fill consisting of silty sand and gravel was observed in both of the boreholes. This layer was found to begin at the ground surface, and extended down approximately 0.6 m.

No petroleum odours were noted within any of the fill samples. Furthermore, there were no significant readings of organic vapour recorded within any of the fill samples.

Silty Clay

A layer of silty clay was observed in both of the boreholes. This layer was found to begin approximately 0.6 m below ground surface, and extended down to the maximum depth of investigation (5.2 m).

No petroleum odours were noted within any of the silty clay samples. Furthermore, there were no significant readings of organic vapour recorded within any of the silty clay samples.

5.4 Field Screening Measurements

Field screening was conducted using a photo ionization detector (PID). Pertinent to this investigation, the device measures organic vapours in parts per million (PPM) (+/- 0.1ppm or +/-1%reading) or lower explosive limit (LEL) (+/- 0.1% or +/-1%reading). The device was auto calibrated using isobutylene in September 2014, and zeroed in the contained environment prior to use.

Samples of the soil were placed in Ziploc bags, allowed to stabilize for 10-30 minutes, and then the headspace gas was sampled using the PID. Generally, the highest reading material is assumed to contain the greatest volatile organic compound (VOC) or petroleum hydrocarbon content, and is submitted for lab analysis. No readings of combustible gasses were identified using the PID. Accordingly, samples were selected based on depth, colour and location, to assess the identified APECs and CPCs.

5.5 Ground Water: Monitoring Well Installation

Drilling of BH14-1 and BH14-2 was completed on November 18, 2014 by Downing Estate Drilling Ltd., using a truck mounted CME 55 power drill rig.

Both of the boreholes were equipped with 51 mm diameter temporary groundwater monitoring wells identified as BH14-1 and BH14-2. The well screens consisted of slotted No. 10, 51 mm diameter PVC, installed at the finished depth of the borehole; the screens were between 3.0 m in length. The 51 mm PVC risers extended from the top of the screen to approximately 0.15 m below the ground surface. The risers were encased protective flushmount well covers. A PVC slip cap was installed at the base of the screen to prevent sediment infiltration. J-plugs were used in the installations at the top of the risers.

Each well was backfilled with clean sand to approximately 0.3 m above the top of the screen. The remaining annular space was backfilled with hole plug to the ground surface, then equipped with a flushmount well cover.

Each well was equipped with dedicated 12 mm LDPE Waterra tubing and a dedicated Waterra footvalve. The Waterra tubing/footvalve was then used to develop the well. A minimum of three (3) well volumes were purged from each monitoring well following installation, on the day of drilling. Up to ten (10) well volumes were removed from monitoring wells which had sufficient recovery and observable amounts of sediment. If a monitoring well was observed to go dry during development, the well was left for a period of at least

30 minutes and was subsequently purged dry up to three (3) times. A period of stabilization of one (1) week was allowed to pass prior to sampling. Wells were purged dry or up to three (3) additional well volumes were removed on the day of sampling, prior to sampling to allow the collection of fresh groundwater and stabilization of field parameters.

5.6 Ground Water: Field Measurement of Water Quality Parameters

Field measurements of groundwater quality were measured in the field using a Hanna Water Quality Meter. Measurements of pH, electrical conductivity (EC), total dissolved solids (TDS) and temperature were collected during purging prior to sampling. Measurements were collected as follows: after the removal of 1L; after one (1) well volume and each subsequent well volume until the water quality parameters stabilized (subsequent readings within 10% difference).

5.7 Ground Water: Sampling

Stabilized groundwater levels were recorded in each monitoring well prior to disturbance of the water column.

All wells were then developed then purged prior to sampling using a peristaltic pump with dedicated 6 mm LDPE tubing in each monitoring well.

Following the purging of the well, a groundwater sample was collected from each well using the peristaltic pump with dedicated 6 mm LDPE tubing. The pump was set to low flow during sampling to minimize volatilization. Samples were collected in dedicated amber glass or clear plastic bottles and vials prepared by the laboratory. The PHC, VOC/BTEX, and general chemistry (pH) bottles and vials were not field filtered. The metals sample from BH14-1 was filtered using a dedicated 45 micron Waterra filter and was preserved in a laboratory supplied bottle.

Following acquisition, the groundwater samples were stored in an ice chilled cooler and were taken directly to the laboratory following the sampling event.

5.8 Sediment Sampling

Sediment was not present at the Site, and was not sampled as part of this assessment.

5.9 Analytical Testing

All soil and groundwater analytical testing as part of this assessment was conducted by Exova Laboratories. Exova is a member of the Standards Council of Canada (SCC) and Canadian Association of Environmental Analytical Laboratories (CAEAL).

5.10 Residue Management Procedures

Soil cuttings were placed in steel drums in designated areas of the Site. The analytical results did not indicate the presence of soil contamination in the boreholes; however, previous investigations in the vicinity of BH14-2 have previously shown PHC soil contamination, hence, these cuttings will be disposed of by an approved waste disposal contractor licensed for these works. Disposal of the soil cuttings should be conducted at the time of Site remediation activities as a means of reducing costs.

Purge water was containered in a steel drum in the field and was retained on-Site. Laboratory analytical results did not indicate the presence of groundwater contamination; the groundwater could be managed on-Site.

5.11 Elevation Surveying

Survey data of the ground surface elevation of all boreholes and elevation of the top of pipe (riser) of all groundwater monitoring wells was collected as part of this assessment. Survey elevations were based on a geodetic elevation of a temporary benchmark of 77.66 m for the top of the catch basin to the west of BH1(MW).

5.12 Quality Assurance and Quality Control Measures

All soil sample jars were provided by Exova Laboratories. All PHC F1 range and VOC soil samples were collected with laboratory provided single use 2cc soil syringes. Each sample was given a unique identification, following the format of (sample point)-(type of sample; SS=split spoon, GS=grab sample)(sequence number). Stainless steel spilt spoons were used to recover soil samples from the boreholes; the spoons were washed in soapy water between uses. A metal spatula was used to transfer samples from the split spoons to the sample jars; this spatula was cleaned between uses.

The metals groundwater samples from BH14-1, BH1 (MW), BH7 (MW), BH13-2 and BH13-5 were filtered using dedicated 45 micron Waterra filters and were preserved in a laboratory supplied bottles.

To ensure laboratory quality control, a blind field duplicate was submitted for laboratory analysis of one of the groundwater samples. One (1) blind field duplicate (DUP-GW1) was submitted for laboratory analysis of PHCs and VOCs in groundwater for BH7(MW). A field blank sample was also provided by the laboratory and was vialed in the field for VOC analysis. The duplicate and field blank samples provide quality assurance and quality control of groundwater samples submitted as part of this assessment.

6.0 REVIEW AND EVALUATION

6.1 Geology

Silty Sand and Gravel (fill)

A layer of fill consisting of dark brown silty sand and gravel was observed in both of the boreholes drilled as part of this investigation. This layer was found to begin at the ground surface and was approximately 0.6 m in thickness. Soil conditions in this unit were damp to moist; groundwater was not encountered in this unit, nor was groundwater expected at the depths encountered in this unit.

Silty Clay

Silty clay was encountered in both of the boreholes drilled as part of this investigation. This unit was encountered starting at depths ranging from 0.6 m BG and extended to the maximum depth of investigation (5.2 m). This material was found to be brown to grey, was firm becoming soft with depth and was recovered in varying moisture conditions. Groundwater was encountered at depths ranging from 2.1 to 2.3 m below surface grade in this unit.

6.2 Ground Water: Elevations and Flow Direction

Overburden Aquifer

In order to assess the impact to the Site groundwater from APECs identified on the Site and neighbouring properties, seven (7) groundwater monitoring wells located on the subject Property as part of this and previous assessments. Six (6) of the wells were screened in the overburden silty clay geological unit in order to intercept the overburden aquifer (aquifer of

interest). One (1) of the monitoring wells was screened in the bedrock geological unit for geotechnical considerations as part of a previous Site investigation. A bentonite seal to above the monitoring well screen/sandpack was formed during all monitoring well installations. Monitoring well construction details are presented in Table A below.

Table A: Monitoring Well Installation

Well ID	Grade Elevation m	TOP Elevation m	Well Bottom Elevation m	Screen Elevation m	Sand Pack Elevation m	Bentonite Seal m	Well Bottom Depth m
OVERBURDEN WELLS							
BH1(MW)	77.77	77.40	71.42	N/A	N/A	N/A	6.35
BH7(MW)	77.66	77.57	72.88	N/A	N/A	N/A	4.80
BH13-2	77.70	77.50	61.20	61.20 – 62.72	61.20 – 63.02	63.02 – 77.40	16.50
BH13-5	79.75	79.63	73.63	73.63 – 78.20	73.63 – 78.50	78.50 – 79.45	6.12
BH13-7	77.70	77.62	70.10	70.10 – 76.20	70.10 – 76.50	76.50 – 77.40	7.69
BH14-1	78.23	78.13	73.11	73.11 – 76.16	73.11 – 76.46	76.46 – 77.93	5.20
BH14-2	79.06	78.89	73.59	73.59 – 76.64	73.59 – 76.94	76.94 – 78.76	5.20

Groundwater levels were collected on the initial sampling date, August 5, 2014, from all previously existing monitoring wells. Following the drilling program and a period of stabilization of the groundwater in the newly constructed overburden wells, water levels were collected on November 25, 2014; three (3) of the previously existing monitoring wells could not be located at this time as the Site was covered with snow and ice. Groundwater elevations were determined based on the geodetic elevation of the surveyed temporary benchmark, the monitoring well survey and the measured groundwater level within each monitoring well. Water table elevation details are presented in Table B below.

Table B: Water Table Details

Well ID	Grade Elevation m	TOP elevation m	Depth to Groundwater (below TOP) (Aug. 5, 2014) m	Water Table Elevation (Aug. 5, 2014) m	Depth to Groundwater (below TOP) (Nov. 25, 2014) m	Water Table Elevation (Nov. 25, 2014) m
OVERBURDEN WELLS						
BH1(MW)	77.77	77.40	1.72	75.68	2.14	75.26
BH7(MW)	77.66	77.57	1.79	75.78	N/A	N/A
BH13-2	77.70	77.50	4.36	73.14	N/A	N/A
BH13-5	79.75	79.63	1.45	78.18	2.55	77.08
BH13-7	77.70	77.62	2.78	74.84	N/A	N/A
BH14-1	78.23	78.13	N/A	N/A	1.92	76.21
BH14-2	79.06	78.89	N/A	N/A	2.21	76.68

Free product was not identified in any overburden well at any time, as measured with an oil/water interface meter. The results of the LNAPL/DNAPL investigation are presented in Table C, following the text of this report.

Three (3) groundwater monitoring wells are required to triangulate groundwater elevations and provide a direction of groundwater flow. Four (4) wells (BH1(MW), BH13-5, BH14-1 and BH14-2), which were installed as part of this and previous investigations, were used to provide a direction of groundwater flow for this assessment. Based on the water table elevations recorded in these four (4) monitoring wells on the Site, the direction of groundwater flow was determined to be from the southeast to northwest. This direction of groundwater flow is logical based on the location of the Ottawa River (closest significant water body) approximately 2.1 km northwest of the Site. The regional surficial topography also slopes downward in the same direction.

Temporal variability is not expected to significantly impact the groundwater flow direction, given that there is a significant distance to the nearest surface water body, the Ottawa River.

The presence of buried utilities is not expected to impact measurements of the groundwater table, given that the underground services are expected to be present within the shallow overburden upper 1.2 m and that the measured groundwater table was observed approximately 1.5 to 2.8 m below ground surface.

6.3 Ground Water: Hydraulic Gradients

The hydraulic gradient was calculated by dividing the difference in hydraulic head by the lateral distance between monitoring locations. Based on the recorded groundwater elevations in Table B above, the horizontal hydraulic gradient is approximately 0.022 m/m.

Vertical hydraulic gradients could not be calculated for the Site at this time as nested monitoring wells were not installed in the same locations, however; based on the groundwater elevations recorded in the overburden groundwater monitoring wells across the Site and the groundwater elevation in the bedrock monitoring well, a downward vertical groundwater gradient is expected.

6.4 Fine-Medium or Coarse Soil Texture

The soils underlying the Site consist of granular fill followed by predominantly silty clay. Because grain size analysis has not been completed as part of this investigation, the Site will be compared to coarse grained soil criteria, which generally provide a more conservative comparison to the O.Reg. 153/04 criteria.

6.5 Soil: Field Screening

Combustible gas readings were recorded as noted previously in *Section 5.4.* No detectable soil vapour readings were obtained from the boreholes drilled during the Site investigation. The soil vapour readings obtained as part of the environmental boreholes are presented on the Borehole Logs *in* Appendix B.

6.6 Soil Quality

Location and Depth of Sampling

The locations of the boreholes and sampling locations are indicated on the Borehole Location Plan, Dwg. No.: T021272-E2 in the Figures section of this report. During this investigation, one (1) soil layer was sampled for PHCs, BTEXs, PAHs and pH as follows:

- Silty Clay
    - BH1-14-SS4 (2.3-2.9 m) and BH2-14-SS5 (3.1-3.7 m) collected on November 18, 2014.

During the 2013 ESI, two (2) soil layers were sampled for a combination of metals, PHCs, BTEXs, PAHs and pH as follows:

- Silty Clay
    - BH13-2-SS7 (4.6-5.2 m) collected on May 3, 2013.
- Fill
    - BH13-3-SS1 (0.0-0.6 m), BH13-4-SS1 (0.0-0.6 m), BH13-5-SS1 (0.0-0.6 m), BH13-6-SS1A (0.0-0.3 m) and BH13-8-SS1 (0.0-0.6 m) collected from May 1 through May 6, 2013.

Contaminants of Potential Concern

The contaminants of potential concern (CPCs) in soil for the Site were based on the APECs identified at the Site during the Phase One ESA. Petroleum Hydrocarbons ranges F1-F4 (PHCs), Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs), Polycyclic Aromatic

Hydrocarbons (PAHs) and metals were suspected to be associated with suspected former fuel storage tanks and past uses of the Site.

Comparison of Analytical Results to O. Reg. 153/04 Criteria

A complete summary of the analytical soil testing conducted as part of this Phase Two ESA and the 2013 ESI and comparison to O. Reg. 153/04 criteria are present in Table D, following the text of this report. The maximum soil concentrations detected as part of this investigation and the 2013 ESI are presented in Table F, following the text of this report. A copy of the laboratory certificates of analysis for the soil samples collected as part of this investigation are presented in Appendix *C*.

Analytical testing of the aforementioned soil samples indicated the following soil samples were reported to have the following parameter exceedances of the O.Reg. 153/04 Table 3 criteria:

- Table 3 (Non-Potable Groundwater - residential land use)
  - PHCs range F3 BH13-4-SS1 (0.0-0.6 mBG)

All of the other analysed soil samples were in compliance with the O.Reg. 153/04 Table 3 criteria, which was selected based on the proposed residential land use, in a non-potable groundwater situation with fine grained soil conditions.

Analytical testing of the soil samples was also compared to the O. Reg. 153/04 Table 1 criteria, for the purpose of characterization of soil for potential off-Site disposal purposes. In the event soil is required to be removed from the Site, all soil with concentrations in excess of the O. Reg. 153/04 Table 1 criteria would need to be taken to an approved waste disposal facility. The following soil samples were reported to have the following parameter exceedances of the O.Reg. 153/04 Table 1 criteria:

- Table 1 (Background characterization - all land uses)
  - Barium BH13-3-SS1 (0.0-0.6 mBG), BH13-4-SS1 (0.0-0.6 mBG), BH13-5-SS1 (0.0-0.6 mBG)
  - Chromium (VI) BH13-5-SS1 (0.0-0.6 mBG)
  - Lead BH13-3-SS1 (0.0-0.6 mBG)
  - PHCs range F3 BH13-4-SS1 (0.0-0.6 mBG), BH13-5-SS1 (0.0-0.6 mBG)
  - PHCs range F3 BH13-4-SS1 (0.0-0.6 mBG), BH13-5-SS1 (0.0-0.6 mBG), BH13-8-SS1 (0.0-0.6 mBG),

The remaining analysed soil samples were in compliance with the O.Reg. 153/04 Table 1 criteria.

Chemical or Biological Transformations

Parameters related to chemical or biological transformations of CPCs were not suspected to be present and were not detected in the analytical results as part of this investigation.

Soil Acting as a Contaminant Mass Contributing to Other Media

The soil near BH14-2 (previously drilled BH13-4), which was reported to be impacted with PHCs was suspected to have the potential to be acting as a source for groundwater impacts, however, no PHCs were detected in the groundwater sample from BH14-2. It should be noted that no PHC concentrations in excess of the O. Reg. 153/04 Table 3 criteria were detected in any of the analysed groundwater samples collected at the Site.

LNAPL/DNAPL

PHCs were detected in one of the analysed soil samples from BH13-4 (previous investigation) on the Site. The observed concentrations of PHCs in the soil sample from BH13-4 are not suspected to contribute to the presence of Light (LNAPL) or Dense Non Aqueous Phase Liquids (DNAPL).

6.7 Ground Water Quality

Location and Depth of Sampling

The locations of the existing monitoring wells are indicated on the Borehole Location Plan, Dwg. No.: T021272-E2 in the Figures section of this report. The depths of the screens are indicated in Table A in *Section 6.2* of this report; the screened intervals of the overburden wells were situated in silty clay and were approximately 4.8 to 7.6 mBG. The screened interval of the bedrock well were situated in limestone bedrock and was approximately 15.0 to 16.5 mBG.

Field Filtering

Field filtering was conducted during groundwater sampling for metals using a dedicated 45 micron Waterra filter for each groundwater sample. Field filtering is not conducted under standard field protocols for groundwater sampling of PHCs, VOCs, BTEXs or pH.

Contaminants of Potential Concern

The contaminants of potential concern (CPCs) in soil and groundwater for the Site were based on the APECs identified at the Site during Phase One ESA and during previous

environmental work programs at the Site. The CPCs for the Site were selected based on fuel storage tanks at the Site and the adjacent property to the east and with the former use of the Site as a heavy equipment contractor/rental business with an associated service garage and repair facility. Analysis of the following CPCs was completed for the groundwater samples: PHCs, VOCs, metals, PAHs and pH.

Comparison of Analytical Results to O.Reg. 153/04 Criteria

A complete summary of the analytical groundwater testing conducted as part of this Phase Two ESA and comparison to O.Reg. 153/04 criteria are present in Table E, following the text of this report. The maximum groundwater concentrations detected as part of this investigation are presented in Table G, following the text of this report. A copy of the laboratory certificates of analysis for the groundwater samples are presented in Appendix C. The O. Reg. 153/04 Table 3 criteria were selected based on proposed residential land use, in a non-potable groundwater situation with coarse grained soil conditions.

All of analysed groundwater sample results were in compliance with the O. Reg. 153/04 Table 3 criteria.

Chemical or Biological Transformations

Parameters related to chemical or biological transformations of the CPCs were not suspected to be present and were not detected in the analytical results as part of this investigation.

LNAPL/DNAPL

LNAPL and/or DNAPL were not identified in the overburden aquifer during the groundwater sampling program.

6.8 Sediment Quality

Sediment was not present on the Site; as such sediment sampling was not conducted at the Site as part of the Phase Two ESA.

6.9 Quality Assurance and Quality Control Results

Quality Control

One (1) blind field duplicate (QAQC1), a duplicate of BH13-8 was submitted for laboratory analysis of metals in soil as part of the previous 2013 ESI. This duplicate provides quality

assurance and quality control one of the parameter sets of concern for the Site for soil samples submitted as part of the previous assessment.

In general, all of the soil duplicate sample results had relative percent differences of less than 50%, or were too close to the laboratory method detection limit to provide an accurate comparison. In general the duplicate soil and groundwater results indicate consistency in the laboratory data.

One (1) blind field duplicate (DUP-GW1), a duplicate of BH7 (MW)-GW1 was submitted for laboratory analysis of PHCs, and VOCs in groundwater. This duplicate provides quality assurance and quality control of the parameter sets of greatest concern for the Site for groundwater samples submitted as part of this assessment.

In general, all of the groundwater duplicate sample results had relative percent differences of less than 20%, or were too close to the laboratory method detection limit to provide an accurate comparison. In general the duplicate soil and groundwater results indicate consistency in the laboratory data.

A field blank groundwater sample was also submitted for laboratory analysis of VOCs. In general, all of the laboratory analysed groundwater samples had concentrations less than the laboratory method detection limits, and hence, equal to or less than the field blank groundwater sample.

Handling and Transport

All samples were delivered to the laboratory in laboratory supplied containers. All samples were delivered to the Laboratory within the mandated holding time and temperature requirements. Samples were hand delivered to the laboratory in coolers, equipped with ice packs.

Analytical Documentation

The documentation provided from the laboratory meets the requirements of O. Reg. 153/04 47(3). Documentation for each laboratory submitted sample has been included as an appendix to this report. Full documentation, including the laboratory certificates of analysis, is provided in Appendix C.

Analytical Qualifiers

No analytical qualifiers were reported on laboratory reports with respect to submissions as part of this assessment.

General Comments on Field Data

For the purposes of this investigation, the quality of the field data

- Meets the objectives of the investigation; and,
- Did not affect the decision making process.

6.10 Phase Two Conceptual Site Model

Potentially Contaminating Activities (PCAs)

Based on the known information of the general area of the Site, there were four (4) on-Site PCAs, and four (4) off-Site PCAs identified.

1. A former underground storage tank (UST) was identified on the northeast portion of the Site.
2. Former aboveground storage tank (ASTs) were identified on the east portion of the Site.
3. A former service garage and equipment repair facility was identified on the northeast portion of the Site.
4. Identified surficial soil petroleum hydrocarbon contamination was identified on the east portion of the Site during a previous environmental soil investigation.
5. Former fuel storage tanks were identified on the adjacent property to the east.
6. Historical Oil Spill was reported at the intersection of Baseline Road at Monterey Drive, located approximately 100 m northeast on the Site.
7. A railway line is located approximately 150 m south of the Site.
8. A historical mineral oil spill from a transformer was reported at 142 Valley Stream Drive, located approximately 80 m south of the Site.

Areas of Potential Environmental Concern (APECs)

Five (5) of the potentially contaminating activities are considered to represent areas of potential environmental concern for the Site:

1. A former underground storage tank (UST) was identified on the northeast portion of the Site.
2. Former aboveground storage tank (ASTs) were identified on the east portion of the Site.

3. A former service garage and equipment repair facility was identified on the northeast portion of the Site.
4. Identified surficial soil petroleum hydrocarbon contamination was identified on the east portion of the Site during a previous environmental soil investigation.
5. Former fuel storage tanks were identified on the adjacent property to the east.

Contaminants of Potential Concern (CPCs)

The contaminants of potential concern (CPCs) in soil and groundwater for the Site were based on the APECs identified at the Site during Phase One ESA and during previous environmental work programs at the Site. The following CPCs for the Site were suspected to be associated with fuel storage tanks at the Site and the adjacent property to the east and with the former use of the Site as a heavy equipment contractor/rental business with an associated service garage and repair facility:

1. Petroleum Hydrocarbons ranges F1-F4 (PHCs).
2. Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs).
3. Polycyclic Aromatic Hydrocarbons (PAHs).
4. Volatile Organic Compounds (VOCs).
5. Heavy Metals.

Subsurface Conditions

Underground services enter the buildings from Baseline Road to the north of the Site. The service orientation, location, and shallow depth are not considered to impact overburden groundwater movement due to the locations relative to the recorded water levels. Given their locations, these service trenches are not considered to have the potential to act as conduits for contaminant migration.

Physical Setting - Stratigraphy

As diagrammed in the Borehole Logs in Appendix B, the current investigation identified two (2) subsurface soil types within the depth investigated, namely:

- Silty Sand and Gravel (fill)
- Silty Clay.

Physical Setting – Hydrogeological

The interpretation of groundwater flow was based upon the generally known geology, the location and flow direction of surface water bodies and the static water levels collected from monitoring wells completed on the Site as part of this assessment. The direction of overburden groundwater flow was determined to be from the southeast to northwest. Based

on the recorded groundwater elevations in Table B above, and a lateral separation distance between monitoring well locations, the horizontal hydraulic gradient is approximately 0.022 m/m. The hydraulic gradient is expected to vary with seasonal and weather conditions.

Based on differences in the geology observed on the Site, it appears that the overburden aquifer is unconfined.

Physical Setting – Bedrock

Bedrock was confirmed by others during the 2013 drilling program by coring bedrock. Interbedded limestone and shale bedrock was encountered at an approximate depth of 13.5 m below ground surface in the 2013 drilling investigation by others.

Physical Setting – Groundwater Table

The overburden groundwater table was measured at depths ranging from 1.5 to 2.8 mBG on August 5, 2014. Groundwater levels were measure again on November 25, 2014 and were found to range from 1.9 to 2.6 mBG. The bedrock groundwater table was measured at an approximate depth of 4.4 mBG. It should be noted that the water table elevation is expected to vary with seasonal and weather conditions.

Physical Setting – Sensitive or Shallow or Surface Water

The Site is not classified as a sensitive site (Table 1), as the Site does not contain or is not within 30 m of an area of natural significance and the pH of the soil is within the 5-9 range. As greater than 2/3 of the property has more than 2.0 m of natural occurring overburden, the Site is not classified as Shallow Soil Property (Table 6/7). As there are no natural surface water bodies on-Site or within 30 m of the Site, the property is not classified as Surface Water Property (Table 8/9).

The soils underlying the Site consist of granular fill followed by predominantly silty clay. Because grain size analysis has not been completed as part of this investigation, the Site will be compared to coarse grained soil criteria, which generally provide a more conservative comparison to the O.Reg. 153/04 criteria. The site will be compared to coarse grained soil criteria.

Physical Setting – Fill

A layer of fill (silty sand and gravel) approximately 0.6 m in thickness was observed in both of the boreholes advanced as part of this assessment. No deleterious fill material was observed in any of the boreholes.

Physical Setting – Existing and Proposed Structures

Two commercial/industrial buildings are present on the northeast and northwest portions of the Site. It is our understanding that the Client intends to redevelop the southern portion of the Phase Two Property (2940 Baseline Road) with multi-storey, multi-tenant residential buildings.

Contamination

SOIL

Soil samples were collected from the boreholes advanced as part of the 2013 ESI by others from May 1 through May 6, 2013 and as part of this investigation on November 18, 2014 and were analysed for a combination of metals, PHCs, BTEXs and pH.

One of the analysed soil samples BH13-4-SS1 (0.0-0.6 mBG) presented O. Reg. 153/04 Table 3 exceedances of the F3 fraction of **Petroleum Hydrocarbons (PHCs)**. The sample was collected from the fill on the east-central portion of the Site. Soil samples collected from the native soils on the Site had PHCs concentrations in compliance with the O. Reg. 153/04 criteria. Accordingly, this sample is not considered representative of overall Site conditions. It is suspected that an area of contaminated soil is present on the east-central portion of the Site which is limited to the fill material. The contaminated soil is suspected to be associated with spillage or leakage of equipment, and is expected to be localised in this area of the Site.

GROUNDWATER

Groundwater was sampled and analysed for a combination of metals, PHCs, PAHs, VOCs and pH on August 5 and November 25, 2014. All of analysed groundwater sample results were in compliance with the O. Reg. 153/04 Table 3 criteria.

7.0 CONCLUSIONS

Contaminants

SOIL

Soil samples were collected from the boreholes advanced as part of the 2013 ESI by others from May 1 through May 6, 2013 and as part of this investigation on November 18, 2014 and were analysed for a combination of metals, PHCs, BTEXs and pH.

One (1) of the analysed soil samples BH13-4-SS1 (0.0-0.6 mBG) presented O. Reg. 153/04 Table 3 exceedances of the F3 fraction of **Petroleum Hydrocarbons (PHCs)**. The sample was collected from the fill on the east-central portion of the Site. Soil samples collected from the native soils on the Site had PHCs concentrations in compliance with the O. Reg. 153/04 criteria. Accordingly, this sample is not considered representative of overall Site conditions. It is suspected that an area of contaminated soil is present on the east-central portion of the Site which is limited to the fill material. The contaminated soil is suspected to be associated with spillage or leakage of equipment, and is expected to be localised in this area of the Site.

A remedial action plan and soil management program will be developed for the client in order to manage and dispose of the contaminated soil at the time of development.

GROUNDWATER

Groundwater was sampled and analysed for a combination of metals, PHCs, PAHs, VOCs and pH on August 5 and November 25, 2014. All of analysed groundwater sample results were in compliance with the O. Reg. 153/04 Table 3 criteria.

Risk Assessment

There are Table 3 exceedances in soil. The site may be considered for a Risk Assessment, however, it is recommended that the generic remediation approach be conducted prior to Site redevelopment to remove and dispose of any contaminated soil on the Site.

Site Compliance

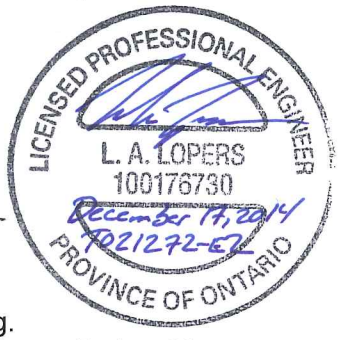
There is an O. Reg, 153/03 Table 3 exceedance of F3 fraction of **Petroleum Hydrocarbons (PHCs)** in one soil sample (BH13-4-SS1 (0.0-0.6 mBG)). The Site is not considered to be in compliance with the O. Reg. 153/04 criteria and requires soil remediation/removal or a risk assessment.

INSPEC-SOL
ENGINEERING SOLUTIONS

Confirmation

I, Luke Lopers, Qualified Person for Environmental Site Assessment under O. Reg. 153/04, confirm the carrying out of the Phase Two Environmental Site Assessment and the findings and conclusions of this report.

Respectfully,
INSPEC-SOL INC



Luke Lopers, P.Eng.
Environmental Engineer, Project Manager

8.0 REFERENCES

- Ontario Regulation 153/04
- "*Phase I ESA Update, 2940 Baseline Road, Ottawa*" prepared by Trow Associates Inc., dated August 2009;
- "*Environmental Site Remediation Program, Industrial Property, 2940 Baseline Road, Ottawa, Ontario*" prepared by Paterson Group Inc., dated December 23, 2009 – Report was Incomplete Missing Figures;
- "*Phase I - Environmental Site Assessment, Commercial Property, 2946-2948 Baseline Road, Ottawa, Ontario*" prepared by Paterson Group Inc., dated December 1, 2010.
- "*Phase I Environmental Site Assessment, 2946-2948 Baseline Road, Ottawa, Ontario*" prepared by Exp Services Inc., dated January 17, 2013.
- "*Environmental Soil Investigation, Proposed Development, 2940, 2946 & 2948 Baseline Road, Ottawa, Ontario*" prepared by SPL Consultants Limited, dated June, 2013;
- *"Phase One Environmental Site Assessment, 2940 and 2946-2948 Baseline Road, Ottawa, Ontario"* Reference No. T021272-E1, prepared by Inspec-Sol Inc., dated May 5, 2014.
- Certificate of Analysis – Exova #1424685 – Soil – November 25, 2014
- Certificate of Analysis – Exova #1416330 – Groundwater – August 12, 2014
- Certificate of Analysis – Exova #1425071 – Groundwater – November 27, 2014

Tables

- Table C - DNAPL / LNAPL Layer
- Table D - Summary of Soil Analysis
- Table E - Summary of Groundwater Analysis
- Table F - Maximum Soil Parameter Concentrations
- Table G - Maximum Groundwater Parameter Concentrations

T021272-E2
2940 & 2946-2948 BASELINE ROAD, OTTAWA, ON
TABLE C
DNAPL/LNAPL Layer
O.REG.153/04(2011)

ID	Grade Elevation m	TOP elevation m	Bottom depth m	Bottom elevation m	Depth to Watertable (Aug. 5, 2014) m	Watertable Elevation (Aug. 5, 2014) m	Depth to Watertable (Nov. 25, 2014) m	Watertable Elevation (Nov. 25, 2014) m	LNAPL (Aug & Nov, 2014) m	DNAPL (Aug & Nov, 2014) m
OVERBURDEN WELLS										
BH1(MW)	77.77	77.4	6.35	71.42	1.72	75.68	2.14	75.26	0.00	0.00
BH7(MW)	77.66	77.57	4.78	72.88	1.79	75.78	N/A	N/A	0.00	0.00
BH13-2	77.7	77.5	16.5	61.2	4.36	73.14	N/A	N/A	0.00	0.00
BH13-5	79.75	79.63	6.12	73.63	1.45	78.18	2.55	77.08	0.00	0.00
BH13-7	77.7	77.62	7.6	70.1	2.78	74.84	N/A	N/A	0.00	0.00
BH14-1	78.23	78.13	5.12	73.11	N/A	N/A	1.92	76.21	0.00	0.00
BH14-2	79.06	78.89	5.47	73.59	N/A	N/A	2.21	76.68	0.00	0.00

T021272-E2
2940 & 2946-2948 BASELINE ROAD, OTTAWA, ON
TABLE D
COMPARISON OF SOIL ANALYTICAL RESULTS
O.REG.153/04(2011)

Reg. 153/04 (2011)		O.Reg.153/04 (2011)	O.Reg.153/04 (2011)	2014 Phase Two ESA (Inspec-Sol)		2013 Environmental Soil Investigation (by Others)						
Parameter	**Units**	**TABLE 1** agricultural or other	**TABLE 3** residential/ parkland/ institutional	BH1-14-SS4 18-Nov-14 1147511 **2.3 - 2.9 m**	BH2-14-SS5 18-Nov-14 1147512 **3.1 - 3.7 m**	BH13-2 SS7 3-May-13 L1298752-1 **4.6-5.2 m**	BH13-3 SS1 1-May-13 L1298752-2 **0.0-0.6 m**	BH13-4 SS1 6-May-13 L1298752-3 **0.0-0.6 m**	BH13-5 SS1 6-May-13 L1298752-4 **0.0-0.6 m**	BH13-6 SS1A 2-May-13 L1298752-5 **0.0-0.3 m**	BH13-8 SS1 2-May-13 L1298752-6 **0.0-0.6 m**	QAQC1 Field Duplicate of BH13-8 SS1 L1298752-7
IONS AND METALS												
Antimony	ug/g	1	7.5	-	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	ug/g	11	18	-	-	1.1	1.9	2.5	2.3	ND (1.0)	2.7	2.1
Barium	ug/g	210	390	-	-	200	**243**	**281**	**244**	83.3	142	107
Beryllium	ug/g	2.5	(5) 4	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Boron (hot water extract, for <1.5m BG)	ug/g	NA	1.5	-	-	0.21	0.21	0.24	0.26	0.16	0.19	-
Boron (total, for >1.5m BG)	ug/g	36	120	-	-	5.3	17.3	24.3	11.4	6.4	12.6	8.9
Cadmium	ug/g	1	1.2	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chromium (Total)	ug/g	67	160	-	-	38.3	17.4	17.3	30.2	9.4	16.8	13.7
Chromium (VI)	ug/g	0.66	(10) 8	-	-	<0.20	0.5	0.34	**1.08**	0.31	0.41	-
Cobalt	ug/g	19	22	-	-	10.4	5.4	6.9	8.5	3.8	5.6	4.4
Copper	ug/g	62	140	-	-	20.3	14.8	17.4	19.9	9.3	24.2	18.4
Cyanide (free)	ug/g	0.051	0.051	-	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Lead	ug/g	45	120	-	-	3.9	**46.9**	20.8	26.9	7.7	28.3	20.4
Mercury	ug/g	0.16	(1.8) 0.27	-	-	ND (0.010)	0.015	0.016	0.014	ND (0.010)	0.017	-
Molybdenum	ug/g	2	6.9	-	-	ND (1.0)	1.5	ND (1.0)	1.2	ND (1.0)	1.9	1.2
Nickel	ug/g	37	(130) 100	-	-	21.4	11.6	14.5	17	6.6	14.7	10.5
Selenium	ug/g	**1.2**	2.4	-	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Silver	ug/g	0.5	(25) 20	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Thallium	ug/g	1	1	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Uranium	ug/g	1.9	23	-	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	ug/g	86	86	-	-	55.4	17.5	18.4	38.6	19.9	18	13.8
Zinc	ug/g	290	340	-	-	57.3	38.9	49.5	52.1	22.5	92.9	69.1
FUELS & BTEX												
PHC F1 (C6-C10)****	ug/g	17	(65) 55	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	-
PHC F2 (>C10-C16)	ug/g	10	(150) 98	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-
PHC F3 (>C16-C34)	ug/g	240	(1300) 300	ND (20)	ND (20)	ND (50)	ND (50)	**401**	**288**	ND (50)	113	-
PHC F4 (>C34-C50)	ug/g	120	(5600) 2800	ND (20)	ND (20)	ND (50)	ND (50)	**1090**	**455**	ND (50)	**190**	-
Benzene	ug/g	0.02	(0.17) 0.21	ND (0.02)	ND (0.02)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	-
Toluene	ug/g	0.2	(6) 2.3	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-
Ethylbenzene	ug/g	0.05	(15) 2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	-
Xylene Mixture	ug/g	0.05	(25) 3.1	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	-
Xylene, m,p-	ug/g	-	--	ND (0.05)	ND (0.05)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	-
Xylene, o-	ug/g	-	--	ND (0.05)	ND (0.05)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	-
PAHs												
Acenaphthene	ug/g	0.05	(58) 7.9	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Acenaphthylene	ug/g	0.093	(0.17) 0.15	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Anthracene	ug/g	0.05	(0.74) 0.67	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Benzo(a)anthracene	ug/g	0.095	(0.63) 0.5	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Benzo(a)pyrene	ug/g	0.05	0.3	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Benzo(b)fluoranthene	ug/g	0.3	0.78	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.058	-
Benzo(g,h,i)perylene	ug/g	0.2	(7.8) 6.6	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Benzo(k)fluoranthene	ug/g	0.05	0.78	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Chrysene	ug/g	0.18	(7.8) 7	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Dibenz(a,h)anthracene	ug/g	0.1	0.1	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Fluoranthene	ug/g	0.24	0.69	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.065	-
Fluorene	ug/g	0.05	(69) 62	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Indeno(1,2,3,-cd)pyrene	ug/g	0.11	(0.48) 0.38	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Methylnaphthalene,1-	ug/g	-	--	ND (0.05)	-	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	-
Methylnaphthalene,2-	ug/g	-	--	ND (0.05)	-	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	ND (0.030)	-
Methylnaphthalene (1+ 2)	ug/g	0.05	(3.4) 0.99	-	-	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	-
Naphthalene	ug/g	0.05	(0.75) 0.6	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Phenanthrene	ug/g	0.19	(7.8) 6.2	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	-
Pyrene	ug/g	0.19	78	ND (0.05)	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.053	-
INDICES												
pH		-	5-9* or 5-11*	7.3	7.4	8	7.88	7.75	7.66	7.77	7.6	-
Conductivity	µmho/cm	0.47	0.7			0.338	0.324	0.303	0.365	0.133	0.18	-
Sample date (d/m/y)				18-Nov-14	18-Nov-14	3-May-13	1-May-13	6-May-13	6-May-13	2-May-13	2-May-13	2-May-13
Laboratory ID				1147511	1147512	L1298752-1	L1298752-2	L1298752-3	L1298752-4	L1298752-5	L1298752-6	L1298752-7

TABLE 1 EXCEEDENCE
TABLE 3 EXCEEDENCE
( ) Standard value in brackets applies to medium and fine textured soils
* the site is automatically Environmentally Sensitive (a Table 1) if pH is outside the range of 5<pH<9 (shallow soils <1.5m) or 5<pH<11 (subsurface soils >1.5m)
**** F1 does not include BTEX, proponent may subtract BTEX from the analytical result
-- Not listed in standards

T021272-E2
2940 & 2946-2948 BASELINE ROAD, OTTAWA, ON
TABLE E
COMPARISON OF GROUNDWATER ANALYTICAL RESULTS
O.REG.153/04(2011)

Reg. 153/04 (2011) Parameter	**Units**	O.Reg.153/04 (2011) **Table 3** Non-potable Groundwater All Property Types	BH1 (MW) - GW1 5-Aug-2014 Groundwater	BH7 (MW) - GW1 5-Aug-2014 Groundwater	DUP-GW1 Duplicate of BH7 (MW)-GW1 5-Aug-2014 Groundwater	BH13-2 - GW1 5-Aug-2014 Groundwater	BH13-5 - GW1 5-Aug-2014 Groundwater	BH13-7 - GW1 5-Aug-2014 Groundwater	BH14-1 25-Nov-2014 Groundwater	BH14-2 25-Nov-2014 Groundwater
IONS AND METALS										
Antimony	ug/L	20000	ND (0.5)	ND (0.5)	-	ND (0.5)	ND (0.5)	-	ND (0.5)	-
Arsenic	ug/L	1900	ND (1)	3	-	ND (1)	1	-	ND (1)	-
Barium	ug/L	29000	80	350	-	120	40	-	60	-
Beryllium	ug/L	67	ND (0.5)	0.6	-	ND (0.5)	ND (0.5)	-	ND (0.5)	-
Boron (total, for >1.5m BG)	ug/L	45000	40	70	-	ND (10)	80	-	40	-
Cadmium	ug/L	2.7	ND (0.1)	0.2	-	ND (0.1)	ND (0.1)	-	ND (0.1)	-
Chloride	ug/L	2300000	74	101	-	8	18	-	-	-
Chromium (Total)	ug/L	810	1	18	-	2	ND (1)	-	ND (1)	-
Chromium (VI)	ug/L	140	ND (10)	ND (10)	-	ND (10)	ND (10)	-	-	-
Cobalt	ug/L	66	0.6	10.6	-	0.9	0.3	-	0.4	-
Copper	ug/L	87	2	45	-	9	ND (1)	-	1	-
Cyanide (free)	ug/L	66	ND (5)	ND (5)	-	ND (5)	ND (5)	-	-	-
Lead	ug/L	25	ND (1)	7	-	5	ND (1)	-	ND (1)	-
Mercury	ug/L	(2.8) 0.29	ND (0.1)	ND (0.1)	-	ND (0.1)	ND (0.1)	-	-	-
Molybdenum	ug/L	9200	ND (5)	ND (5)	-	ND (5)	ND (5)	-	ND (5)	-
Nickel	ug/L	490	ND (5)	21	-	ND (5)	ND (5)	-	ND (5)	-
Selenium	ug/L	63	ND (1)	4	-	ND (1)	ND (1)	-	ND (1)	-
Silver	ug/L	1.5	0.3	0.4	-	0.3	0.2	-	ND (0.1)	-
Sodium	ug/L	2300000	25000	50000	-	5000	20000	-	64000	-
Thallium	ug/L	510	ND (0.1)	0.1	-	ND (0.1)	ND (0.1)	-	ND (0.1)	-
Uranium	ug/L	420	ND (1)	3	-	ND (1)	ND (1)	-	2	-
Vanadium	ug/L	250	4	39	-	2	2	-	ND (1)	-
Zinc	ug/L	1100	ND (10)	60	-	ND (10)	ND (10)	-	ND (10)	-
FUELS & BTEX										
PHC F1 (C6-C10)****	ug/L	750	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (20)	ND (20)
PHC F2 (>C10-C16)	ug/L	150	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (20)	ND (20)
PHC F3 (>C16-C34)	ug/L	500	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (50)	ND (50)
PHC F4 (>C34-C50)	ug/L	500	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (50)	ND (50)
Benzene	ug/L	(430) 44	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Toluene	ug/L	18000	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	2300	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylene, m,p-	ug/L	4200	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylene, o-	ug/L		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylene Mixture	ug/L	4200	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
PAHs										
Acenaphthene	ug/L	(1700) 600	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Acenaphthylene	ug/L	1.8	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Anthracene	ug/L	2.4	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Benzo(a)anthracene	ug/L	4.7	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Benzo(a)pyrene	ug/L	0.81	ND (0.01)	ND (0.01)	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	0.75	ND (0.05)	ND (0.05)	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	0.4	ND (0.05)	ND (0.05)	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	0.2	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Chrysene	ug/L	1	ND (0.05)	ND (0.05)	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	0.52	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Fluoranthene	ug/L	130	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Fluorene	ug/L	400	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Indeno(1,2,3,-cd)pyrene	ug/L	0.2	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Methylnaphthalene,1-	ug/L	-	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Methylnaphthalene,2-	ug/L	-	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Methylnaphthalene (1+ 2)	ug/L	1800	ND (0.2)	ND (0.2)	-	-	-	-	-	-
Naphthalene	ug/L	(6400) 1400	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Phenanthrene	ug/L	580	ND (0.1)	ND (0.1)	-	-	-	-	-	-
Pyrene	ug/L	68	ND (0.1)	ND (0.1)	-	-	-	-	-	-
VOCs										
Acetone	ug/L	130000	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	-
Benzene	ug/L	(430) 44	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromodichloromethane	ug/L	85000	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	-
Bromoform	ug/L	(770) 380	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Bromomethane	ug/L	(56) 5.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Carbon Tetrachloride	ug/L	(8.4) 0.79	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Chloroform	ug/L	(22) 2.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Dibromochloromethane	ug/L	82000	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	-
Dichlorobenzene,1,2-(o, m, or p)	ug/L	(9600) 4600	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichlorobenzene,1,3-	ug/L	9600	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichlorobenzene,1,4-	ug/L	(67) 8	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichlorodifluoromethane	ug/L	4400	ND (0.5)	1.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Dichloroethane,1,1-	ug/L	(3100) 320	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichloroethane,1,2-	ug/L	(12) 1.6	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Dichloroethylene, 1,1-	ug/L	(17) 1.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Dichloroethylene, cis-1,2-	ug/L	(17) 1.6	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichloroethylene, trans-1,2-	ug/L	(17) 1.6	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Dichloromethane (Methylene Chloride)	ug/L	(5500) 610	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	-
Dichloropropane,1,2-	ug/L	(140) 16	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Cis-1,3-Dichloropropylene	ug/L	(45) 5.2	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Trans-1,3-Dichloropropylene	ug/L		ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Ethylbenzene	ug/L	2300	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylene Dibromide	ug/L	(0.83) 0.25	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Hexane (n)	ug/L	(520) 51	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	-
Methyl Ethyl Ketone	ug/L	(1500000) 470000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-
Methyl Isobutyl Ketone	ug/L	(580000) 140000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-
Methyl tert-Butyl Ether (MTBE)	ug/L	(1400) 190	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-
Monochlorobenzene (Chlorobenzene)	ug/L	630	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Styrene	ug/L	(9100) 1300	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Tetrachloroethane,1,1,1,2-	ug/L	(28) 3.3	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Tetrachloroethane,1,1,2,2-	ug/L	(15) 3.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Tetrachloroethylene	ug/L	(17) 1.6	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	-
Toluene	ug/L	18000	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Trichloroethane,1,1,1-	ug/L	(6700) 640	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Trichloroethane,1,1,2-	ug/L	(30) 4.7	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	-
Trichloroethylene	ug/L	(17) 1.6	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	-
Trichlorofluoromethane	ug/L	2500	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-
Vinyl Chloride	ug/L	(1.7) 0.5	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-
Xylene, m,p-	ug/L	4200	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylene, o-	ug/L		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylene Mixture	ug/L	4200	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
INDICES										
pH		--	7.87	7.56	-	8.16	7.95	7.59	7.76	7.36
Conductivity	uS		917	1230	-	338	424	-	-	-
Sample date (d/m/y)			8/5/2014	8/5/2014	8/5/2014	8/5/2014	8/5/2014	8/5/2014	11/25/2014	11/25/2014
Laboratory Sample Number			1123984	1123985	1123989	1123986	1123987	1123988	1148668	1148669
Laboratory Report date (d/m/y)			8/12/2014	8/13/2014	8/17/2014	8/14/2014	8/15/2014	8/16/2014	11/27/2014	11/27/2014
Laboratory Report Number			1416330	1416330	1416330	1416330	1416330	1416330	1425071	1425071

TABLE 3 EXCEEDENCE
* the site is automatically Environmentally Sensitive (a Table 1) if pH is outside the range of 5<pH<9 (shallow soils <1.5m) or 5<pH<11 (subsurface soils >1.5m)
**** F1 does not include BTEX, proponent may subtract BTEX from the analytical result
N/A - Not applicable
N/V - No Value Derived
-- Not listed in standards
- Not Analysed

T021272-E2
2940 & 2946-2948 BASELINE ROAD, OTTAWA, ON
TABLE F
MAXIMUM SOIL PARAMETER CONCENTRATIONS
O.REG.153/04(2011)

Reg. 153/04 (2011) Parameter	**Units**	O.Reg.153/04 (2011) **TABLE1** Background All Other Property Uses	O.Reg.153/04 (2011) **TABLE 3** residential/ parkland/ institutional	**Maximum Soil Concentration**	**Sample ID**	**Depth**
IONS AND METALS						
Antimony	ug/g	1.3	(50) 40	ND (1.0)	ALL	N/A
Arsenic	ug/g	18	18	2.7	BH13-8 SS1	0.0-0.6 m
Barium	ug/g	220	670	**281**	BH13-4 SS1	0.0-0.6 m
Beryllium	ug/g	2.5	(10) 8	ND (0.50)	ALL	N/A
Boron (total, for >1.5m BG)	ug/g	36	120	24.3	BH13-4 SS1	0.0-0.6 m
Cadmium	ug/g	1.2	1.9	ND (0.50)	ALL	N/A
Chromium (Total)	ug/g	70	160	38.3	BH13-2 SS7	4.6-5.2 m
Chromium (VI)	ug/g	0.66	(10) 8	**1.08**	BH13-5 SS1	1.2-1.6m
Cobalt	ug/g	21	(100) 80	10.4	BH13-2 SS7	4.6-5.2 m
Copper	ug/g	92	(300) 230	24.2	BH13-8 SS1	0.0-0.6 m
Lead	ug/g	120	120	**46.9**	BH13-3 SS1	0.0-0.6 m
Mercury	ug/g	0.27	(20) 3.9	0.017	BH13-8 SS1	0.0-0.6 m
Molybdenum	ug/g	2	40	1.9	BH13-8 SS1	0.0-0.6 m
Nickel	ug/g	82	(340) 270	21.4	BH13-2 SS7	4.6-5.2 m
Selenium	ug/g	1.5	5.5	ND (1.0)	ALL	N/A
Silver	ug/g	0.5	(50) 40	ND (0.20)	ALL	N/A
Thallium	ug/g	1	3.3	ND (0.50)	ALL	N/A
Uranium	ug/g	2.5	33	ND (1.0)	ALL	N/A
Vanadium	ug/g	86	86	55.4	BH13-2 SS7	4.6-5.2 m
Zinc	ug/g	290	340	92.9	BH13-8 SS1	0.0-0.6 m
FUELS & BTEX						
PHC F1 (C6-C10)****	ug/g	25	(65) 55	ND (5.0)	ALL	N/A
PHC F2 (>C10-C16)	ug/g	10	(250) 230	ND (10)	ALL	N/A
PHC F3 (>C16-C34)	ug/g	240	(2500) 1700	**401**	BH13-4 SS1	0.0-0.6 m
PHC F4 (>C34-C50)	ug/g	120	(6600) 3300	**1090**	BH13-4 SS1	0.0-0.6 m
Benzene	ug/g	0.02	(0.4) 0.32	ND (0.020)	ALL	N/A
Toluene	ug/g	0.2	(78) 68	ND (0.20)	ALL	N/A
Ethylbenzene	ug/g	0.05	(19) 9.5	ND (0.05)	ALL	N/A
Xylene, m,p-	ug/g	--	-	ND (0.05)	ALL	N/A
Xylene, o-	ug/g	--	-	ND (0.030)	ALL	N/A
Xylene Mixture	ug/g	0.05	(30) 26	ND (0.020)	ALL	N/A
PAHs						
Acenaphthene	ug/g	0.072	96	ND (0.050)	ALL	N/A
Acenaphthylene	ug/g	0.093	(0.17) 0.15	ND (0.050)	ALL	N/A
Anthracene	ug/g	0.16	(0.74) 0.67	ND (0.050)	ALL	N/A
Benzo(a)anthracene	ug/g	0.36	0.96	ND (0.050)	ALL	N/A
Benzo(a)pyrene	ug/g	0.3	0.3	ND (0.050)	ALL	N/A
Benzo(b)fluoranthene	ug/g	0.47	0.96	0.058	BH13-8 SS1	0.0-0.6 m
Benzo(g,h,i)perylene	ug/g	0.68	9.6	ND (0.050)	ALL	N/A
Benzo(k)fluoranthene	ug/g	0.48	0.96	ND (0.050)	ALL	N/A
Chrysene	ug/g	2.8	9.6	ND (0.050)	ALL	N/A
Dibenz(a,h)anthracene	ug/g	0.1	0.1	ND (0.050)	ALL	N/A
Fluoranthene	ug/g	0.56	9.6	0.065	BH13-8 SS1	0.0-0.6 m
Fluorene	ug/g	0.12	(69) 62	ND (0.050)	ALL	N/A
Indeno(1,2,3,-cd)pyrene	ug/g	0.23	(0.95) 0.76	ND (0.050)	ALL	N/A
Methylnaphthalene,1-	ug/g	--	(85) 76	ND (0.030)	ALL	N/A
Methylnaphthalene,2-	ug/g	--	(3.4) 0.99	ND (0.030)	ALL	N/A
Methylnaphthalene (1+ 2)	ug/g	0.59	(85) 76	ND (0.042)	ALL	N/A
Naphthalene	ug/g	0.09	(28) 9.6	ND (0.050)	ALL	N/A
Phenanthrene	ug/g	0.69	(16) 12	ND (0.050)	ALL	N/A
Pyrene	ug/g	1	96	0.053	BH13-8 SS1	0.0-0.6 m

TABLE 1 EXCEEDENCE
TABLE 3 EXCEEDENCE
( ) Standard value in brackets applies to medium and fine textured soils
* the site is automatically Environmentally Sensitive (a Table 1) if pH is outside the range of 5<pH<9 (shallow soils <1.5m) or 5<pH<11 (subsurface soils >1.5m)
**** F1 does not include BTEX, proponent may subtract BTEX from the analytical result
-- Not listed in standards
- Not Analysed

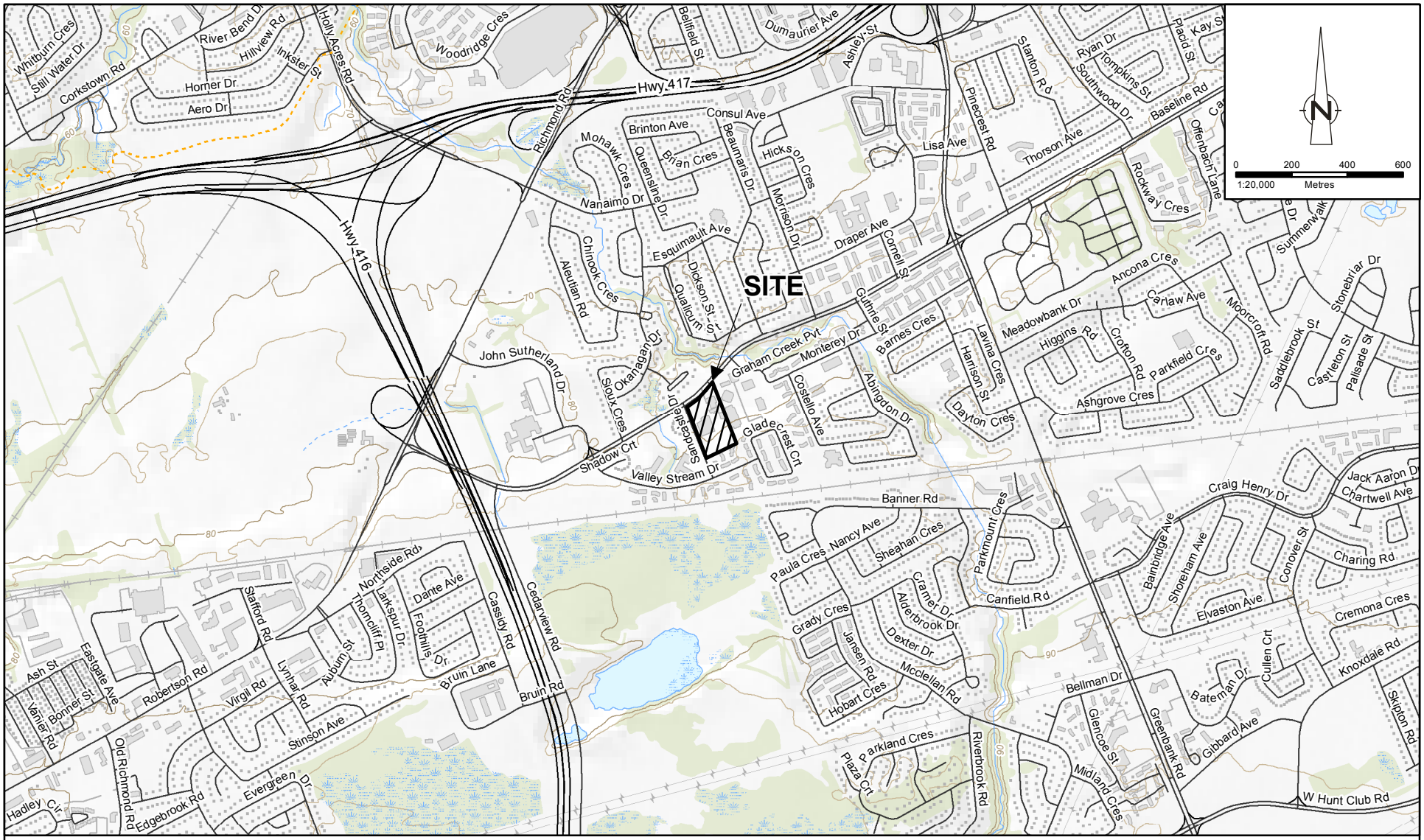
T021272-E2
2940 & 2946-2948 BASELINE ROAD, OTTAWA, ON
TABLE G
MAXIMUM GROUNDWATER PARAMETER CONCENTRATIONS
O.REG.153/04(2011)

Reg. 153/04 (2011) Parameter	**Units**	O.Reg.153/04 (2011) **Table 3** Non-potable Groundwater All Property Types	**Maximum Groundwater Concentration**	**Sample ID**
IONS AND METALS				
Antimony	ug/L	20000	ND (0.5)	ALL
Arsenic	ug/L	1900	3	BH7 (MW) - GW1
Barium	ug/L	29000	350	BH7 (MW) - GW1
Beryllium	ug/L	67	0.6	BH7 (MW) - GW1
Boron (total, for >1.5m BG)	ug/L	45000	80	BH13-5 - GW1
Cadmium	ug/L	2.7	0.2	BH7 (MW) - GW1
Chloride	ug/L	2300000	101	BH7 (MW) - GW1
Chromium (Total)	ug/L	810	18	BH7 (MW) - GW1
Chromium (VI)	ug/L	140	ND (10)	ALL
Cobalt	ug/L	66	10.6	BH7 (MW) - GW1
Copper	ug/L	87	45	BH7 (MW) - GW1
Cyanide (free)	ug/L	66	ND (5)	ALL
Lead	ug/L	25	7	BH7 (MW) - GW1
Mercury	ug/L	(2.8) 0.29	ND (0.1)	ALL
Molybdenum	ug/L	9200	ND (5)	ALL
Nickel	ug/L	490	21	BH7 (MW) - GW1
Selenium	ug/L	63	4	BH7 (MW) - GW1
Silver	ug/L	1.5	0.4	BH7 (MW) - GW1
Sodium	ug/L	2300000	64000	BH14-1
Thallium	ug/L	510	0.1	BH7 (MW) - GW1
Uranium	ug/L	420	3	BH7 (MW) - GW1
Vanadium	ug/L	250	39	BH7 (MW) - GW1
Zinc	ug/L	1100	60	BH7 (MW) - GW1
FUELS & BTEX				
PHC F1 (C6-C10)****	ug/L	750	ND (100)	ALL
PHC F2 (>C10-C16)	ug/L	150	ND (100)	ALL
PHC F3 (>C16-C34)	ug/L	500	ND (200)	ALL
PHC F4 (>C34-C50)	ug/L	500	ND (200)	ALL
Benzene	ug/L	(430) 44	ND (0.5)	ALL
Ethylbenzene	ug/L	2300	ND (0.5)	ALL
Xylene, m,p-	ug/L	4200	ND (0.5)	ALL
Xylene, o-	ug/L		ND (0.5)	ALL
Xylene Mixture	ug/L	4200	ND (1.0)	ALL
PAHs				
Acenaphthene	ug/L	(1700) 600	ND (0.1)	ALL
Acenaphthylene	ug/L	1.8	ND (0.1)	ALL
Anthracene	ug/L	2.4	ND (0.1)	ALL
Benzo(a)anthracene	ug/L	4.7	ND (0.1)	ALL
Benzo(a)pyrene	ug/L	0.81	ND (0.01)	ALL
Benzo(b)fluoranthene	ug/L	0.75	ND (0.05)	ALL
Benzo(k)fluoranthene	ug/L	0.4	ND (0.05)	ALL
Benzo(g,h,i)perylene	ug/L	0.2	ND (0.1)	ALL
Chrysene	ug/L	1	ND (0.05)	ALL
Dibenz(a,h)anthracene	ug/L	0.52	ND (0.1)	ALL
Fluoranthene	ug/L	130	ND (0.1)	ALL
Fluorene	ug/L	400	ND (0.1)	ALL
Indeno(1,2,3,-cd)pyrene	ug/L	0.2	ND (0.1)	ALL
Methylnaphthalene,1-	ug/L	-	ND (0.1)	ALL
Methylnaphthalene,2-	ug/L	-	ND (0.1)	ALL
Methylnaphthalene (1+ 2)	ug/L	1800	ND (0.2)	ALL
Naphthalene	ug/L	(6400) 1400	ND (0.1)	ALL
Phenanthrene	ug/L	580	ND (0.1)	ALL
Pyrene	ug/L	68	ND (0.1)	ALL
VOCs				
Acetone	ug/L	130000	ND (50)	ALL
Benzene	ug/L	(430) 44	ND (0.5)	ALL
Bromodichloromethane	ug/L	85000	ND (0.3)	ALL
Bromoform	ug/L	(770) 380	ND (0.4)	ALL
Bromomethane	ug/L	(56) 5.6	ND (0.5)	ALL
Carbon Tetrachloride	ug/L	(8.4) 0.79	ND (0.2)	ALL
Chloroform	ug/L	(22) 2.4	ND (0.5)	ALL
Dibromochloromethane	ug/L	82000	ND (0.3)	ALL
Dichlorobenzene,1,2-(o, m, or p)	ug/L	(9600) 4600	ND (0.4)	ALL
Dichlorobenzene,1,4-	ug/L	(67) 8	ND (0.4)	ALL
Dichlorodifluoromethane	ug/L	4400	1.6	ALL
Dichloroethane,1,1-	ug/L	(3100) 320	ND (0.4)	ALL
Dichloroethane,1,2-	ug/L	(12) 1.6	ND (0.2)	ALL
Dichloroethylene, 1,1-	ug/L	(17) 1.6	ND (0.5)	ALL
Dichloroethylene, cis-1,2-	ug/L	(17) 1.6	ND (0.4)	ALL
Dichloroethylene, trans-1,2-	ug/L	(17) 1.6	ND (0.4)	ALL
Dichloromethane (Methylene Chloride)	ug/L	(5500) 610	ND (4.0)	ALL
Dichloropropane,1,2-	ug/L	(140) 16	ND (0.5)	ALL
Cis-1,3-Dichloropropylene	ug/L	(45) 5.2	ND (0.2)	ALL
Trans-1,3-Dichloropropylene	ug/L		ND (0.2)	ALL
Ethylbenzene	ug/L	2300	ND (0.5)	ALL
Ethylene Dibromide	ug/L	(0.83) 0.25	ND (0.2)	ALL
Hexane (n)	ug/L	(520) 51	ND (5)	ALL
Methyl Ethyl Ketone	ug/L	(1500000) 470000	ND (10)	ALL
Methyl Isobutyl Ketone	ug/L	(580000) 140000	ND (10)	ALL
Methyl tert-Butyl Ether (MTBE)	ug/L	(1400) 190	ND (10)	ALL
Monochlorobenzene (Chlorobenzene)	ug/L	630	ND (0.2)	ALL
Styrene	ug/L	(9100) 1300	ND (0.5)	ALL
Tetrachloroethane,1,1,1,2-	ug/L	(28) 3.3	ND (0.5)	ALL
Tetrachloroethylene	ug/L	(17) 1.6	ND (0.3)	ALL
Toluene	ug/L	18000	ND (0.5)	ALL
Trichloroethane,1,1,1-	ug/L	(6700) 640	ND (0.4)	ALL
Trichloroethane,1,1,2-	ug/L	(30) 4.7	ND (0.4)	ALL
Trichlorofluoromethane	ug/L	2500	ND (0.5)	ALL
Vinyl Chloride	ug/L	(1.7) 0.5	ND (0.2)	ALL
Xylene, m,p-	ug/L	4200	ND (0.5)	ALL
Xylene, o-	ug/L		ND (0.5)	ALL
Xylene Mixture	ug/L	4200	ND (1.0)	ALL

TABLE 1 EXCEEDENCE
TABLE 3 EXCEEDENCE
* the site is automatically Environmentally Sensitive (a Table 1) if pH is outside the range of 5<pH<9 (shallow soils <1.5m) or 5<pH<11 (subsurface soils >1.5m)
**** F1 does not include BTEX, proponent may subtract BTEX from the analytical result
N/A - Not applicable
N/V - No Value Derived
-- Not listed in standards
- Not Analysed

Figures

- Site Location Map – Dwg. No.: T021272-E2-1
- Borehole Location Plan – Dwg. No.: T021272-E2-2



Source: MNR NRVIS, 2013. Produced by CRA under licence from Ontario Ministry of Natural Resources, © Queen's Printer 2014;
Coordinate System: NAD 1983 UTM Zone 18N

SITE LOCATION MAP

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
2940 AND 2946-2948 BASELINE ROAD, OTTAWA
Dwg. No. T021272-E2-1

INSPEC·SOL

T021272-E2(001)GIS-OT001 December 08, 2014

Areas of Potential Environmental Concern (APECs) and Potentially Contaminating Activities (PCAs)

1. #2940 Baseline Road - Former underground storage tank (MOE FOI, Previous Environmental Reports)
2. #2940 Baseline Road - Former aboveground storage tanks (MOE FOI, Previous Environmental Reports)
3. #2940 Baseline Road - Former Equipment Rental, Service and Repair (Site Visit, City Directories, Aerial Photographs, HLUI, MOE FOI, Previous Environmental Reports)
4. #2940 Baseline Road - Identified Surficial Soil Petroleum Hydrocarbon Contamination (Previous Environmental Soil Investigation Report)

N

0 10 20 30
Meters
1:1,250

Asphalt Parking
BH13-1
#2940 Baseline Road
BH7(MW)
BH13-7
Approximate Extent of 2009 Environmental Remediation Program
BH13-2
Water Supply Well
3
1
CB
TBM
Elev = 77.66m
BH13-10
BH1(MW)
BH13-9
Asphalt Parking
BH13-3
Propane Storage Area
BH14-1
2
Quonset Hut Storage
Storage
#2946 Baseline Road
Gravel
BH13-4
BH14-2
4
#2948 Baseline Road
Multi Tenant Commercial Building
BH13-5
BH13-8
Gravel
BH13-6
Cody Party Supply Storage Trailers
Asphalt Parking
Storage Shed
80

Source: MNR NRVIS, 2013. Produced by CRA under licence from Ontario Ministry of Natural Resources, © Queen's Printer 2014;
Coordinate System: NAD 1983 UTM Zone 18N

Legend

- Existing Monitoring Well by others (Sampled 2014)
- Monitoring Well (Inspecsol 2014)
- Catch Basin - TBM Elevation = 77.66m
- Borehole/Monitoring well prior to 2009 Environmental Remediation Program
- 2013 ESI Borehole Location (By Others)
- Natural Gas Connection
- Fence Line
- Site Boundary

iNSPEC•SOL

BOREHOLE LOCATION PLAN

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
2940 AND 2946-2948 BASELINE ROAD, OTTAWA

Dwg. No. T021272-E2-2

T021272-E2(001)GIS-OT002 December 16, 2014

Appendix A

- Sampling and Analysis Plans

INSPEC-SOL
ENGINEERING SOLUTIONS

3223701 CANADA INC.

Sampling and Analysis Plan
Phase Two Environmental Site Assessment
Commercial-Industrial Properties
2940 & 2946-2948 Baseline Road
Ottawa, Ontario

Date : **August 4, 2014**	Our Ref. : **T021272-E2**

INSPEC·SOL
ENGINEERING SOLUTIONS

TABLE OF CONTENTS

Attachments

- Borehole/Monitoring Well Locations

1.0 BACKGROUND

A Phase Two Environmental Site Assessment (Phase Two ESA) is to be completed for the commercial-industrial properties located at 2940 & 2946-2948 Baseline Road, Ottawa, Ontario ("Site") to investigate the areas of potential environmental concern (APEC) identified by the Phase One ESA research. The Phase One ESA identified two (2) potentially contaminating activities (PCAs) on the Site, including former fuel storage tanks and construction/equipment rental companies. These PCAs are considered areas of potential environmental concern (APECs) for the Site. Five (5) PCAs were identified on neighbouring properties in the Phase One Study Area as part of this assessment, two (2) are considered to represent APECs for the subject Site. These APECs for the Site include a former construction yard and former presence of fuel storage tanks on the adjacent property to the east.

An Environmental Soil Investigation (ESI) was completed on the Site in 2013 as part of a geotechnical investigation by SPL Consultants Limited (SPL). The boreholes were drilled and soil samples analysed in locations which allowed the assessment of the soil relating to the APECs identified in the Phase One ESA. The ESI identified the presence of soil petroleum hydrocarbons concentrations in excess of the Ontario Regulation 153/04 Residential property use criteria. Groundwater monitoring wells were installed in selected boreholes as part of the 2013 ESI and other previous investigations for the Site. The locations of these monitoring wells will allow for an assessment of the Site groundwater relating to the previously identified APECs.

The potential contaminants of concern (PCCs) in groundwater are metals/inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and pH parameters listed in Table 3 of MOE O.Reg. 153/04.

2.0 SPECIFIC OBJECTIVES

The following are the specific objectives of the planning of the site investigation component this Phase Two ESA, as stated in O.Reg. 153/04:

1. Plan an investigation that will achieve the general objectives of a Phase Two ESA,
    i. through the use of an appropriate and complete information base concerning the Phase Two property, and

ii. through the conduct of an investigation based both on information obtained before the Phase Two ESA begins and on the incorporation of information obtained during the Phase Two ESA.

2. To develop a sampling and analysis plan that will adequately assess all areas of the Phase Two property where contaminants may be present in land or water on, in or under the property.

3. To develop a quality assurance program that is designed to effectively limit errors and bias in sampling and analysis through implementation of assessment and control measures that will ensure data are useful, appropriate and accurate in the determination of whether the Phase Two property, meets applicable site condition criteria.

3.0 UTILITY SERVICE CLEARANCES

Borehole drilling and monitoring well installation has previously been completed during the 2013 Environmental Soil Investigation. Public and private utility service clearances are not required as part of this Phase Two investigation and are not part of the work program outlined in this mandate.

4.0 SPECIFIC REQUIREMENTS

4.1 Media For Investigation

- Groundwater monitoring wells (previously installed) will be used to facilitate the collection of groundwater samples.
- No sediment is present on the Site, as such; sediment sampling will not be conducted as part of this investigation.
- No surface water bodies are present on the Site, as such; surface water sampling will not be conducted as part of this investigation.

4.2 Locations and Depths for Sampling

Locations

The six (6) existing monitoring well locations are illustrated on the Site Plan sketch attached to this Sampling and Analysis Plan. The approximate locations and labelling of the boreholes/monitoring wells are as follows:

- BH1(MW), southwest building corner at 2940 Baseline Road;
- BH7(MW), inside south portion of 2 storey office addition onto east side of building at 2940 Baseline Road;
- BH13-2, near east property boundary at 2940 Baseline Road, inside former remediation excavation footprint;
- BH13-3, near central portion of property at 2940 Baseline Road, near former fuel storage tanks;
- BH13-5, near south-central portion of property at 2940 Baseline Road, in gravel surface work yard;
- BH13-7, near northeast property boundary at 2946-2948 Baseline Road.

Depths

Groundwater monitoring well screens have been installed within the overburden soil in five (5) of the six (6) monitoring wells. The monitoring well screen in BH13-2 was screened and sealed within the bedrock.

4.3 Parameters for Laboratory Analysis

Soil

Soil analysis has previously been conducted as part of the SPL 2013 ESI and will not be undertaken as part of this assessment. Analytical results from the SPL ESI were considered in determining the groundwater sampling program.

Groundwater

The following groundwater samples from the screened intervals will be submitted for laboratory analysis of the specified analytical parameters:

Location	Analytical Parameters	Approximate Depth of Sample
BH1(MW)	PHCs, VOCs, Metals, PAHs, pH	Screened Interval
BH7(MW)	PHCs, VOCs, Metals, PAHs, pH	Screened Interval
BH13-2	PHCs, VOCs, Metals, pH	Screened Interval
BH13-3	PHCs, VOCs, Metals, pH	Screened Interval
BH13-5	PHCs, VOCs, Metals, pH	Screened Interval
BH13-7	PHCs, VOCs, pH	Screened Interval
Trip Blank	VOCs	Provided by laboratory

Groundwater Duplicate

A duplicate sample will be selected based on visual and olfactory observations of potential contaminants in groundwater. If no observations of potential contaminants are made during the groundwater sampling program, a duplicate of BH1(MW)-GW1 or BH7(MW)-GW1 will be submitted for analysis of PHCs, VOCs and pH under the sample ID "DUP-GW1".

5.0 QUALITY ASSURANCE / QUALITY CONTROL

5.1 Decontamination of Sampling Equipment

Water level monitoring equipment, including water level meters and interface probes will be decontaminated with Alconox and rinsed with deionised water between water level readings to prevent cross contamination.

5.2 Trip Blanks

Since groundwater samples are to be analyzed for volatile organic compounds, one trip blank sample shall be submitted for laboratory analysis with each laboratory submission.

5.3 Field Duplicates

Field duplicate samples shall be collected in groundwater. At least one (1) field duplicate sample will be submitted for laboratory analysis for every ten (10) samples submitted for laboratory analysis. Field duplicates will be selected from samples which have the greatest probability of environmental contamination (i.e. where field observations indicate potential contamination is present). Duplicate selection was discussed further in *Section 4.3*.

5.4 Soil Vapour Screening

As previously discussed, soil sampling will not be undertaken as part of this assessment, as such, soil vapour screening will not be conducted.

6.0 STANDARD OPERATING PROCEDURES

Inspec-Sol standard operating procedures (SOP) shall be used during groundwater sampling. Deviations to the SOP shall be discussed with the project manager.

6.1 Well Development

Groundwater monitoring wells will be developed on the day of drilling. At least three (3) and up to ten (10) well volumes will be removed from the monitoring wells in order to remove all sediment from the wells. In cases where the monitoring well goes dry prior to purging three (3) well volumes, the well should be purged dry a minimum of three (3) times. Waterra tubing should be removed from the monitoring wells following well development.

6.2 Borehole Locating

The locations of all monitoring wells ***MUST*** be measured in the field on the day of groundwater sampling. Monitoring well locations should be measured with respect to building corners or known property boundaries and shown on a plan.

6.3 Elevation Survey

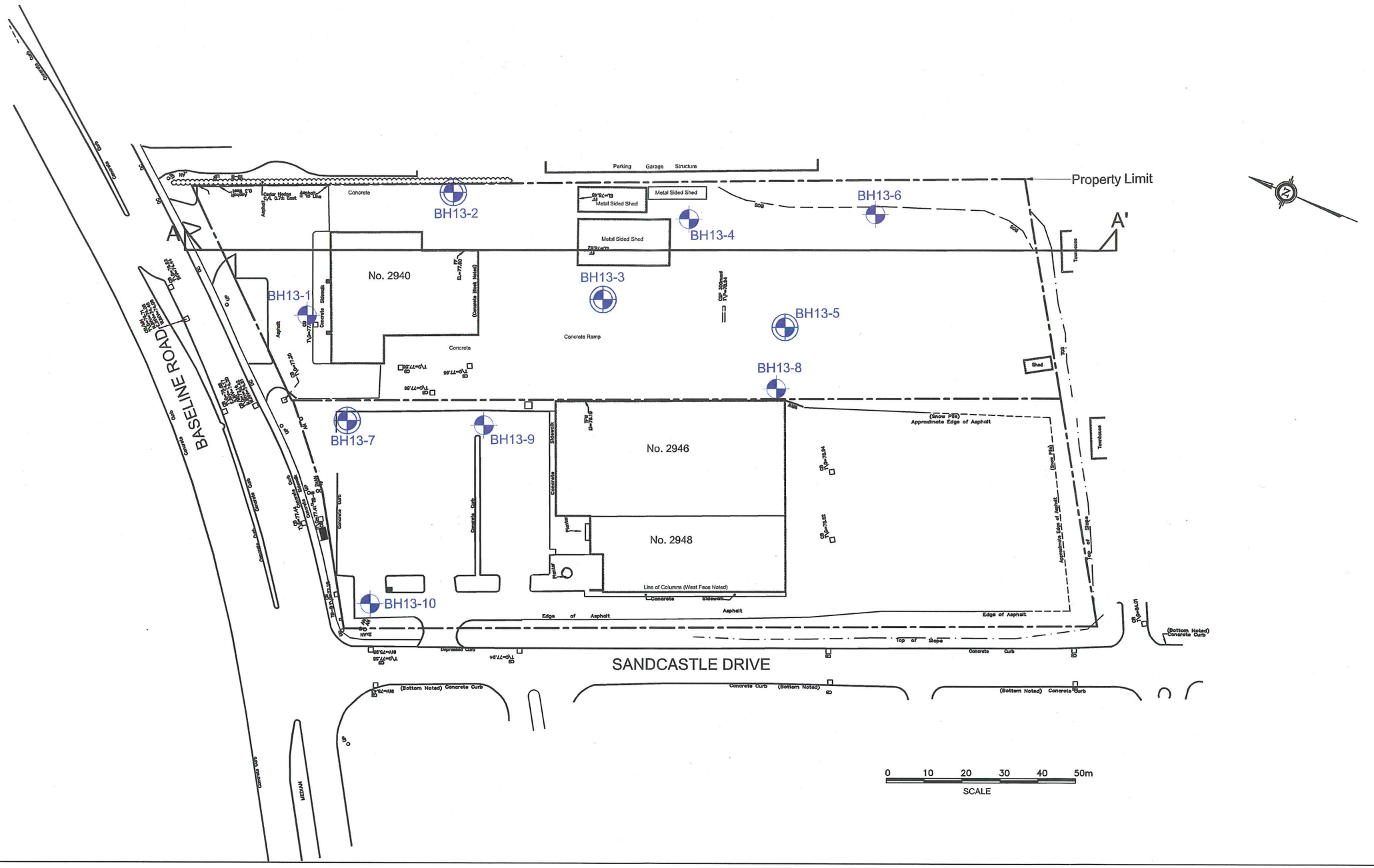
An elevation survey of all monitoring wells will be conducted following the completion of the sampling program. A fixed temporary benchmark should be used as a reference elevation; the top of spindle of a fire hydrant is preferred for this purpose as geodetic elevations can be obtained for these points. The ground surface elevation of all boreholes should be surveyed. The top of riser of each monitoring well should also be surveyed; this will ensure maximum accuracy in the interpretation of groundwater elevations.

6.4 Groundwater Elevation Survey

A groundwater elevation survey will be completed for all monitoring wells. The depth to groundwater is recorded prior to disturbance of the water column and is recorded with respect to the top of riser of the monitoring well.

6.5 Groundwater Sampling

Groundwater sampling is conducted following the collection of groundwater elevations. To avoid mixture of sediment into the groundwater column and prevent volatilization during sampling, a peristaltic pump is used for groundwater sampling. The wells are purged of standing water by removing at least one (1) well volume using the peristaltic pump. Sampling is conducted on a low flow setting. Samples are collected in dedicated bottles prepared by the laboratory. Samples are field filtered in the case of metals sampling.



LEGEND

- Property Limit
- Approximate Borehole Location (May 2013)
- Approximate Borehole Location with Monitoring Well (May 2013)
- Cross-Section Line

Source of Original Survey:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
Job No. 11141-10 Brigil PtLt35 C3 (RF) NP T2 F1

Client:	3223701 Canada Inc. (Brigil Platinum)			Project No.: 1599-710	Drawing No.: 2
Drawn:	ZMO	Approved:	CH	Title:	Borehole and Monitoring Well Location Plan
Date:	May 21, 2013	Scale:	1:1000	Project:	Geotechnical & Environmental Soil Investigations - Proposed Development - 2940, 2946 & 2948 Baseline Road, Ottawa, ON
Original Size:	Tabloid	Rev:	N/A		SPL Consultants Limited Geotechnical • Environmental • Materials • Hydrogeology • Ecology

C:\Users\spl\Desktop\May2013\1599-710\1599-710 - BH Location Plan-052822013.dwg

3223701 CANADA INC.

Sampling and Analysis Plan
Part 2 of 2
Phase Two Environmental Site Assessment
Commercial-Industrial Properties
2940 & 2946-2948 Baseline Road
Ottawa, Ontario

Date : **November 14, 2014**	Our Ref. : **T021272-E2**

INSPEC·SOL
ENGINEERING SOLUTIONS

TABLE OF CONTENTS

Attachments

- Proposed Borehole/Monitoring Well Locations
- Service Clearances

1.0 BACKGROUND

A Phase Two Environmental Site Assessment (Phase Two ESA) is to be completed for the commercial-industrial properties located at 2940 & 2946-2948 Baseline Road, Ottawa, Ontario ("Site") to investigate the areas of potential environmental concern (APEC) identified by the Phase One ESA research. The Phase One ESA identified two (2) potentially contaminating activities (PCAs) on the Site, including former fuel storage tanks and construction/equipment rental companies. These PCAs are considered areas of potential environmental concern (APECs) for the Site. Five (5) PCAs were identified on neighbouring properties in the Phase One Study Area as part of this assessment, two (2) are considered to represent APECs for the subject Site. These APECs for the Site include a former construction yard and former presence of fuel storage tanks on the adjacent property to the east.

An Environmental Soil Investigation (ESI) was completed on the Site in 2013 as part of a geotechnical investigation by SPL Consultants Limited (SPL). The boreholes were drilled and soil samples analysed in locations which allowed the assessment of the soil relating to the APECs identified in the Phase One ESA. The ESI identified the presence of soil petroleum hydrocarbons concentrations in excess of the Ontario Regulation 153/04 Residential property use criteria. Groundwater monitoring wells were installed in selected boreholes as part of the 2013 ESI and other previous investigations for the Site. The locations of these monitoring wells will allow for an assessment of the Site groundwater relating to the previously identified APECs.

One previously existing monitoring well was found to have been destroyed at the time of the August 2014 groundwater sampling event. Additionally, groundwater had previously not been assessed in an area of the Site where impacted soil had been identified. Two (2) additional groundwater monitoring wells were considered necessary to assess the subsurface Site conditions.

The potential contaminants of concern (PCCs) in groundwater are metals/inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and pH parameters listed in Table 3 of MOE O.Reg. 153/04.

2.0 SPECIFIC OBJECTIVES

The following are the specific objectives of the planning of the site investigation component this Phase Two ESA, as stated in O.Reg. 153/04:

1. Plan an investigation that will achieve the general objectives of a Phase Two ESA,
   i. through the use of an appropriate and complete information base concerning the Phase Two property, and
   ii. through the conduct of an investigation based both on information obtained before the Phase Two ESA begins and on the incorporation of information obtained during the Phase Two ESA.

2. To develop a sampling and analysis plan that will adequately assess all areas of the Phase Two property where contaminants may be present in land or water on, in or under the property.

3. To develop a quality assurance program that is designed to effectively limit errors and bias in sampling and analysis through implementation of assessment and control measures that will ensure data are useful, appropriate and accurate in the determination of whether the Phase Two property, meets applicable site condition criteria.

3.0 UTILITY SERVICE CLEARANCES

Public and private utility service clearances will be provided to the field technician prior to commencing the drilling program. The project manager must be contacted immediately should any conflicts arise during the drilling program with the locations of underground services and the proposed borehole locations. Service clearances are attached to this Plan.

4.0 SPECIFIC REQUIREMENTS

4.1 Media For Investigation

- Overburden soil sampling will be conducted on the day of drilling.

- Groundwater monitoring wells will be installed during the drilling program to facilitate the collection of groundwater samples at a later date.
- No sediment is present on the Site, as such; sediment sampling will not be conducted as part of this investigation.
- No surface water bodies are present on the Site, as such; surface water sampling will not be conducted as part of this investigation.

4.2 Locations and Depths for Sampling

Locations

The two (2) proposed borehole locations are illustrated on the Proposed Borehole Locations sketch attached to this Sampling and Analysis Plan. Monitoring wells have been proposed in the both (2) environmental borehole locations on the Site. The approximate locations and labelling of the boreholes/monitoring wells are as follows:

- BH14-1(MW), northwest of the Quonset building on the east portion of the Site, in the approximate area of the former fuel storage and previously destroyed BH13-3, monitoring well installation; and,
- BH14-2(MW), southeast of the Quonset building on the east portion of the Site, in the approximate area of the previously identified soil impacts in BH13-4, monitoring well installation.

Depths

Soil samples from BH14-1(MW) and BH14-2(MW) will be collected in 0.6 m intervals using stainless steel split spoons, with 0.15 m spacing between samples. Sampling will be conducted from ground surface down to proposed drilling depth (maximum 6.0 m), provided that the groundwater table is encountered within this depth. The base of monitoring well screens should extend approximately 1.5 m below the expected groundwater table based on field observations. If additional drilling is required to intercept the groundwater table, please contact the project manager.

Groundwater monitoring well screens will be installed within the overburden soil. Screens should be limited to a maximum length of 3.0 m and a minimum length of 1.5 m. Screens are to be installed from to the maximum depth of the borehole, have a sand pack that extends a minimum of 0.3 m above the screen and must be sealed with bentonite hole plug with a thickness of at least 0.6 m. If the depth of the groundwater and maximum screen length permits, monitoring well screens should straddle the groundwater table interface.

4.3 Parameters for Laboratory Analysis

Soil

The following soil samples from the specified depths below will be submitted for laboratory analysis of the specified analytical parameters:

Location	Analytical Parameters	Approximate Depth of Sample
BH14-1(MW)	PHCs, BTEXs, PAHs, pH	Soil sample near water table interface (saturated)
BH14-2(MW)	PHCs, BTEXs, pH	Soil sample near water table interface (saturated)

Should any visually or olfactory observations be made with respect to the potential presence of contaminants in the soil at a specific depth in a particular borehole location, the soil sample with the suspected contaminants will be submitted for laboratory analysis in lieu of the sample depth referenced in the table above.

Groundwater

The following groundwater samples from the screened intervals will be submitted for laboratory analysis of the specified analytical parameters:

Location	Analytical Parameters	Approximate Depth of Sample
BH14-1(MW)	PHCs, VOCs, Metals, pH	Screened Interval
BH14-2(MW)	PHCs, BTEXs, pH	Screened Interval

5.0 QUALITY ASSURANCE / QUALITY CONTROL

5.1 Decontamination of Sampling Equipment

All non-dedicated sampling equipment such as stainless steel split spoons will be washed between uses.

Water level monitoring equipment, including water level meters and interface probes will be decontaminated with Alconox and rinsed with deionised water between water level readings to prevent cross contamination.

5.2 Trip Blanks

A field blank was analysed as part of the previous groundwater sampling submission. Should the presence of any volatile organic compounds be detected in the groundwater samples, one trip blank sample, prepared in the field, shall be submitted for laboratory analysis at a later date.

5.3 Field Duplicates

Field duplicate samples shall be collected in each medium (soil and groundwater) being sampled. At least one field duplicate sample will be submitted for laboratory analysis for every ten samples submitted for laboratory analysis. Field duplicates will be selected from samples which have the greatest probability of environmental contamination (i.e. where field observations indicate potential contamination is present). A duplicate sample will be selected should the presence of contamination be suspected in any of the soil or groundwater samples.

5.4 Soil Vapour Screening

All soil samples will be screened for organic vapours using a photo ionization detector (PID) or RKI Eagle gas detector. Soil samples with notably elevated organic vapour concentrations will be selected for laboratory analysis.

6.0 STANDARD OPERATING PROCEDURES

Inspec-Sol standard operating procedures (SOP) shall be used during borehole drilling and soil sampling. Deviations to the SOP shall be discussed with the project manager.

6.1 Well Development

Groundwater monitoring wells will be developed on the day of drilling. At least three (3) and up to ten (10) well volumes will be removed from the monitoring wells in order to remove all

sediment from the wells. In cases where the monitoring well goes dry prior to purging three (3) well volumes, the well should be purged dry a minimum of three (3) times. Waterra tubing should be removed from the monitoring wells following well development.

6.2 Borehole Locating

The locations of all boreholes and monitoring wells ***MUST*** be measured in the field on the day of drilling. Borehole locations should be measured with respect to building corners or known property boundaries and shown on a plan.

6.3 Elevation Survey

An elevation survey of all boreholes and monitoring wells will be conducted following the completion of the drilling program. A fixed temporary benchmark should be used as a reference elevation; the top of spindle of a fire hydrant is preferred for this purpose as geodetic elevations can be obtained for these points. The ground surface elevation of all boreholes should be surveyed. The top of riser of each monitoring well should also be surveyed; this will ensure maximum accuracy in the interpretation of groundwater elevations.

All existing monitoring well locations should also be surveyed.

6.4 Groundwater Elevation Survey

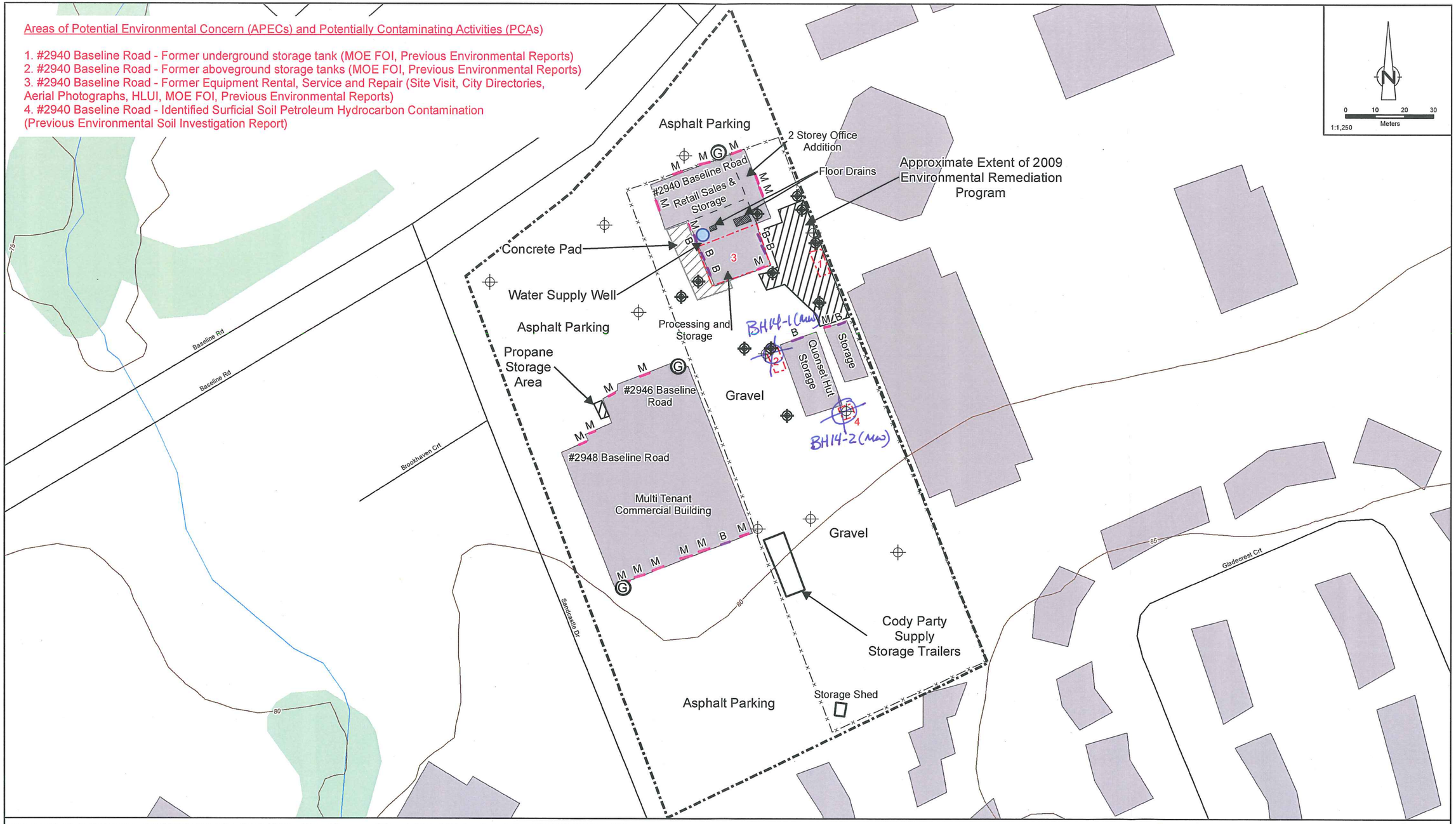
Following a period of stabilization (One (1) week is recommended) a groundwater elevation survey will be completed for all monitoring wells. The depth to groundwater is recorded prior to disturbance of the water column and is recorded with respect to the top of riser of the monitoring well.

6.5 Groundwater Sampling

Groundwater sampling is conducted following the collection of groundwater elevations. To avoid mixture of sediment into the groundwater column and prevent volatilization during sampling, a peristaltic pump is used for groundwater sampling. The wells are purged of standing water by removing at least one (1) well volume using the peristaltic pump. Sampling is conducted on a low flow setting. Samples are collected in dedicated bottles prepared by the laboratory. Samples are field filtered in the case of metals sampling.

Areas of Potential Environmental Concern (APECs) and Potentially Contaminating Activities (PCAs)

1. #2940 Baseline Road - Former underground storage tank (MOE FOI, Previous Environmental Reports)
2. #2940 Baseline Road - Former aboveground storage tanks (MOE FOI, Previous Environmental Reports)
3. #2940 Baseline Road - Former Equipment Rental, Service and Repair (Site Visit, City Directories, Aerial Photographs, HLUI, MOE FOI, Previous Environmental Reports)
4. #2940 Baseline Road - Identified Surficial Soil Petroleum Hydrocarbon Contamination (Previous Environmental Soil Investigation Report)



Source: MNR NRVIS, 2011. Produced by CRA under licence from Ontario Ministry of Natural Resources, © Queen's Printer 2014; Coordinate System: NAD 1983 UTM Zone 18N

Legend

- Borehole/Monitoring well prior to 2009 Environmental Redmediation Program
- 2013 ESI Borehole/Monitoring Well Location
- Natural Gas Connection
- Bay Door
- Man Door
- Fence Line
- Site Boundary

PROPOSED BOREHOLE LOCATIONS

SITE PLAN

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
2940 AND 2946-2948 BASELINE ROAD, OTTAWA
Dwg. No. T021272-E1-2

INSPEC-SOL

T021272-E1(001)GIS-OT002 May 01, 2014

USL-1 Underground Service Locators
1-877-B4U-DIGG
www.usl-1.com
775 Taylor Creek Dr,
Ottawa Ont, K1C 1T1

FAX COVER

Date: NOV. 14/14

To: LUKE L.

Fax:

Phone:

From Matt Moreau
Fax 613-226-8677
Phone 613-883-7221

Page(s) 15 ( ) including cover

Re: 2940 BASELINE RD.

If you did not receive all the pages, please contact me. Thank you.

PUBLIC LOCATE REPORT

DATE: NOV. 14/14

U.S.L.-1 Underground Service Locators Inc.

775 Taylor Creek Drive
OTTAWA, ONTARIO, K1C 1T1
Phone: (613) 226-8750 Fax: (613) 226-8677

Client Name: INSPECSOL

Job Location: 2940 BASELINE RD.

Nature of work: BHS

DESCRIPTION OF PUBLIC LOCATES

(1) TELEPHONE: Utility in work area: (Yes) / No - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: SEE PRIMARY SKETCH –

(1) GAS: Utility in work area: (Yes) / No - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: "

HYDRO: Utility in work area: Yes / (No) - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: CLEAR –

(2) WATER: SEWER Utility in work area: Yes / (No) - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: CLEAR –

(3) CABLE: Utility in work area: Yes / (No) - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: CLEAR –

(4) TRAFFIC: Utility in work area: Yes / (No) - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: CLEAR –

(5) PRIVATES Utility in work area: Yes / (No) - Located ☐ - Marked ☐ - See attached sketch ☐
Notes: CLEAR –

Notes:

Locators Name: MATT MOREAU **Signature:** [signature]

*** IF THERE ARE ANY QUESTIONS WITH REGARADS TO THIS OR ANY OTHER CLEARANCE SHEET PLEASE CONTACT US IMMEDIATELY ***

lbnsp

2014451805_ENOE01

PROMARK TELECON Inc.

Primary Locate Sheet

UNION GAS EMERGENCY # 1-877-969-0999

Request #2014451805

NORMAL

Phone:	Fax:	Toll free:	Email:
613-723-9888	613-723-9277	1-800-371-8866	

Utilities Located:	Revised Excavation Date	Excavation Date	Status
● Bell ● Gas ● HydroOttawa ☐ Street Lighting ☐ Videotron ☐ Peel Fibre ☐ Veridian Connections	mm/dd/yyyy	11/10/2014 08:00:00 mm/dd/yyyy	STANDARD Homeowner ☐ Contractor ● Project ☐

Requested by:	Company:	Phone:	Fax/email:
MONIQUE LAROCQUE	U S L	(613)-226-8750 ext.	(613)-226-8677 ext.

Appt Date:	Received Date:	Locate Address: 2940, BASELINE RD	
mm/dd/yyyy	11/03/2014 mm/dd/yyyy	1st Inters.: SANDCASTLE DR	2nd Inters.: MONTEREY DR

Type of work: TEST PITS

City: OTTAWA

Caller's Remarks:

MACH. DIG
W1411031116520 SOIL TESTING THROUGHOUT PROPERTY. CLEAR FRONT TO SIDEWALK, SIDES AND REAR TO PROPERTY LINE. FRONT, SIDE, BACK

SEND HYDRO OTTAWA & GMOBILE*CA****-75.799734, 45.336224, NB_SEGMENTS::1, NO_PLAN::813 826, OTWATS01, HOT1, OTWAWS01, BCOE01, OTWASL01, ENOE01, ROGOTT01

Bell Mark | Clear	Enbridge Gas Mark | Clear	HydroOttawa Mark | Clear	Street Lighting Mark | Clear	Peel Fibre Mark | Clear	Blink Mark | Clear	Veridian Mark | Clear	Union Gas Mark | Clear	Videotron Mark | Clear
1	1	1							

LOCATED AREA: EXCAVATOR SHALL NOT WORK OUTSIDE THE LOCATED AREA WITHOUT OBTAINING ANOTHER LOCATE.

Records Reference:

_ Map _ Network X # ● LAC Multiviewer

_ Byers ● Datapak: PMOTT000121

Field Notes: NE105

Other: 6N113-4-5, 6N1817-2

DPT Remarks: G-MOBILE

_ Third Party Notification

****CAUTION****

- ● Privately owned hydro in LOCATED AREA, not marked
- ☐ HYDRO SHOWN as reference only please contact site developer
- ☐ EMPTY CONDUITS shown as reference only, unable to locate

Fibre optic cable use extreme caution! Attention cable fibre optique!

*****DANGER DO NOT PROCEED*****
Buried high voltage cables within 1.5M of the located area. You must contact Hydro Ottawa at **613-738-6418** for further information.
AFTER HOURS *EMERGENCY* NUMBER IS 613-738-6422

Excavator shall notify & receive a clearance from Utility prior to excavation for the following:

Telecon ☐ High Priority Cable ☐ Central Office Vicinity

Method of Field Marking: ● Paint ☐ Stakes ● Flags ☐ Offset Flags ☐ Other (Telecom=Orange, Gas=Yellow, Hydro Ott. =Red)

Caution: Locates are VOID after 30 days. See Disclaimer on reverse side for the specific Facility Owner's Guidelines.

Caution: Any changes to location or nature of work require new locate. The Excavator must not work outside the Located Area without a new locate. Privately owned services within the located area have not been marked - check with service/property owner. For all Locate requests including remarks contact: Ontario One Call at **1-800-400-2255** or **www.on1call.com**.

Locator Name: BOLDUC ROBERT	Start Time: 10:30	● Mark & Fax _ Left on Site _ Emailed
ID #: 1458	End Time: 11:30	Print:
Date 11/06/2014	Total Hours: 1	Signature:

A copy of this Primary Locate Sheet and Auxiliary Locate Sheet(s) must be on site and in the hands of the machin operator during work operations. If sketch and markings do not coincide, the Excavator must obtain a new locate

This form revised January 2010

PROMARK TELECON Inc.

2014451805_ENOE01

Auxiliary Locate Sheet

Union Gas Emergency # 1-877-969-0999

Phone: 613-723-9888 | Fax: 613-723-9277 | Toll free: 1-800-371-8866 | Email

Utilities Located: ● Bell ● Gas ☐ HydroOttawa ☐ ☐ Videotron ☐ Peel Fibre ☐ Veridian connections

Date Located (mm/dd/yyyy): 11/06/2014

Request # 2014451805

Number of Services marked: (Specify building/house numbers) 2940 BASELINE RD

LOCATED AREA: EXCAVATOR SHALL NOT WORK OUTSIDE THE LOCATED AREA WITHOUT OBTAINING ANOTHER LOCATE

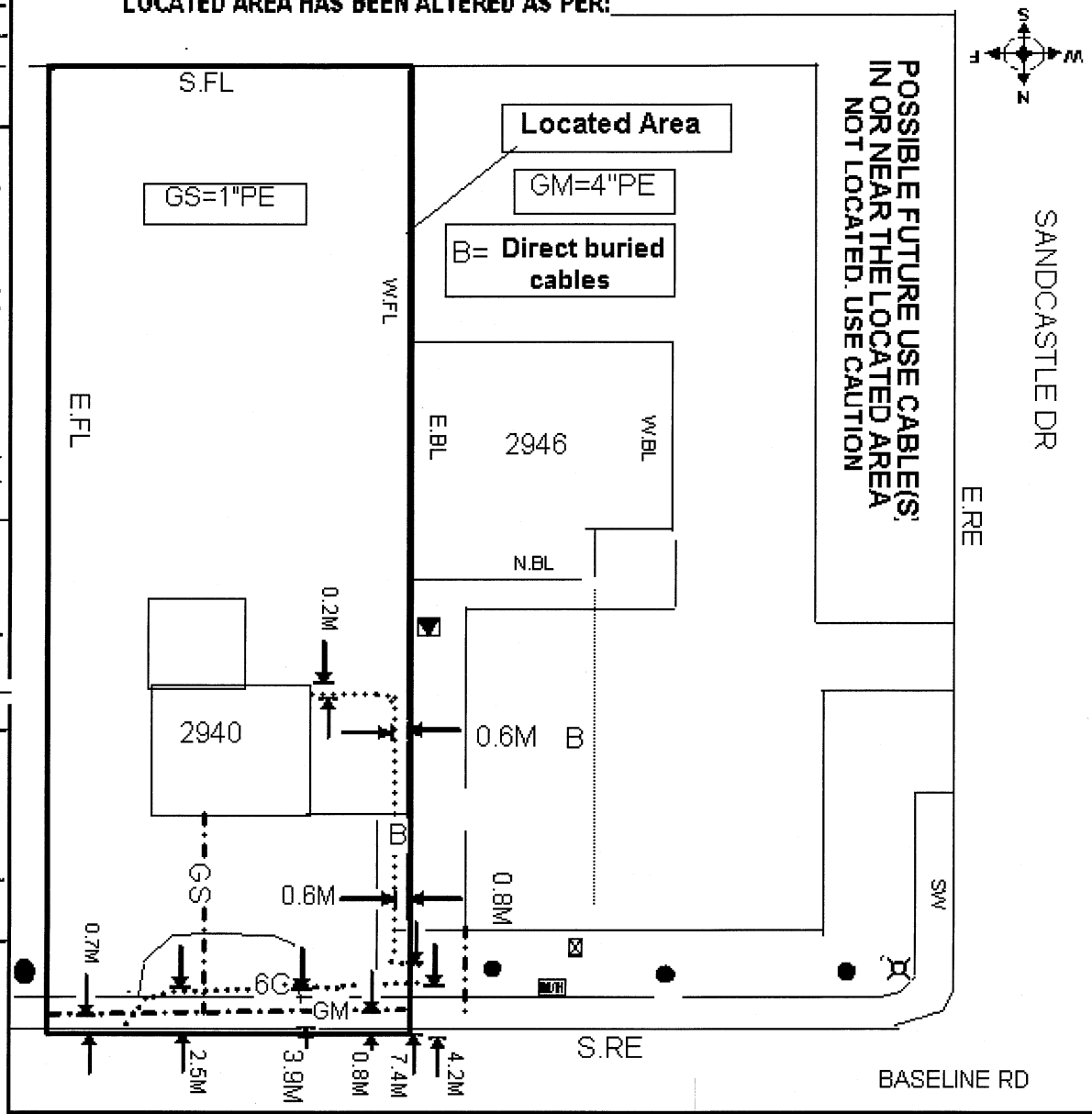
FROM: S.RE OF BASELINE RD
FROM: W.FL OF 2940 BASELINE RD

TO: S.FL OF 2940 BASELINE RD
TO: E.FL OF 2940 BASELINE RD

Legend

- Building Line — BL—
- Fence Line — FL—
- Face of Curb — FC—
- Road Edge — RE—
- Property Line — PL—
- Driveway — DW—
- Catch Basin — CB
- Sidewalk — SW
- Demarcation — DM
- Railway
- Pole — O
- Flush to Grade Pedestal
- Pedestal — X
- Buried Cable — B —
- Conduit — C —
- Buried Service Wire — BSW—
- Manhole — MH
- Fibre Optic Cable — FO—
- Gas Main — GM—
- Gas Service — GS—
- Gas Valve
- Hydrant
- Transformer
- Hydro Ottawa — H —
- Hydro Pole — X
- Street Light Cable — SL—
- Street Light
- North — N.
- South — S.
- East — E.
- West — W.

CAUTION: Hand dig within 1m as measured horizontally from the field markings to avoid damaging the underground utilities. If you damage the plant, you may be held liable.
If you damage underground plant, contact the facility owner immediately.
Depth varies and MUST be verified by hand digging or vacuum excavation.
LOCATED AREA HAS BEEN ALTERED AS PER:



THIS FORM VALID ONLY WITH Primary Locate Form. This sketch is not to scale.
Any privately owned services within the located area have not been marked- check with service/property owner.

A copy of this Auxiliary Locate Sheet(s) and the Primary Locate Sheet must be on site and in the hands of the machine operator during work operations. If sketch and markings do not coincide, the Excavator must obtain a new locate.

PROMARK TELECON Inc.

2014451805_ENOE01

Auxiliary Locate Sheet

Union Gas Emergency # 1-877-969-0999

Phone: 613-723-9888 Fax: 613-723-9277 Toll free: 1-800-371-8866 Email

Utilities ☐ Bell ☐ Gas ● HydroOttawa ☐ Street Lighting
Located: ☐ Blink ☐ Peel Fibre ☐ ☐

Date Located: mm/dd/yyyy 11/06/2014

Request # 2014451805

Number of Services marked: (Specify building/house numbers) **N/A**

LOCATED AREA: EXCAVATOR SHALL NOT WORK OUTSIDE THE LOCATED AREA WITHOUT OBTAINING ANOTHER LOCATE

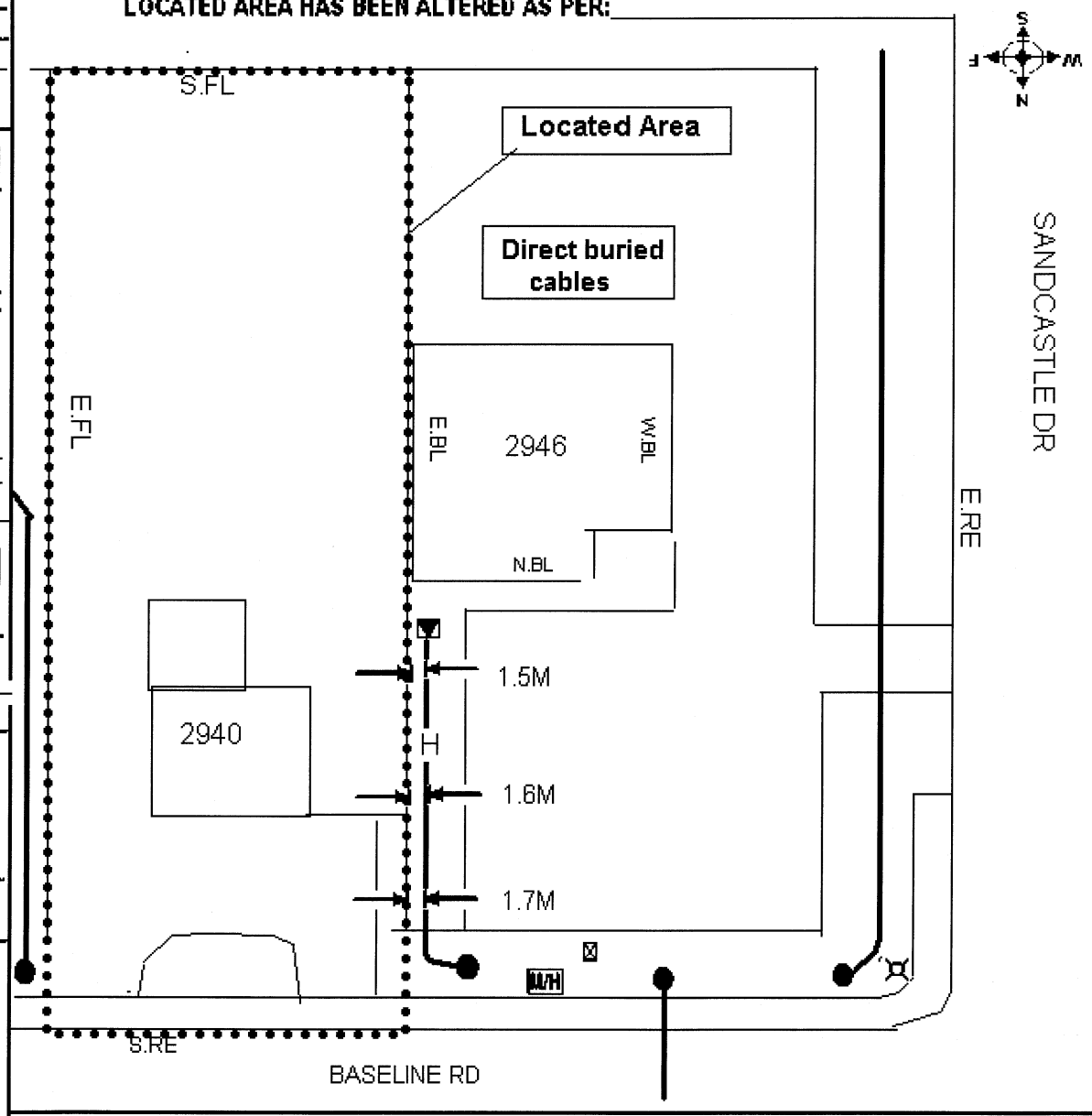
FROM: N/A TO: N/A

FROM: TO:

CAUTION: Hand dig within 1.5M as measured horizontally from the field markings to avoid damaging the underground utilities. If you damage the plant, you may be held liable.
If you damage underground plant, contact the facility owner immediately.
Depth varies and MUST be verified by hand digging or vacuum excavation.
LOCATED AREA HAS BEEN ALTERED AS PER:

Legend

Building Line	— BL—
Fence Line	— FL—
Face of Curb	— FC—
Road Edge	— RE—
Property Line	— PL—
Driveway	— DW—
Catch Basin	CB
Sidewalk	SW
Demarcation	DM
Railway	
Pole	O
Flush to Grade Pedestal	
Pedestal	X
Buried Cable	— B —
Conduit	— C —
Buried Service Wire	—BSW—
Manhole	MH
Fibre Optic Cable	— FO—
Gas Main	— GM—
Gas Service	— GS—
Gas Valve	
Hydrant	
Transformer	
Hydro Ottawa	— H —
Hydro Pole	X
Street Light Cable	— SL—
Street Light	
North	N.
South	S.
East	E.
West	W.



THIS FORM VALID ONLY WITH Primary Locate Form. This sketch is not to scale.
Any privately owned services within the located area have not been marked- check with service/property owner.

A copy of this Auxiliary Locate Sheet(s) and the Primary Locate Sheet must be on site and in the hands of the machine operator during work operations. If sketch and markings do not coincide, the Excavator must obtain a new locate.

DISCLAIMER

Warning!

The Excavator must have a copy of this locate on the job site during excavation.

Located Area: The Excavator must not work outside the area indicated by the Located Area in the Diagram without a further locate by the Company

Locate the plant: The plant location information provided is the best we have available but constitutes only an estimate. Depth of underground plant varies and the exact location must be determined by hand digging prior to excavation with mechanical equipment.

Mechanical equipment must not be used within one metre of the estimated location of the plant.

Hydro Ottawa must be notified prior to excavation and inspector on site

Expose the plant: Once the plant has been located by hand digging, it must be exposed along its length adjacent to or in the immediate vicinity of the proposed excavation. For this purpose, mechanical equipment must not be used within 0.5 metres of the plant.

Digging around the exposed plant: When the plant has been exposed, any further excavation within 0.3 metres, must only be done by hand digging and not with mechanical equipment.

Support Requirements: If the underground plant is exposed over a distance of more than 1.25 metres, the Facility Owner must be notified. Underground plant must be supported at all times.

O. Reg. 210/01 Oil and Gas Pipeline systems EXCERPTS

9. (1) No person shall dig, bore, trench, grade, excavate or break ground with mechanical equipment or explosives without first ascertaining the location of any pipeline that may be interfered with.

10. No person shall interfere with or damage any pipeline without authority to do so.

Technical Standards & Safety Act 2000 EXCERPT

37 (1) Every person who contravenes or fails to comply with any provision of this act or the regulations; etc... is guility of an offense and on conviction is liable to a fine of not more than $50,000 or to imprisonment for a term of not more than one year, or to both.

Caution: The markings may disappear or be misplaced. Should sketch and markings not coincide, Excavator must obtain a new locate. This is based on information given at the time. Any changes to location or nature of work require a new locate. The Excavator must not work outside the indicated Located Area without a further locate.
Privately owned services within the located area have not been marked - check with service/property owner.

Locate is VOID after 30 days.

For remarks contact Ontario One Call 1-800-400-2255.
or www.on1call.com

ON1CALL
CALL BEFORE YOU DIG

dlnsp

Ottawa

Service Request Details

Service Request 840936 **Lagan Case ID:** 20144518051

Source: Contractor **Created By:** Maxpusr, Ga
Priority: **Reported By:** Hamilton, Lindsay
Status: RESOLVED **Initiated:** 2014-Nov-03 12:14 PM

Location Information

Address: 2940 BASELINE RD **Range:** **Unit:**
Between Streets: SANDCASTLE DR / MONTEREY DR **Municipality:** NE
Description:
-- Non Specific Location --

Street Range:2940-
Street:BASELINE RD
Intersect 1:SANDCASTLE DR
Intersect 2:MONTEREY DR
Door Numbers:-
Municipality:OTTAWA

Your work area is clear of underground water and sewer pipes owned by The City of Ottawa if you are not digging in the road.

Requestor Information

Name: MONIQUE LAROCQUE **Phones**
Address: 775 TAYLOR CREEK DR **Res:** **Cell:** 6132268750
City: ORLÉANS **Bus:** 6132268750 **Ext:**
Postal Code: K1C1T1 **Unit:** **Fax:**

Call Back & Other Assignments

Responsibilities		
Service Request	**Work Order #**	**Work Order**

Request Details

Start Date: 2014-Nov-05 **Appointment Time:** 10:33:10 AM **Service:** ESD
Finish Date: 2014-Nov-05 **Classification:** LOCATES - PROVIDE
Amount Charge to Customer: **Category:**

Structures

Structure ID	Description	Location
		775 TAYLOR CREEK DR

PRO-TECH
COMMUNICATIONS INC.

Rogers Locate Services

LOCATE FORM

Ticket Type **STANDARD**

Inspected

TICKET#: 2014451805

LOCATE VOID AFTER 30 DAYS!

Site Location FIBER
Municipality : OTTAWA
Address : 2940 BASELINE RD
Call Date: 11/03/2014 12:13:00 PM
Start Date: 11/10/2014 8:00:00 AM
Intersection SANDCASTLE DR
Requested By: Company U S L
Contact name: MONIQUE LAROCQUE Ph: (613)-226-8750 ext. Fax: (613)-226-8677 ext.

Remarks (Additional Dig Info) :
W1411031118520 SOIL TESTING THROUGHOUT PROPERTY. CLEAR FRONT TO SIDEWALK, SIDES AND REAR TO PROPERTY LINE. FRONT, SIDE, BACK

,ROGOTT01 PRO-TECH FOR ROGERS ,*** LOCATE FIBER PTL *** ,U_CROQUIS1::2014451805.PNG

Type of work :TEST PITS

PREMARKED

1- MACRAE, MICHAEL ROGERS Marked Units: .01 11/11/2014 10:00:00 U:N

DEPTH OF CABLE PLANT VARIES, AND MUST BE DETERMINED BY "*HAND DIGGING*"
CAUTION! HAND DIG WITHIN ONE (1) METER OR 3.28 FEET OF MARKINGS

WORK AREA: EXCAVATOR SHALL NOT WORK OUTSIDE THE LIMITS OF THE WORK AREA WITHOUT OBTAINING ANOTHER LOCATE.

Legend:

- Hydrant
- Hydro Pole
- Bell Pole
- Anchor
- Manhole (MH)
- Sewer
- Catch Basin
- Railroad Track
- Fence Line — FL
- Property Line — PL
- Paint — P
- Stake — S
- Traffic Controller
- Pedestal
- Cable Television — TV
- Conduit — C
- Fibre Optic — FO

SKETCH NOT DRAWN TO SCALE

N / W / E / S

CAUTION: The markings may disappear or be misplaced. Should sketch and marking not coincide, excavator must obtain a new locate. This is based on information given at the time. Any changes to location or nature of work require a new locate. The EXCAVATOR must not work outside the indicated located area without a further locate by the company. Privately owned services within the located area have not been marked - check with the service/property owner.

Locate is VOID after 30 days.

For remarks contact Local One Call Centre or Locate Service Provider.

Locate the plant: The plant location information provided is the best we have available but constitutes only an estimate. Depth of underground plant varies and the exact location must be determined by hand digging prior to excavation with mechanival equipment. Mechanical equipment must not be used within one metre of the estimated location of the plant.

If there's any discrepancy between drawing and or measurements and paint markings, Do Not Start or continue excavation; arrange a site meet with locating company.

Locator's Signature: _____	***Thank you for calling before you dig!***	Plant Ref: : _____
Accepted By: _____	Vehicle ID: _____	Locate done for: _____
☐ Work Started ☐ Follow up Required	Date Completed: _____	Time Done: ____ : ____ a.m. / p.m.

CONTRACTOR MUST KEEP ONE COPY ON JOB SITE! FOR ALL CUT CABLE, PLEASE CALL : 800-265-9501

PRO-TECH
COMMUNICATIONS INC.

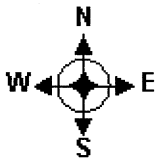
2014451805_PRO-TECH
Rogers Locate Services

Locate Sketch

SKETCH NOT DRAWN TO SCALE

From: _____ To: _____
From: _____ To: _____

S CL TO S PL , W PL TO E PL



NO CATV/FIBER IN WORK AREA

MICHAEL
MACRAE

NOV 11 2014

Legend:

Hydrant		Manhole	MH	Property Line	— PL —	Flush to grade	F	Cable Television	— TV —
Hydro Pole		Sewer		Fence Line	— FL —	Pedestal		Conduit	— C —
Bell Pole		Catch Basin		Paint	— P —	Work Area		Fibre Optic	— FO —
Anchor		Railroad Track		Stake	— S —	Dip	S		

NOTE:

Ontario One Call TF

Street Light Locate

NOTICE OF INTENT TO EXCAVATE

Header Code: STANDARD

Request Type: NORMAL

Ticket No: 2014451805

Original Call Date: 11/3/2014 12:14:27 PM

Work To Begin Date: 11/10/2014

Company: U S L

Contact Name: MONIQUE LAROCQUE

Pager:

Contact Phone: (613)-226-8750 ext.

Cell: (613)-226-8750 ext.

Fax: (613)-226-8677 ext.

Alternate Contact: JEFF FORRESTER

Alt. Phone:

Place: OTTAWA

Street: 2940 BASELINE RD

Nearest Intersecting Street: SANDCASTLE DR

Second Intersecting Street: MONTEREY DR

Subdivision: OTTAWA

Additional Dig Information:

W1411031118520 SOIL TESTING THROUGHOUT PROPERTY. CLEAR FRONT TO SIDEWALK, SIDES AND REAR TO PROPERTY LINE. FRONT, SIDE, BACK NO_PLAN::613 828

WO/ JOB #:

Type Of Work: TEST PITS

Remarks:

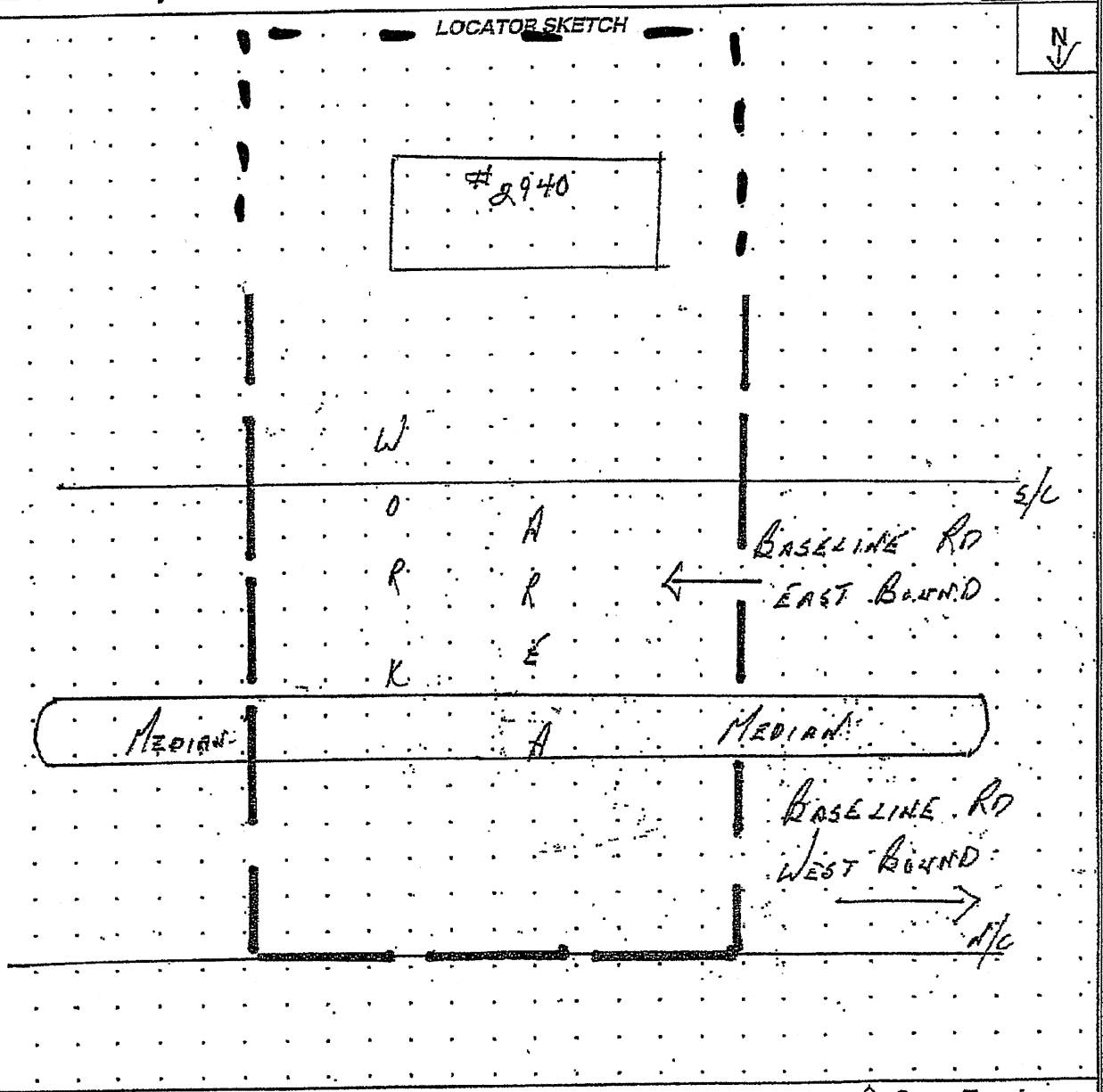
-75.799734 45.336224 NB_SEGMENTS::1 OTWATS01 HOT1 OTWAWS01 BCOE01 OTWASL01 ENOE01 ROGOTT01

Ticket # 20145180 5

Street Light Locate

Black & McDonald

LOCATOR SKETCH



—SL— Underground Street Light Cable
Street Light
—OH— Overhead/Aerial Wires
Globe/Decorative Light
Source/Transformer
Hydro Pole

Notes/Comments: K PLEASE NOTE! STREET LIGHTING ON NORTH SIDE OF BASELINE RD
LIGHTS ON SOUTH SIDE ARE (OVER-HEAD FED)
CLEAR

Locate is valid for 30 days. If sketch is different from markings, location or nature of work changes, a new locate must be requested. Hand dig within 1m (3.28ft) on either side of markings. Depth of buried plant varies.

Cette fiche n'est pas valide 30 jours de calendrier apres le reperage. Si les marques ne concordent pas avec celles sur le croquis, un nouveau reperage est requis. Tout changement a l'emplacement ou a la nature du travail necessite un nouveau reperage. Creuser a la main un metre (3.28 pieds) du repere. La profondeur des installationvarie d'un endroit a l'autre.

Date Located	Nov 4/14
Time of day	1:30 PM
Located by	Bob

[redacted]
Black & McDonald
[redacted]

Disclaimer

Warning!

The Excavator must have a copy of this locate on the job site during excavation.

Located Area: The Excavator must not work outside the area indicated, by the located area in the diagram, without a further locate completed by **Black & McDonald Limited.**

Locate the Plant: The plant location information provided is the best we have available, but constitutes only an estimate. Depth of underground plant varies and the exact location must be determined by hand digging prior to excavation with mechanical equipment.

Mechanical equipment must not be used within 1.0 meter of the estimated location of the plant.

Valid Documentation: This locate is valid only for the Agency accepting it. Other parties must obtain and accept their respective underground locate from **Ontario 1 Call.**

Excavator Alterations: Under no circumstance shall an Excavator touch or move an underground power cable. Arrangements must be made to have qualified personnel relocate any such cable.

Expose the plant: Once the plant has been located by hand digging, it must be exposed along its length adjacent to or in the immediate vicinity of the proposed excavation. For this purpose, mechanical equipment must not be used within 0.5 meters of the plant.

Digging around the Exposed Plant: When the plant has been exposed, any further excavation within 0.3 meters, must only be done by hand digging and not with mechanical equipment.

Support Requirements: If the underground plant is exposed over a distance of more than 1.25 meters, the Facility Owner must be notified. Underground plant must be supported at all times.

Private Cables: Please be advised that **Black & McDonald Limited** is not responsible for and does not locate private cables (e.g. parking lot lights and cables to O.C. Transpo signs/bus stops).

New Cables: Be aware that new cables could be installed at any time after the locate has been completed. It is the Excavator's responsibility to call for new locates if any changes are known or suspected.

Caution: The markings may disappear or be misplaced. Should sketch and markings not coincide, the Excavator must obtain a new locate. This is based on the information given at the time. Any changes to location or nature of work require a new locate. The Excavator must not work outside the indicated located area without a further locate. Privately owned services within the located area have not been marked- check with service/property owner.

Liability: Any person or Excavator who interferes with or damages any underground electrical cable without having obtained a valid locate/clearance from **Black & McDonald Limited**, shall be liable for all cost incurred during the repair of the cable as well as any resulting legal actions.

This locate has been given as accurately as possible, but no locate is guaranteed. Excavators must always dig with extreme caution to prevent the possibility of damaging electrical cables and endangering safety.

Locate is void after 60 days

For remarks contact **Ontario One Call** 1-800-400-2255 or www.on1call.com

ON1CALL
CALL BEFORE YOU DIG

Monique Larocque

From: Forbes, Terry [Terry.Forbes@ottawa.ca]
Sent: Thursday, November 13, 2014 7:47 AM
To: moniquel@usl-1.com

Clear of Traffic Ducts

Terry Forbes
City of Ottawa
Utility Plant Locator: Traffic Signals
Phone#: 613 223 7710 cell
613 797 8534 cell

ONTARIO ONE CALL
NOTICE OF INTENT TO EXCAVATE Header Code:STANDARD
Ticket No: 2014451805 Seq. No: 40
Update of:

Send To: OTWATS01 Seq No: 0040 Map Ref: 613 828

Original Call Date: 11/03/2014 Time: 12:13:32 PM OP: 1373
Transmit Date: 11/03/2014 Time: 12:13:57 PM
Work to Begin Date: 11/10/2014 Time: 08:00:00 AM

Company: U S L
Contact Name: MONIQUE LAROCQUE Contact Phone: (613)226-8750
Alternate Contact: JEFF FORRESTER Altern. Phone:
Best Time to Call: Fax No: (613)226-8677
Cell Phone: (613)226-8750 Pager No:
Caller Address: 775 TAYLOR CREEK
OTTAWA, K1C 1T1
Email Address: moniquel@usl-1.com

Reg/County: OTTAWA City: OTTAWA
Address: 2940 , BASELINE RD
Lot/Unit#:
To Address:
Nearest Intersecting Street: SANDCASTLE DR
2nd Intersecting Street: MONTEREY DR
Community: OTTAWA
Nb of Segments: 1
WAP No:
Latitude: 45.33622400 Longitude: -75.79973350

Work Extent/Locn: W1411031118520 SOIL TESTING THROUGHOUT PROPERTY.
CLEAR FRONT TO SIDEWALK, SIDES AND REAR TO
PROPERTY LINE. FRONT, SIDE, BACK

Remarks:

Type of Work: TEST PITS Depth: 32.81 FT
Public property: YES Mark & Fax: NO Area is Not Marked: NO Machine Dig: YES
Private property: YES Site Meet Req.: NO Premarked: YES Hand Dig: YES
Directional Drilling: NO

Work Being Done For: INSPECSOL

UNDERGROUND SERVICE LOCATORS
ONE-CALL SYSTEMS INC.
775 TAYLOR CREEK DRIVE
OTTAWA, ON, K1C 1T1

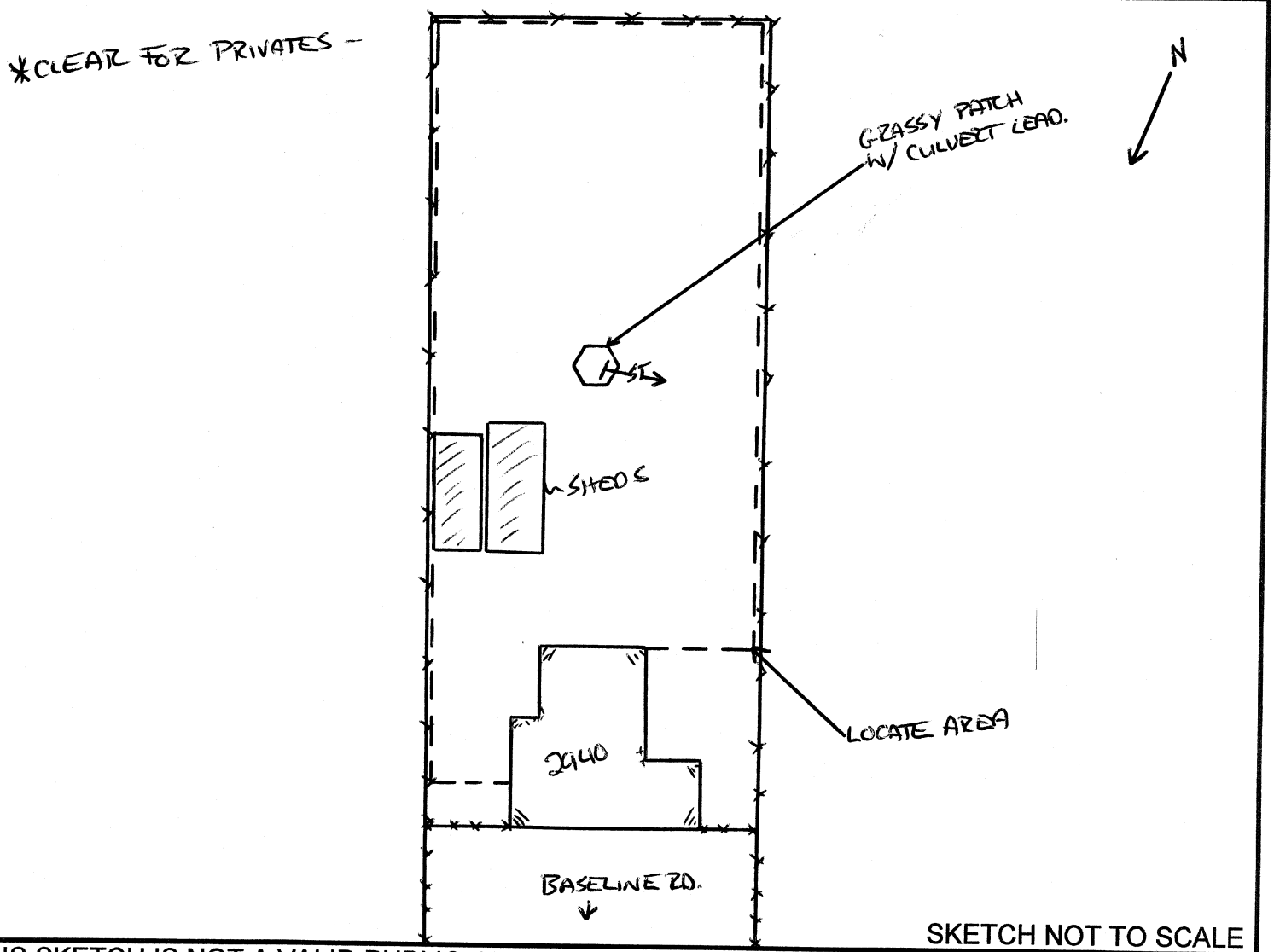
DATE: NOV. 14/14

PHONE (613) 226-8750
FAX (613) 226-8677

CUSTOMER: INSPECSOL	REQUESTED BY: LUKE L.
LOCATION OF WORK: 2940 BASELINE RD.	LIMITS OF WORK: BHS -

HYDRO	-- H --	CABLE T.V.	-- T.V. --	OTHER:
GAS	-- G --	SANITARY		
BELL	-- B --	SEWER	-- S --	
WATER	-- W --	STORM	-- ST --	

LOCATES ONLY APPLICABLE TO INFO ABOVE - LOCATES VOID AFTER 30 DAYS!



SKETCH NOT TO SCALE

THIS SKETCH IS NOT A VALID PUBLIC UTILITY LOCATE. CONTRACTOR IS RESPONSIBLE TO ENSURE THEY HAVE PUBLIC LOCATES BEFORE COMMENCING WORK.

*NO ACTIVE ELECTRICAL IN WORK AREA. OLD WIRES ARE ALL CUT/ABANDONED. (AS PER OWNER)

ASBUILTS OR PLANS PROVIDED: YES (NO)	
LOCATORS NAME: MATT MOREAU	SIGNATURE:

CAUTION: HAND DIG WITHIN 1.5 METERS OF MARKINGS

Appendix B

- Borehole Logs

REFERENCE No.: T0201272-E2 ENCLOSURE No.: 1

INSPEC·SOL

BOREHOLE No.: BH14-1

ELEVATION: 78.13 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: 3223701 Canada Inc.

PROJECT: Phase II Environmental Site Assessment

LOCATION: 2940 Baseline Road

DESCRIBED BY: L.Lopers CHECKED BY: B.Vazhbakht

DATE (START): November 18, 2014 DATE (FINISH): November 18, 2014

LEGEND

- SS Split Spoon
- AU Auger
- GS Grab Sample
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA					
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	OVC	Penetration Index / RQD	SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 10 20 30 40 50 60 70 80 90
meters	78.13		GROUND SURFACE				%	ppm	N	
0.5	77.5		**FILL** - silty sand and gravel, brown, compact, moist	0.30		SS1	83	0.0	26	
1.0			**SILTY CLAY** - grey-brown to grey, stiff becoming soft with depth, moist becoming wet with depth	Bentonite		SS2	75	0.0	13	
1.5				1.83		SS3	100	0.0	9	
2.0				WL 2.09 11/25/2014 2.13						
2.5						SS4	100	0.0	4	
3.0			Becoming wet at 2.7 m							
3.5				Sand		SS5	100	0.0	4	
4.0						SS6	100	0.0	WOH	
4.5										
5.0	72.9		End of borehole at 5.2 m	5.18		SS7	100	0.0	WOH	
5.5										
6.0										

NOTES:

BOREHOLE LOG T021272-E2-BH LOGS.GPJ INSPEC_SOL.GDT 12/8/14

REFERENCE No.: T0201272-E2 ENCLOSURE No.: 2

INSPEC·SOL

BOREHOLE No.: BH14-2

ELEVATION: 78.89 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: 3223701 Canada Inc.

PROJECT: Phase II Environmental Site Assessment

LOCATION: 2940 Baseline Road

DESCRIBED BY: L.Lopers CHECKED BY: B.Vazhbakht

DATE (START): November 18, 2014 DATE (FINISH): November 18, 2014

LEGEND

- SS Split Spoon
- AU Auger
- GS Grab Sample
- Water Level
- Water content (%)
- Atterberg limits (%)
- ● N Penetration Index based on Split Spoon sample
- • N Penetration Index based on Dynamic Cone sample
- △ Cu Shear Strength based on Field Vane
- □ Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- ▲ Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA					
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	OVC	Penetration Index / RQD	SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 10 20 30 40 50 60 70 80 90
meters	78.89		GROUND SURFACE				%	ppm	N	
0.5	78.3		**FILL** - silty sand and gravel, brown, compact, moist	0.30		SS1	50	0.0	13	
1.0			**SILTY CLAY** - grey, stiff becoming soft with depth, moist becoming wet with depth	Bentonite		SS2	88	0.0	14	
1.5										
2.0				2.13		SS3	100	0.0	15	
2.5				WL 2.31 11/25/2014 2.44		SS4	100	0.0	9	
3.0			Becoming wet at 2.8 m							
3.5						SS5	100	0.0	3	
4.0				Sand		SS6	100	0.0	1	
4.5										
5.0	73.7		End of borehole at 5.2 m			SS7	100	0.0	1	
5.5				5.49						
6.0										

NOTES:

BOREHOLE LOG T021272-E2-BH LOGS.GPJ INSPEC_SOL.GDT 12/8/14

LOG OF BOREHOLE BH13-1

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/07/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
77.6											
77.5	**Asphalt:** 90 mm										
0.1	**Sandy Gravel:** trace silt, brown, damp, compact (Fill)		1	SS	16						52 38 (10)
76.9											
0.8	**Silty Clay:** brown, damp, stiff to very stiff			NR	11						
			2	SS	12		77				
75.5							76				
2.1	**Silty Clay:** grey, moist, stiff		3	SS	4		75				
			4	SS	3		74				
			5	SS	1		73				
			6	SS	WH						
				VANE			72	14			
				VANE				8			
	- Silty Sand seam: 50 mm		7	SS	WH		71				
				VANE				7			
				VANE				6			
	- wet below 7.6 m		8	SS	WH		70				
				VANE				4			
				VANE			69	Su>100kPa			
			9	SS	WH		68				
				VANE				8			

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-1

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/07/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Silty Clay: grey, moist, stiff(Continued)			VANE				+ 9				
	- some sand below 10.7 m		10	SS	WH		67		○			0 18 (82)
65.4							66					
12.2	**Sandy Silt:** some clay, grey, wet, very dense		11	SS	50/ 150 mm				○			
64.9							65					
12.7	**END OF BOREHOLE** Notes: 1) Auger refusal at 12.7 m.											

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-10

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/07/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS / 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
77.5 / 0.0	**Asphalt:**100 mm										
77.4 / 0.1	**Gravelly Sand:**some silt, brown, damp (Fill)		1	AS	15		77				30 54 16
76.1 / 1.4	**END OF BOREHOLE**										

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES: + 3, × 3: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-2

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers/Coring
Diameter: 203mm
Date: May/03/2013

REF. NO.: 1599-710
ENCL NO.:

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m	ELEVATION	GR	SA	SI	CL
77.7									
0.0	**Gravel:** some sand, some silt, brown, moist, compact (Fill)	1	SS	24	Sand	52	36		(13)
		2	SS	20	77				
76.2									
1.5	**Sand and Gravel:** some silt, brown, moist, compact (Fill)	3	SS	32	76	40	46		(14)
	- loose and becoming wet below 2.3 m	4	SS	8	75				
74.7									
3.0	**Silty Clay:** grey, wet, stiff	5	SS	2					
		6	SS	1	74				
	- wet below 4.6 m	7	SS	WH	W. L. 73.1 m May 14, 2013				
			VANE						
			VANE		72				
		8	SS	WH					
			VANE		71				
			VANE		Bentonite				
		9	SS	WH	70				
			VANE						
			VANE		69				
	- 150mm sand seam at 9.1 m	10	SS	WH					
			VANE		68				

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100
SHEAR STRENGTH (kPa): ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE: 25 50 75 100 125
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%): 25 50 75
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (KN/m³)
REMARKS AND GRAIN SIZE DISTRIBUTION (%)

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-2

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers/Coring
Diameter: 203mm
Date: May/03/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (25 50 75 100 125)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) (25 50 75)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Silty Clay: grey, wet, stiff(Continued) - stiff below 10.1 m			VANE				+10				
			11	SS	1		67		○			
65.5							66					
12.2	**Silty Sand:** some clay, grey, wet, loose (Till)		12	SS	10		65					
64.2	- Auger refusal at 13.5 m. Switch to coring											
13.5	Limestone with shale partings, fresh, grey, very strong TCR = 100% SCR = 78% RQD = 77%		RC 1	RC			64				27.2	UCS=167MPa
62.7							Sand 63					
15.0	Limestone with shale partings, fresh, grey, very strong TCR = 97% SCR = 97% RQD = 88%		RC 2	RC			Screen 62				26.8	
61.2							Slough					UCS=162MPa
16.5	**END OF BOREHOLE** Notes: 1) Auger refusal at 13.5 m. 2) Coring ended at 16.5 m. 3) 50mm dia. monitoring well was installed in the borehole upon completion 4) Depth of Water Date Depth --- 14/05/2013 4.6m BGS											

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-3

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers/Coring
Diameter: 203mm
Date: May/01/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m	ELEVATION
78.4					
0.0	**Sand and Gravel:** brown/grey, moist, compact(Fill)	1	SS	25	Sand
		2	SS	8	Bentonite
76.9					Sand
1.5	**Silty Clay:** brown, moist, stiff	3	SS	9	W. L. 77.0 m May 14, 2013
		4	SS	4	
		5	SS	2	
	- grey below 3.7 m	6	SS	2	Screen
	- becoming wet at 4.6 m	7	SS	WH	
			VANE		
			VANE		
		8	SS	WH	
			VANE		
			VANE		
		9A	SS	WH	
		9B	SS	WH	
			VANE		
			VANE		
	- 9.1 m to 9.3 m sandy seam	10	SS	WH	
	- very stiff below 10 m		VANE		

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100
SHEAR STRENGTH (kPa): ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE: 25 50 75 100 125
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%): 25 50 75
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (KN/m³)
REMARKS AND GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-3

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers/Coring
Diameter: 203mm
Date: May/01/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (25 50 75 100 125)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) (25 50 75)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Silty Clay: brown, moist, stiff(Continued)			VANE				Su>100kPa				
							68					
			11	SS	WH							
				VANE			67	Su>100kPa				
				VANE				Su>100kPa				
			12	SS	WH		66					
				VANE				Su>100kPa				
				VANE				Su>100kPa				
64.7							65					
13.7	**Sandy Gravel:** trace silt, grey, wet, compact (Till)		13	SS	20							66 32 (2)
	- at 14.5 m bedrock encounted. Switch to coring						64					
63.9												
14.5	Limestone with shale partings, fresh, grey, very strong TCR = 100% SCR = 97% RQD = 83%		RC 1	RC								
63.1							63					
15.3	Limestone with shale partings, fresh, grey, very strong TCR = 97% SCR = 97% RQD = 82%		RC 2	RC							26.2	UCS=143MPa
61.6							62					
16.8	Limestone with shale partings, fresh, grey, very strong TCR = 100% SCR = 87% RQD = 77%		RC 3	RC			61				26.8	UCS=126MPa
60.1												
18.3	**END OF BOREHOLE** Notes: 1) Auger refusal at 14.5 m. 2) Coring ended at 18.3 m. 3) 50mm dia. monitoring well was installed in a new borehole completed beside original borehole. 4) Depth of Water Date Depth --- 14/05/2013 1.45m BGS											

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-4

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/06/2013

REF. NO.: 1599-710
ENCL NO.:

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m	ELEVATION
79.0					
0.0	**Sand and Gravel:** brown, damp, compact (Fill)	1	SS	15	
78.3					78
0.8	**Silty Clay:** brown, moist, stiff	2	SS	15	
		3	SS	11	77
		4	SS	7	
		5	SS	4	76
	- grey below 3.8 m	6	SS	2	75
		7	SS	1	74
			VANE		
			VANE		
72.9					73
6.1	**Clayey Silt and Sand:** grey, wet	8	SS	0	
		A	TW		72
70.8					71
8.2	**Silty Clay:** grey, wet, very loose	9	SS	2	70
			VANE		

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100
SHEAR STRENGTH (kPa): ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
25 50 75 100 125

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%): 25 50 75

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (KN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
1	46	33	25

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-4

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/06/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Silty Clay: grey, wet, very loose(Continued)			VANE								
			10	SS	0		68		○			
							67					
			11	SS	3				○			
65.3							66					
13.7	**Sand:** trace silt, trace gravel, grey, wet, loose (Till)		12	SS	9		65		○			3 87 (10)
64.2												
14.8	**END OF BOREHOLE** Notes: 1) Auger refusal at 14.8 m.											

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-5

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/06/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
79.8							
0.0 / 79.2	**Sand and Gravel:** trace silt, trace clay, brown, damp, compact (Fill)		1	SS	16		Sand
0.6 / 77.5	**Silty Clay:** brown, damp, stiff		2	SS	9		Bentonite
			3	SS	9		Sand
2.3	**Silty Clay:** brown, moist, stiff		4	SS	8		
	- grey below 3.0 m		5	SS	4		
	- becoming wet at 3.8m		6	SS	2		Screen
			7	SS	4		
				VANE			
				VANE			
			8	SS	WH		
				VANE			
				VANE			
			9	SS	WH		
	- very stiff below 8.2 m			VANE			
				VANE			
			A	TW			

W. L. 78.2 m
May 14, 2013

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
25 50 75 100 125

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
25 50 75

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (KN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	24	51	25

Su>100kPa

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-5

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/06/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (25 50 75 100 125)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (25 50 75)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	Silty Clay: brown, moist, stiff(Continued)											
	- sand lens		10	SS	0		69	Su>100kPa	○			
				VANE				Su>100kPa				
				VANE			68					
67.6												
12.2	**Silty Sand:** trace clay, trace gravel, grey, wet, loose (Till)		11	SS	4		67		○			
			12	SS	5		66					3 56 (40)
							65					
64.4			13	SS	50/ 100 mm				○			
15.4	**END OF BOREHOLE** Notes: 1) Auger refusal at 15.4 m. 2) 50mm dia. monitoring well installed in a new borehole completed beside original borehole. 3) Depth of Water Date Depth 14/05/2013 1.57 m BGS											

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-6

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/02/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
81.0							
0.0 / 80.7	**Sand and Gravel:** trace silt, brown, moist, loose (Fill)		1A	SS	8		
0.3	**Silty Clay:** grey, moist, stiff		1B	SS	8		
			2	SS	5		80
	- becoming wet		3	SS	4		79
78.7							
2.3	**Silty Clay:** grey, wet, firm to stiff		4	SS	2		78
			5	SS	WH		
				VANE			77
				VANE			
			A	TW			76
				VANE			
				VANE			
			6	SS	WH		75
				VANE			
				VANE			74
			7	SS	WH		73
	- becoming stiff			VANE			
				VANE			
71.9							
9.1	**Sandy Silt:** some clay, grey, wet, very loose		8	SS	WH		72
				VANE			

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
25 50 75 100 125

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
25 50 75

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (KN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
47	42		(11)

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

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GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH13-6

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/02/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
70.2	**Sandy Silt:** some clay, grey, wet, very loose(Continued)		VANE						
10.8	**Silty Clay:** grey, wet, stiff	9	SS	WH		70			
			VANE						
			VANE			69			
		10	SS	WH					
	- very stiff below 12.8 m		VANE			68			
67.3			VANE						
13.7	**Sandy Silt:** some clay, grey, wet, very loose	11	SS	WH		67			
65.3		12A	SS	WH		66			3 78 (20)
15.7	**Silty Sand:** trace gravel, grey, wet, stiff (Till)	12B	SS	WH		65			
64.3	- Bedrock encountered at 16.7 m. Switched to rock coring								
16.7	Limestone with shale partings, fresh, grey, very strong TCR = 100% SCR = 98% RQD = 98%	RC1	CORE			64		27.5	UCS=145MPa
63.2									
17.8	Limestone with shale partings, fresh, grey, very strong TCR = 100% SCR = 100% RQD = 93%	RC2	CORE			63			
61.7						62			
19.3	Limestone with shale partings, fresh, grey, very strong TCR = 100%	RC3	CORE					27.1	UCS=164MPa
61.2									
19.8	SCR = 100%								

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (25 50 75 100 125)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
Su>100kPa
Su>100kPa

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (25 50 75)

Continued Next Page

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-6

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/02/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE			SAMPLES												
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS / 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100); SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (25 50 75 100 125)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L; WATER CONTENT (%) (25 50 75)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	RQD = 91% **END OF BOREHOLE** Notes: 1) Auger refusal at 16.7 m. 2) End of borehole 19.8 m.											

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-7

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/07/2013

REF. NO.: 1599-710
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
77.7							
77.6 / 0.0	**Asphalt:**125 mm						Sand
0.1	**Sandy Silt:**some clay, brown, damp, loose (Fill)		1	SS	9		
			2	SS	9		Bentonite
76.2							Sand
1.5	**Silty Clay:**trace sand, brown, moist, stiff		3	SS	10		76
			4	SS	4		75
							W. L. 75.0 m May 14, 2013
			5	SS	2		
	- grey below 3.7 m		6	SS	1		74
	- wet below 4.5 m						Screen
			7	SS	WH		73
				VANE			
				VANE			72
			8	SS	WH		
				VANE			71
				VANE			
			9	SS	WH		70
69.5							Sand
8.2	**END OF BOREHOLE**						

Notes:
1) 50mm dia. monitoring well installed upon completion of borehole.
2) Depth of Water

Date	Depth
14/05/2013	2.7 m BGS

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
25 50 75 100 125

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
25 50 75

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (KN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GRAPH NOTES: + 3, × 3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

LOG OF BOREHOLE BH13-8

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: Feb/05/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
79.7											
0.0	**Sand and Gravel:** some silt, trace clay, grey, damp, firm (Fill)		1	SS	7				○		43 44 (13)
79.0			2A	SS	7		79		○		
0.8	**Silty Clay:** trace gravel, grey, moist, firm		2B	SS	7						
	- 32.5 mm gravel lens		3	SS	8				○		
77.9							78				
1.8	**END OF BOREHOLE**										

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

SPL Consultants Limited
Geotechnical Environmental Materials Hydrogeology

LOG OF BOREHOLE BH13-9

PROJECT: Geotechnical & Environmental Soil Investigations
CLIENT: 3223701 Canada Inc. (Brigil Platinum)
PROJECT LOCATION: 2940-2948 Baseline Road, Ottawa, ON
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 203mm
Date: May/07/2013

REF. NO.: 1599-710
ENCL NO.:

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 25 50 75 100 125	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 25 50 75	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (KN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
78.6												
78.6 / 0.0	**Asphalt:** 50 mm											
78.5 / 0.1	**Sand:** some gravel, some organics, brown, damp (Fill)		1	AS			78		○			18 66 (16)
77.6 / 1.1	**Sand and Gravel:** brown, damp (Fill)		2	AS					○			
77.1 / 1.5	**END OF BOREHOLE**											

SPL SOIL LOG-OTTAWA 1599-710 - MAY29-2013.GPJ SPL.GDT 29/5/13

GROUNDWATER ELEVATIONS
Shallow/ Single Installation ▽ ▼ Deep/Dual Installation ▼ ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

Appendix C

- Certificate of Analysis – Exova #1424685 – Soil – November 25, 2014
- Certificate of Analysis – Exova #1416330 – Groundwater – August 12, 2014
- Certificate of Analysis – Exova #1425071 – Groundwater – November 27, 2014

EXOVA ENVIRONMENTAL ONTARIO

Certificate of Analysis

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

Temperature: 6

Dear Luke Lopers:

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

Report Comments:

APPROVAL: _____

Lorna Wilson
Laboratory Supervisor, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, Organics

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

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

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

Exova (Mississauga) is accredited for specific parameters by SCC, Standards Council of Canada (to ISO 17025)

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

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1147511 Soil 2014-11-18 BH1-14-SS4	1147512 Soil 2014-11-18 BH2-14-SS5
Misc/Others	pH - CaCl2	2.0				7.3	7.4
Moisture	Moisture	0.1	%			27.1	19.3
Petroleum Hydrocarbons	Petroleum Hydrocarbons F1	10	ug/g	STD-65		<10	<10
	Petroleum Hydrocarbons F1-BTEX	10	ug/g			<10	<10
	Petroleum Hydrocarbons F2	10	ug/g	STD-150		<10	<10
	Petroleum Hydrocarbons F3	20	ug/g	STD-1300		<20	<20
	Petroleum Hydrocarbons F4	20	ug/g	STD-5600		<20	<20
PHC Surrogates Rec	O-Terphenyl	0	%			80	90
Semi-Volatiles	Acenaphthene	0.05	ug/g	STD-58		<0.05	
	Acenaphthylene	0.05	ug/g	STD-0.17		<0.05	
	Anthracene	0.05	ug/g	STD-0.74		<0.05	
	Benz[a]anthracene	0.05	ug/g	STD-0.63		<0.05	
	Benzo[a]pyrene	0.05	ug/g	STD-0.3		<0.05	
	Benzo[b]fluoranthene	0.05	ug/g	STD-0.78		<0.05	
	Benzo[ghi]perylene	0.05	ug/g	STD-7.8		<0.05	
	Benzo[k]fluoranthene	0.05	ug/g	STD-0.78		<0.05	
	Chrysene	0.05	ug/g	STD-7.8		<0.05	
	Dibenz[a h]anthracene	0.05	ug/g	STD-0.1		<0.05	
	Fluoranthene	0.05	ug/g	STD-0.69		<0.05	
	Fluorene	0.05	ug/g	STD-69		<0.05	
	Indeno[1 2 3-cd]pyrene	0.05	ug/g	STD-0.48		<0.05	
	Methlynaphthalene, 1-	0.05	ug/g	STD-3.4		<0.05	
	Methlynaphthalene, 2-	0.05	ug/g	STD-3.4		<0.05	
	Naphthalene	0.05	ug/g	STD-0.75		<0.05	
	Phenanthrene	0.05	ug/g	STD-7.8		<0.05	
	Pyrene	0.05	ug/g	STD-78		<0.05	

Guideline = O.Reg 153-T3-Res/Park-Med/Fine *** = Guideline Exceedence**

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Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1147511 Soil 2014-11-18 BH1-14-SS4	1147512 Soil 2014-11-18 BH2-14-SS5
VOC Surrogates Rec	Toluene-d8	0	%			95	98
VOCs	Benzene	0.02	ug/g	STD-0.17		<0.02	<0.02
	Ethylbenzene	0.05	ug/g	STD-15		<0.05	<0.05
	Toluene	0.20	ug/g	STD-6		<0.20	<0.20
	Xylene Mixture	0.05	ug/g	STD-25		<0.05	<0.05
	Xylene, m/p-	0.05	ug/g			<0.05	<0.05
	Xylene, o-	0.05	ug/g			<0.05	<0.05

Guideline = O.Reg 153-T3-Res/Park-Med/Fine *** = Guideline Exceedence**

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Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 280189 **Analysis Date** 2014-11-20 **Method** CCME			
O-Terphenyl	66 %	100	60-140
Run No 280213 **Analysis Date** 2014-11-20 **Method** CCME			
Petroleum Hydrocarbons F2	<10 ug/g	82	50-120
Petroleum Hydrocarbons F3	<20 ug/g	82	50-120
Petroleum Hydrocarbons F4	<20 ug/g	82	50-120
Run No 280215 **Analysis Date** 2014-11-20 **Method** C SM2540B			
Moisture	<0.1 %	96	80-120
Run No 280291 **Analysis Date** 2014-11-21 **Method** Ag Soil			
pH - CaCl2			90-110
Run No 280356 **Analysis Date** 2014-11-22 **Method** P 8270			
Methlynaphthalene, 1-	<0.05 ug/g	62	20-150
Methlynaphthalene, 2-	<0.05 ug/g	56	20-150
Acenaphthene	<0.05 ug/g	63	20-150
Acenaphthylene	<0.05 ug/g	62	20-150

Guideline = O.Reg 153-T3-Res/Park-Med/Fine *** = Guideline Exceedence**

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Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Anthracene	<0.05 ug/g	65	20-150
Benz[a]anthracene	<0.05 ug/g	76	20-150
Benzo[a]pyrene	<0.05 ug/g	76	20-150
Benzo[b]fluoranthene	<0.05 ug/g	76	20-150
Benzo[ghi]perylene	<0.05 ug/g	84	20-150
Benzo[k]fluoranthene	<0.05 ug/g	75	20-150
Chrysene	<0.05 ug/g	72	20-150
Dibenz[a h]anthracene	<0.05 ug/g	83	20-150
Fluoranthene	<0.05 ug/g	66	20-150
Fluorene	<0.05 ug/g	66	20-150
Indeno[1 2 3-cd]pyrene	<0.05 ug/g	84	20-150
Naphthalene	<0.05 ug/g	70	20-150
Phenanthrene	<0.05 ug/g	67	20-150
Pyrene	<0.05 ug/g	66	20-150
Run No 280400 **Analysis Date** 2014-11-20 **Method** CCME			
Petroleum Hydrocarbons F1	<10 ug/g	95	80-120
Petroleum Hydrocarbons F1-BTEX			

Guideline = O.Reg 153-T3-Res/Park-Med/Fine *** = Guideline Exceedence**

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Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1424685
Date Submitted: 2014-11-18
Date Reported: 2014-11-25
Project: T021272-E2
COC #: 176527

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 280401 **Analysis Date** 2014-11-20 **Method** V 8260B			
Benzene	<0.02 ug/g	95	80-120
Ethylbenzene	<0.05 ug/g	98	80-120
m/p-xylene	<0.05 ug/g	100	80-120
o-xylene	<0.05 ug/g	100	80-120
Toluene	<0.20 ug/g	102	80-120
Toluene-d8	102 %	103	
Xylene Mixture			

Guideline = O.Reg 153-T3-Res/Park-Med/Fine *** = Guideline Exceedence**

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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

EXOVA ENVIRONMENTAL ONTARIO

Certificate of Analysis

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 20458
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1416330
Date Submitted: 2014-08-05
Date Reported: 2014-08-12
Project: T021272-E2
COC #: 172504

Temperature: 6

Dear Luke Lopers:

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

Report Comments:

APPROVAL: _____

Lorna Wilson
Laboratory Supervisor, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, Organics

Certificate of Analysis

Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 20458
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1416330
Date Submitted: 2014-08-05
Date Reported: 2014-08-12
Project: T021272-E2
COC #: 172504

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1123984 Groundwater - 2014-08-05 BH1 (MW) - GW1	1123985 Groundwater - 2014-08-05 BH7 (MW) - GW1	1123986 Groundwater - 2014-08-05 BH13-2 - GW1	1123987 Groundwater - 2014-08-05 BH13-5 - GW1
Inorganics	Antimony	0.5	ug/L	STD-20000		<0.5	<0.5	<0.5	<0.5
	Arsenic	1	ug/L	STD-1900		<1	3	<1	1
	Barium	10	ug/L	STD-29000		80	350	120	40
	Beryllium	0.5	ug/L	STD-67		<0.5	0.6	<0.5	<0.5
	Boron (total)	10	ug/L	STD-45000		40	70	<10	80
	Cadmium	0.1	ug/L	STD-2.7		<0.1	0.2	<0.1	<0.1
	Chromium Total	1	ug/L	STD-810		1	18	2	<1
	Cobalt	0.2	ug/L	STD-66		0.6	10.6	0.9	0.3
	Copper	1	ug/L	STD-87		2	45	9	<1
	Cyanide (CN-)	5	ug/L	STD-66		<5	<5	<5	<5
	Lead	1	ug/L	STD-25		<1	7	5	<1
	Mercury	0.1	ug/L	STD-0.29		<0.1	<0.1	<0.1	<0.1
	Molybdenum	5	ug/L	STD-9200		<5	<5	<5	<5
	Nickel	5	ug/L	STD-490		<5	21	<5	<5
	Selenium	1	ug/L	STD-63		<1	4	<1	<1
	Silver	0.1	ug/L	STD-1.5		0.3	0.4	0.3	0.2
	Sodium	2000	ug/L	STD-2300000		25000	50000	5000	20000
	Thallium	0.1	ug/L	STD-510		<0.1	0.1	<0.1	<0.1
	Uranium	1	ug/L	STD-420		<1	3	<1	<1
	Vanadium	1	ug/L	STD-250		4	39	2	2
	Zinc	10	ug/L	STD-1100		<10	60	<10	<10
Misc/Others	Chloride	1	mg/L	STD-2300000		74	101	8	18
	Conductivity	5	uS/cm			917	1230	338	424
	pH	1.00				7.87	7.56	8.16	7.95
Petroleum Hydrocarbons	Petroleum Hydrocarbons F1	100	ug/L	STD-750		<100	<100	<100	<100
	Petroleum Hydrocarbons F2	100	ug/L	STD-150		<100	<100	<100	<100

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Certificate of Analysis

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400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 20458
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1416330
Date Submitted: 2014-08-05
Date Reported: 2014-08-12
Project: T021272-E2
COC #: 172504

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1123984 Groundwater - 2014-08-05 BH1 (MW) - GW1	1123985 Groundwater - 2014-08-05 BH7 (MW) - GW1	1123986 Groundwater - 2014-08-05 BH13-2 - GW1	1123987 Groundwater - 2014-08-05 BH13-5 - GW1
Petroleum Hydrocarbons	Petroleum Hydrocarbons F3	200	ug/L	STD-500		<200	<200	<200	<200
	Petroleum Hydrocarbons F4	200	ug/L	STD-500		<200	<200	<200	<200
PHC Surrogates Rec	O-Terphenyl	0	%			98	100	82	74
Semi-Volatiles	Acenaphthene	0.1	ug/L	STD-600		<0.1	<0.1		
	Acenaphthylene	0.1	ug/L	STD-1.8		<0.1	<0.1		
	Anthracene	0.1	ug/L	STD-2.4		<0.1	<0.1		
	Benz[a]anthracene	0.1	ug/L	STD-4.7		<0.1	<0.1		
	Benzo[a]pyrene	0.01	ug/L	STD-0.81		<0.01	<0.01		
	Benzo[b]fluoranthene	0.05	ug/L	STD-0.75		<0.05	<0.05		
	Benzo[ghi]perylene	0.1	ug/L	STD-0.2		<0.1	<0.1		
	Benzo[k]fluoranthene	0.05	ug/L	STD-0.4		<0.05	<0.05		
	Chrysene	0.05	ug/L	STD-1		<0.05	<0.05		
	Dibenz[a h]anthracene	0.1	ug/L	STD-0.52		<0.1	<0.1		
	Fluoranthene	0.1	ug/L	STD-130		<0.1	<0.1		
	Fluorene	0.1	ug/L	STD-400		<0.1	<0.1		
	Indeno[1 2 3-cd]pyrene	0.1	ug/L	STD-0.2		<0.1	<0.1		
	Methlynaphthalene, 1-	0.1	ug/L	STD-1800		<0.1	<0.1		
	Methlynaphthalene, 2-	0.1	ug/L	STD-1800		<0.1	<0.1		
	Naphthalene	0.1	ug/L	STD-1400		<0.1	<0.1		
	Phenanthrene	0.1	ug/L	STD-580		<0.1	<0.1		
	Pyrene	0.1	ug/L	STD-68		<0.1	<0.1		
Subcontracted	Chromium VI	10	ug/L	STD-140		<10	<10	<10	<10
VOC Surrogates Rec	1,2-dichloroethane-d4	0	%			110	96	100	99
	4-bromofluorobenzene	0	%			104	106	108	104
	Toluene-d8	0	%			95	95	96	97
VOCs	Acetone	50	ug/L	STD-130000		<50	<50	<50	<50

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VOCs	Benzene	0.5	ug/L	STD-44		<0.5	<0.5	<0.5	<0.5
	Bromodichloromethane	0.3	ug/L	STD-85000		<0.3	<0.3	<0.3	<0.3
	Bromoform	0.4	ug/L	STD-380		<0.4	<0.4	<0.4	<0.4
	Bromomethane	0.5	ug/L	STD-5.6		<0.5	<0.5	<0.5	<0.5
	c-1,3-Dichloropropylene	0.2	ug/L			<0.2	<0.2	<0.2	<0.2
	Carbon Tetrachloride	0.2	ug/L	STD-0.79		<0.2	<0.2	<0.2	<0.2
	Chlorobenzene	0.2	ug/L	STD-630		<0.2	<0.2	<0.2	<0.2
	Chloroform	0.5	ug/L	STD-2.4		<0.5	<0.5	<0.5	<0.5
	Dibromochloromethane	0.3	ug/L	STD-82000		<0.3	<0.3	<0.3	<0.3
	Dichlorobenzene, 1,2-	0.4	ug/L	STD-4600		<0.4	<0.4	<0.4	<0.4
	Dichlorobenzene, 1,3-	0.4	ug/L	STD-9600		<0.4	<0.4	<0.4	<0.4
	Dichlorobenzene, 1,4-	0.4	ug/L	STD-8		<0.4	<0.4	<0.4	<0.4
	Dichlorodifluoromethane	0.5	ug/L	STD-4400		<0.5	1.6	<0.5	<0.5
	Dichloroethane, 1,1-	0.4	ug/L	STD-320		<0.4	<0.4	<0.4	<0.4
	Dichloroethane, 1,2-	0.2	ug/L	STD-1.6		<0.2	<0.2	<0.2	<0.2
	Dichloroethylene, 1,1-	0.5	ug/L	STD-1.6		<0.5	<0.5	<0.5	<0.5
	Dichloroethylene, 1,2-cis-	0.4	ug/L	STD-1.6		<0.4	<0.4	<0.4	<0.4
	Dichloroethylene, 1,2-trans-	0.4	ug/L	STD-1.6		<0.4	<0.4	<0.4	<0.4
	Dichloropropane, 1,2-	0.5	ug/L	STD-16		<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	0.5	ug/L	STD-2300		<0.5	<0.5	<0.5	<0.5
	Ethylene dibromide	0.2	ug/L	STD-0.25		<0.2	<0.2	<0.2	<0.2
	Hexane (n)	5	ug/L	STD-51		<5	<5	<5	<5
	m/p-xylene	0.5	ug/L			<0.5	<0.5	<0.5	<0.5
	Methyl Ethyl Ketone	10	ug/L	STD-470000		<10	<10	<10	<10
	Methyl Isobutyl Ketone	10	ug/L	STD-140000		<10	<10	<10	<10
	Methyl tert-Butyl Ether (MTBE)	10	ug/L	STD-190		<10	<10	<10	<10

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VOCs	Methylene Chloride	4.0	ug/L	STD-610		<4.0	<4.0	<4.0	<4.0
	o-xylene	0.5	ug/L			<0.5	<0.5	<0.5	<0.5
	Styrene	0.5	ug/L	STD-1300		<0.5	<0.5	<0.5	<0.5
	t-1,3-Dichloropropylene	0.2	ug/L			<0.2	<0.2	<0.2	<0.2
	Tetrachloroethane, 1,1,1,2-	0.5	ug/L	STD-3.3		<0.5	<0.5	<0.5	<0.5
	Tetrachloroethane, 1,1,2,2-	0.5	ug/L	STD-3.2		<0.5	<0.5	<0.5	<0.5
	Tetrachloroethylene	0.3	ug/L	STD-1.6		<0.3	<0.3	<0.3	<0.3
	Toluene	0.5	ug/L	STD-18000		<0.5	<0.5	<0.5	<0.5
	Trichloroethane, 1,1,1-	0.4	ug/L	STD-640		<0.4	<0.4	<0.4	<0.4
	Trichloroethane, 1,1,2-	0.4	ug/L	STD-4.7		<0.4	<0.4	<0.4	<0.4
	Trichloroethylene	0.3	ug/L	STD-1.6		<0.3	<0.3	<0.3	<0.3
	Trichlorofluoromethane	0.5	ug/L	STD-2500		<0.5	<0.5	<0.5	<0.5
	Vinyl Chloride	0.2	ug/L	STD-0.5		<0.2	<0.2	<0.2	<0.2
	Xylene Mixture	1.0	ug/L	STD-4200		<1.0	<1.0	<1.0	<1.0

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Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1123988 Groundwater - 2014-08-05 BH13-7 - GW1	1123989 Groundwater - 2014-08-05 DUP-GW1	1123990 Groundwater - 2014-08-05 Field Blank
Misc/Others	pH	1.00				7.59		
Petroleum Hydrocarbons	Petroleum Hydrocarbons F1	100	ug/L	STD-750		<100	<100	
	Petroleum Hydrocarbons F2	100	ug/L	STD-150		<100	<100	
	Petroleum Hydrocarbons F3	200	ug/L	STD-500		<200	<200	
	Petroleum Hydrocarbons F4	200	ug/L	STD-500		<200	<200	
PHC Surrogates Rec	O-Terphenyl	0	%			73	70	
VOC Surrogates Rec	1,2-dichloroethane-d4	0	%			93	110	106
	4-bromofluorobenzene	0	%			104	105	105
	Toluene-d8	0	%			99	99	96
VOCs	Acetone	50	ug/L	STD-130000		<50	<50	<50
	Benzene	0.5	ug/L	STD-44		<0.5	<0.5	<0.5
	Bromodichloromethane	0.3	ug/L	STD-85000		<0.3	<0.3	<0.3
	Bromoform	0.4	ug/L	STD-380		<0.4	<0.4	<0.4
	Bromomethane	0.5	ug/L	STD-5.6		<0.5	<0.5	<0.5
	c-1,3-Dichloropropylene	0.2	ug/L			<0.2	<0.2	<0.2
	Carbon Tetrachloride	0.2	ug/L	STD-0.79		<0.2	<0.2	<0.2
	Chlorobenzene	0.2	ug/L	STD-630		<0.2	<0.2	<0.2
	Chloroform	0.5	ug/L	STD-2.4		<0.5	<0.5	<0.5
	Dibromochloromethane	0.3	ug/L	STD-82000		<0.3	<0.3	<0.3
	Dichlorobenzene, 1,2-	0.4	ug/L	STD-4600		<0.4	<0.4	<0.4
	Dichlorobenzene, 1,3-	0.4	ug/L	STD-9600		<0.4	<0.4	<0.4
	Dichlorobenzene, 1,4-	0.4	ug/L	STD-8		<0.4	<0.4	<0.4
	Dichlorodifluoromethane	0.5	ug/L	STD-4400		<0.5	1.6	<0.5
	Dichloroethane, 1,1-	0.4	ug/L	STD-320		<0.4	<0.4	<0.4
	Dichloroethane, 1,2-	0.2	ug/L	STD-1.6		<0.2	<0.2	<0.2
	Dichloroethylene, 1,1-	0.5	ug/L	STD-1.6		<0.5	<0.5	<0.5

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VOCs	Dichloroethylene, 1,2-cis-	0.4	ug/L	STD-1.6		<0.4	<0.4	<0.4
	Dichloroethylene, 1,2-trans-	0.4	ug/L	STD-1.6		<0.4	<0.4	<0.4
	Dichloropropane, 1,2-	0.5	ug/L	STD-16		<0.5	<0.5	<0.5
	Ethylbenzene	0.5	ug/L	STD-2300		<0.5	<0.5	<0.5
	Ethylene dibromide	0.2	ug/L	STD-0.25		<0.2	<0.2	<0.2
	Hexane (n)	5	ug/L	STD-51		<5	<5	<5
	m/p-xylene	0.5	ug/L			<0.5	<0.5	0.8
	Methyl Ethyl Ketone	10	ug/L	STD-470000		<10	<10	<10
	Methyl Isobutyl Ketone	10	ug/L	STD-140000		<10	<10	<10
	Methyl tert-Butyl Ether (MTBE)	10	ug/L	STD-190		<10	<10	<10
	Methylene Chloride	4.0	ug/L	STD-610		<4.0	<4.0	<4.0
	o-xylene	0.5	ug/L			<0.5	<0.5	<0.5
	Styrene	0.5	ug/L	STD-1300		<0.5	<0.5	<0.5
	t-1,3-Dichloropropylene	0.2	ug/L			<0.2	<0.2	<0.2
	Tetrachloroethane, 1,1,1,2-	0.5	ug/L	STD-3.3		<0.5	<0.5	<0.5
	Tetrachloroethane, 1,1,2,2-	0.5	ug/L	STD-3.2		<0.5	<0.5	<0.5
	Tetrachloroethylene	0.3	ug/L	STD-1.6		<0.3	<0.3	<0.3
	Toluene	0.5	ug/L	STD-18000		<0.5	<0.5	<0.5
	Trichloroethane, 1,1,1-	0.4	ug/L	STD-640		<0.4	<0.4	<0.4
	Trichloroethane, 1,1,2-	0.4	ug/L	STD-4.7		<0.4	<0.4	<0.4
	Trichloroethylene	0.3	ug/L	STD-1.6		<0.3	<0.3	<0.3
	Trichlorofluoromethane	0.5	ug/L	STD-2500		<0.5	<0.5	<0.5
	Vinyl Chloride	0.2	ug/L	STD-0.5		<0.2	<0.2	<0.2
	Xylene Mixture	1.0	ug/L	STD-4200		<1.0	<1.0	1.0

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 0 **Analysis Date** 2014-08-12 **Method** V 8260B			
Xylene Mixture			
Run No 274076 **Analysis Date** 2014-08-06 **Method** C SM4500-CNC			
Cyanide (CN-)	<5 ug/L	100	75-125
Run No 274084 **Analysis Date** 2014-08-06 **Method** M SM3120B-3500C			
Sodium	<2000 ug/L	103	80-120
Run No 274087 **Analysis Date** 2014-08-06 **Method** M SM3112B-3500B			
Mercury	<0.1 ug/L	107	70-130
Run No 274102 **Analysis Date** 2014-08-06 **Method** C SM2510B			
Conductivity	<5 uS/cm	101	95-105
pH	5.93	100	90-110
Run No 274106 **Analysis Date** 2014-08-06 **Method** SM 4110C			
Chloride	<1 mg/L	102	90-112
Run No 274122 **Analysis Date** 2014-08-07 **Method** EPA 200.8			
Silver	<0.1 ug/L	102	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<1 ug/L	97	93-106
Boron (total)	<10 ug/L	103	88-112
Barium	<10 ug/L	103	91-109
Beryllium	<0.5 ug/L	100	93-107
Cadmium	<0.1 ug/L	100	93-107
Cobalt	<0.2 ug/L	98	94-106
Chromium Total	<1 ug/L	98	94-106
Copper	<1 ug/L	98	93-106
Molybdenum	<5 ug/L	94	94-106
Nickel	<5 ug/L	99	94-106
Lead	<1 ug/L	102	70-130
Antimony	<0.5 ug/L	102	90-110
Selenium	<1 ug/L	103	91-108
Thallium	<0.1 ug/L	97	95-105
Uranium	<1 ug/L	96	94-106
Vanadium	<1 ug/L	97	93-107
Zinc	<10 ug/L	99	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 274207 **Analysis Date** 2014-08-08 **Method** O CCME Reg 153			
Petroleum Hydrocarbons F1	<100 ug/L	103	80-120
Run No 274253 **Analysis Date** 2014-08-07 **Method** SUBCONTRACT P-INORG			
Chromium VI			
Run No 274282 **Analysis Date** 2014-08-08 **Method** P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	64	20-140
Methlynaphthalene, 2-	<0.1 ug/L	64	20-140
Acenaphthene	<0.1 ug/L	66	20-140
Acenaphthylene	<0.1 ug/L	64	20-140
Anthracene	<0.1 ug/L	72	20-140
Benz[a]anthracene	<0.1 ug/L	78	20-140
Benzo[a]pyrene	<0.01 ug/L	73	20-140
Benzo[b]fluoranthene	<0.05 ug/L	67	20-140
Benzo[ghi]perylene	<0.1 ug/L	76	20-140
Benzo[k]fluoranthene	<0.05 ug/L	76	20-140
Chrysene	<0.05 ug/L	77	20-140
Dibenz[a h]anthracene	<0.1 ug/L	76	20-140

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse *** = Guideline Exceedence**

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Client: Inspec-Sol Inc. (Ottawa)
400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 20458
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1416330
Date Submitted: 2014-08-05
Date Reported: 2014-08-12
Project: T021272-E2
COC #: 172504

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Fluoranthene	<0.1 ug/L	78	20-140
Fluorene	<0.1 ug/L	70	20-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	76	20-140
Naphthalene	<0.1 ug/L	62	20-140
Phenanthrene	<0.1 ug/L	72	20-140
Pyrene	<0.1 ug/L	80	20-140
Run No 274352 **Analysis Date** 2014-08-07 **Method** V 8260B			
Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	98	80-120
Trichloroethane, 1,1,1-	<0.4 ug/L	97	80-120
Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	109	80-120
Trichloroethane, 1,1,2-	<0.4 ug/L	99	80-120
Dichloroethane, 1,1-	<0.4 ug/L	111	80-120
Dichloroethylene, 1,1-	<0.5 ug/L	88	80-120
Dichlorobenzene, 1,2-	<0.4 ug/L	104	80-120
Dichloroethane, 1,2-	<0.2 ug/L	114	80-120
1,2-dichloroethane-d4	89 %	96	80-120
Dichloropropane, 1,2-	<0.5 ug/L	104	80-120

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Dichlorobenzene, 1,3-	<0.4 ug/L	104	80-120
Dichlorobenzene, 1,4-	<0.4 ug/L	108	80-120
Benzene	<0.5 ug/L	98	80-120
Bromodichloromethane	<0.3 ug/L	97	80-120
Bromoform	<0.4 ug/L	95	80-120
Bromomethane	<0.5 ug/L	113	70-130
Dichloroethylene, 1,2-cis-	<0.4 ug/L	97	80-120
Dichloropropene,1,3-cis-	<0.2 ug/L	90	80-120
Carbon Tetrachloride	<0.2 ug/L	116	80-120
Chloroform	<0.5 ug/L	99	80-120
Dibromochloromethane	<0.3 ug/L	97	80-120
Dichlorodifluoromethane	<0.5 ug/L	89	70-130
Methylene Chloride	<4.0 ug/L	93	60-200
Ethylbenzene	<0.5 ug/L	93	80-120
Ethylene dibromide	<0.2 ug/L	111	80-120
Hexane (n)	<5 ug/L	80	70-130
m/p-xylene	<0.5 ug/L	96	80-120

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Project: T021272-E2
COC #: 172504

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Chlorobenzene	<0.2 ug/L	94	80-120
o-xylene	<0.5 ug/L	103	80-120
Styrene	<0.5 ug/L	97	80-120
Dichloroethylene, 1,2-trans-	<0.4 ug/L	93	80-120
Dichloropropene,1,3-trans-	<0.2 ug/L	95	80-120
Tetrachloroethylene	<0.3 ug/L	83	80-120
Toluene	<0.5 ug/L	100	80-120
Toluene-d8	118 %	100	80-120
Trichloroethylene	<0.3 ug/L	97	80-120
Trichlorofluoromethane	<0.5 ug/L	91	80-120
Vinyl Chloride	<0.2 ug/L	100	70-130
Run No 274355 **Analysis Date** 2014-08-07 **Method** V 8260B			
Acetone			80-120
Methyl Ethyl Ketone		100	80-120
Methyl Isobutyl Ketone		100	80-120
Methyl tert-Butyl Ether (MTBE)			80-120
Run No 274389 **Analysis Date** 2014-08-11 **Method** O CCME Reg 153			

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse *** = Guideline Exceedence**

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Project: T021272-E2
COC #: 172504

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Petroleum Hydrocarbons F2	<100 ug/L	119	50-120
Petroleum Hydrocarbons F3	<200 ug/L	119	50-120
Petroleum Hydrocarbons F4	<200 ug/L	119	50-120
O-Terphenyl	94 %	79	60-140

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Date Reported: 2014-08-12
Project: T021272-E2
COC #: 172504

Sample Comment Summary

Sample ID: 1123984 BH1 (MW) - GW1 All samples were subcontracted for Cr (VI) analysis.

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EXOVA ENVIRONMENTAL ONTARIO

Certificate of Analysis

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Report Number: 1425071
Date Submitted: 2014-11-25
Date Reported: 2014-11-27
Project: T021272-EZ
COC #: 176526

Temperature: 10

Dear Luke Lopers:

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

Report Comments:

APPROVAL: _____

Lorna Wilson
Laboratory Supervisor, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, Organics

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

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

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

Exova (Mississauga) is accredited for specific parameters by SCC, Standards Council of Canada (to ISO 17025)

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

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Report Number: 1425071
Date Submitted: 2014-11-25
Date Reported: 2014-11-27
Project: T021272-EZ
COC #: 176526

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1148668 Groundwater 2014-11-25 BH14-1	1148669 Groundwater 2014-11-25 BH14-2
Inorganics	Antimony	0.5	ug/L	STD-20000		<0.5	
	Arsenic	1	ug/L	STD-1900		<1	
	Barium	10	ug/L	STD-29000		60	
	Beryllium	0.5	ug/L	STD-67		<0.5	
	Boron (total)	10	ug/L	STD-45000		40	
	Cadmium	0.1	ug/L	STD-2.7		<0.1	
	Chromium Total	1	ug/L	STD-810		<1	
	Cobalt	0.2	ug/L	STD-66		0.4	
	Copper	1	ug/L	STD-87		1	
	Lead	1	ug/L	STD-25		<1	
	Molybdenum	5	ug/L	STD-9200		<5	
	Nickel	5	ug/L	STD-490		<5	
	Selenium	1	ug/L	STD-63		<1	
	Silver	0.1	ug/L	STD-1.5		<0.1	
	Sodium	2000	ug/L	STD-2300000		64000	
	Thallium	0.1	ug/L	STD-510		<0.1	
	Uranium	1	ug/L	STD-420		2	
	Vanadium	1	ug/L	STD-250		<1	
	Zinc	10	ug/L	STD-1100		<10	
Misc/Others	pH	1.00				7.76	7.36
Petroleum Hydrocarbons	Petroleum Hydrocarbons F1	20	ug/L	STD-750		<20	<20
	Petroleum Hydrocarbons F1-BTEX	20	ug/L			<20	<20
	Petroleum Hydrocarbons F2	20	ug/L	STD-150		<20	<20
	Petroleum Hydrocarbons F3	50	ug/L	STD-500		<50	<50
	Petroleum Hydrocarbons F4	50	ug/L	STD-500		<50	<50
PHC Surrogates Rec	O-Terphenyl	0	%			84	120

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Report Number: 1425071
Date Submitted: 2014-11-25
Date Reported: 2014-11-27
Project: T021272-EZ
COC #: 176526

Group	Analyte	MRL	Units	Guideline	1148668 Groundwater 2014-11-25 BH14-1	1148669 Groundwater 2014-11-25 BH14-2
	Lab I.D.					
	Sample Matrix					
	Sample Type					
	Sampling Date					
	Sample I.D.					
VOC Surrogates Rec	1,2-dichloroethane-d4	0	%		104	
	4-bromofluorobenzene	0	%		103	
	Toluene-d8	0	%		95	96
VOCs	Acetone	50	ug/L	STD-130000	<50	
	Benzene	0.5	ug/L	STD-44	<0.5	<0.5
	Bromodichloromethane	0.3	ug/L	STD-85000	<0.3	
	Bromoform	0.4	ug/L	STD-380	<0.4	
	Bromomethane	0.5	ug/L	STD-5.6	<0.5	
	Carbon Tetrachloride	0.2	ug/L	STD-0.79	<0.2	
	Chlorobenzene	0.2	ug/L	STD-630	<0.2	
	Chloroform	0.5	ug/L	STD-2.4	<0.5	
	Dibromochloromethane	0.3	ug/L	STD-82000	<0.3	
	Dichlorobenzene, 1,2-	0.4	ug/L	STD-4600	<0.4	
	Dichlorobenzene, 1,3-	0.4	ug/L	STD-9600	<0.4	
	Dichlorobenzene, 1,4-	0.4	ug/L	STD-8	<0.4	
	Dichlorodifluoromethane	0.5	ug/L	STD-4400	<0.5	
	Dichloroethane, 1,1-	0.4	ug/L	STD-320	<0.4	
	Dichloroethane, 1,2-	0.2	ug/L	STD-1.6	<0.2	
	Dichloroethylene, 1,1-	0.5	ug/L	STD-1.6	<0.5	
	Dichloroethylene, 1,2-cis-	0.4	ug/L	STD-1.6	<0.4	
	Dichloroethylene, 1,2-trans-	0.4	ug/L	STD-1.6	<0.4	
	Dichloropropane, 1,2-	0.5	ug/L	STD-16	<0.5	
	Dichloropropene,1,3-	0.2	ug/L	STD-5.2	<0.2	
	Dichloropropylene, 1,3-cis-	0.2	ug/L		<0.2	
	Dichloropropylene, 1,3-trans-	0.2	ug/L		<0.2	
	Ethylbenzene	0.5	ug/L	STD-2300	<0.5	<0.5

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Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1148668 Groundwater 2014-11-25 BH14-1	1148669 Groundwater 2014-11-25 BH14-2
VOCs	Ethylene dibromide	0.2	ug/L	STD-0.25		<0.2	
	Hexane (n)	5	ug/L	STD-51		<5	
	Methyl Ethyl Ketone	10	ug/L	STD-470000		<10	
	Methyl Isobutyl Ketone	10	ug/L	STD-140000		<10	
	Methyl tert-Butyl Ether (MTBE)	10	ug/L	STD-190		<10	
	Methylene Chloride	4.0	ug/L	STD-610		<4.0	
	Styrene	0.5	ug/L	STD-1300		<0.5	
	Tetrachloroethane, 1,1,1,2-	0.5	ug/L	STD-3.3		<0.5	
	Tetrachloroethane, 1,1,2,2-	0.5	ug/L	STD-3.2		<0.5	
	Tetrachloroethylene	0.3	ug/L	STD-1.6		<0.3	
	Toluene	0.5	ug/L	STD-18000		<0.5	<0.5
	Trichloroethane, 1,1,1-	0.4	ug/L	STD-640		<0.4	
	Trichloroethane, 1,1,2-	0.4	ug/L	STD-4.7		<0.4	
	Trichloroethylene	0.3	ug/L	STD-1.6		<0.3	
	Trichlorofluoromethane	0.5	ug/L	STD-2500		<0.5	
	Vinyl Chloride	0.2	ug/L	STD-0.5		<0.2	
	Xylene Mixture	1.0	ug/L	STD-4200		<1.0	<1.0
	Xylene, m/p-	0.5	ug/L			<0.5	<0.5
	Xylene, o-	0.5	ug/L			<0.5	<0.5

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Report Number: 1425071
Date Submitted: 2014-11-25
Date Reported: 2014-11-27
Project: T021272-EZ
COC #: 176526

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 280526 **Analysis Date** 2014-11-26 **Method** O CCME Reg 153			
Petroleum Hydrocarbons F1	<20 ug/L	96	80-120
Petroleum Hydrocarbons F1-BTEX			
Run No 280529 **Analysis Date** 2014-11-26 **Method** V 8260B			
Benzene	<0.5 ug/L	82	80-120
Ethylbenzene	<0.5 ug/L	95	80-120
m/p-xylene	<0.5 ug/L	99	80-120
o-xylene	<0.5 ug/L	104	80-120
Toluene	<0.5 ug/L	105	80-120
Toluene-d8	106 %	101	80-120
Xylene Mixture			
Run No 280555 **Analysis Date** 2014-11-26 **Method** M SM3120B-3500C			
Sodium	<2000 ug/L	107	80-120
Run No 280583 **Analysis Date** 2014-11-26 **Method** EPA 200.8			
Silver	<0.1 ug/L	95	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<1 ug/L	94	93-106
Boron (total)	<10 ug/L	98	88-112
Barium	<10 ug/L	94	91-109
Beryllium	<0.5 ug/L	98	93-107
Cadmium	<0.1 ug/L	96	93-107
Cobalt	<0.2 ug/L	97	94-106
Chromium Total	<1 ug/L	96	94-106
Copper	<1 ug/L	97	93-106
Molybdenum	<5 ug/L	105	94-106
Nickel	<5 ug/L	97	94-106
Lead	<1 ug/L	98	70-130
Antimony	<0.5 ug/L	95	80-120
Selenium	<1 ug/L	97	91-108
Thallium	<0.1 ug/L	100	95-105
Uranium	<1 ug/L	99	94-106
Vanadium	<1 ug/L	95	93-107
Zinc	<10 ug/L	96	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 280594 **Analysis Date** 2014-11-26 **Method** C SM4500-H+B			
pH	5.79	99	90-110
Run No 280611 **Analysis Date** 2014-11-26 **Method** V 8260B			
Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	106	80-120
Trichloroethane, 1,1,1-	<0.4 ug/L	114	80-120
Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	94	80-120
Trichloroethane, 1,1,2-	<0.4 ug/L	108	80-120
Dichloroethane, 1,1-	<0.4 ug/L	116	80-120
Dichloroethylene, 1,1-	<0.5 ug/L	109	80-120
Dichlorobenzene, 1,2-	<0.4 ug/L	111	80-120
Dichloroethane, 1,2-	<0.2 ug/L	94	80-120
1,2-dichloroethane-d4	106 %	117	80-120
Dichloropropane, 1,2-	<0.5 ug/L	113	80-120
Dichlorobenzene, 1,3-	<0.4 ug/L	92	80-120
Dichlorobenzene, 1,4-	<0.4 ug/L	97	80-120
Bromodichloromethane	<0.3 ug/L	108	80-120
Bromoform	<0.4 ug/L	105	80-120

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400-179 Colonnade Rd.
Ottawa, ON
K2E 7J4
Attention: Mr. Luke Lopers
PO#: 23545
Invoice to: Inspec-Sol Inc. (Ottawa)

Report Number: 1425071
Date Submitted: 2014-11-25
Date Reported: 2014-11-27
Project: T021272-EZ
COC #: 176526

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Bromomethane	<0.5 ug/L	112	70-130
Dichloroethylene, 1,2-cis-	<0.4 ug/L	111	80-120
Dichloropropene,1,3-cis-	<0.2 ug/L	109	80-120
Carbon Tetrachloride	<0.2 ug/L	101	80-120
Chloroform	<0.5 ug/L	113	80-120
Dibromochloromethane	<0.3 ug/L	109	80-120
Dichlorodifluoromethane	<0.5 ug/L	89	70-130
Methylene Chloride	<4.0 ug/L	94	60-200
Ethylene dibromide	<0.2 ug/L	83	80-120
Hexane (n)	<5 ug/L	110	70-130
Chlorobenzene	<0.2 ug/L	115	80-120
Styrene	<0.5 ug/L	116	80-120
Dichloroethylene, 1,2-trans-	<0.4 ug/L	110	80-120
Dichloropropene,1,3-trans-	<0.2 ug/L	115	80-120
Tetrachloroethylene	<0.3 ug/L	103	80-120
Trichloroethylene	<0.3 ug/L	113	80-120
Trichlorofluoromethane	<0.5 ug/L	111	80-120

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse *** = Guideline Exceedence**

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Vinyl Chloride	<0.2 ug/L	112	70-130
Run No 280613 **Analysis Date** 2014-11-27 **Method** V 8260B			
Dichloropropene,1,3-			
Run No 280614 **Analysis Date** 2014-11-26 **Method** V 8260B			
Acetone	<50 ug/L	114	80-120
Methyl Ethyl Ketone	<10 ug/L	100	80-120
Methyl Isobutyl Ketone	<10 ug/L	100	80-120
Methyl tert-Butyl Ether (MTBE)	<10 ug/L	100	80-120
Run No 280640 **Analysis Date** 2014-11-27 **Method** O CCME Reg 153			
Petroleum Hydrocarbons F2	<20 ug/L	78	50-120
Petroleum Hydrocarbons F3	<50 ug/L	78	50-120
Petroleum Hydrocarbons F4	<50 ug/L	78	50-120
O-Terphenyl	120 %	80	60-140

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Petroleum Hydrocarbons - CCME Checklist

Samples were analysed by Exova Ottawa Method AMCCME2, "Petroleum Hydrocarbons in Water and Soil, CCME/TPH" This method complies with the reference method for the CCME CWS PHC and is validated for use in the laboratory. Exova Ottawa is accredited by CALA (ISO 17025) for all CCME F1-F4 fractions as listed in this report. Data for QC samples (blank, duplicate, spike) are available on request.

Holding/Analysis Times	Yes/No	If NO, then reasons
All fractions analyzed within recommended hold times/analysis times?	Yes	
F1		
nC6 and nC10 response factors within 30% of toluene	Yes	
BTEX was subtracted from F1 fraction	Yes	
If YES, was F1-BTEX (C6-C10) reported	Yes	
F2		
nC10, nC16 and nC34 response factors within 10% of their average (F2-F4)	Yes	
Linearity within 15% (F2-F4)	Yes	
Napthalene was subtracted from F2 fraction		Naphthalene (PAH) not requested/analysed
If YES was F2-Napthalene reported		
F3		
PAH (selected compounds) subtracted from F3 fraction		PAH not requested/analysed
If YES was F3-PAH reported		
F4		
C50 response factor within 70% of nC10+nC16+nC34 average	Yes	
Chromatogram descended to baseline by retention time of C50	Yes	
if NO was F4 (C34-C50) gravimetric reported		

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