REPORT
TO
CITY OF GUELPH

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
FORMER IMICO PROPERTY
200 BEVERLEY STREET
GUELPH, ON

Prepared by:

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April 2014

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2 April 2014

City of Guelph
1 Carden Street
Guelph, Ontario
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Attention: Mr. Prasoon Adhikari, M.Sc., P.Eng., QP_{ESA}
Environmental Engineer

Re: **Phase Two Environmental Site Assessment**
200 Beverley Street
Guelph, Ontario

Dear Mr. Adhikari:

Decommissioning Consulting Services is pleased to provide the following report on the completion of a Phase Two Environmental Site Assessment of the property located at 200 Beverley Street in Guelph, Ontario.

Our report expands upon the extensive previous environmental information obtained for the site. Current soil and groundwater data is presented with respect to the applicable provincial subsurface cleanup standards developed in 2011. The extent of heavy metal, polycyclic aromatic hydrocarbon contamination on the site has been delineated.

We trust that the enclosed report is suitable for your current requirements. If you have any questions or require further information, please do not hesitate to contact us.

Yours very truly,

DECOMMISSIONING CONSULTING SERVICES

Richard Browne, M.A.Sc., P.Eng.
Senior Vice President

Stephen R. Prior, P.Eng.
Senior Project Manager

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1.0 EXECUTIVE SUMMARY

Decommissioning Consulting Services (DCS), an ARCADIS company, was retained by the City of Guelph to complete a Phase Two Environmental Site Assessment (ESA) for the property located at 200 Beverley Street in the City of Guelph. This report was completed in accordance with Ontario Regulation (O. Reg.) 153/04, as amended and has been prepared to support a potential future application of a Record of Site Condition (RSC).

This property is currently owned by the City of Guelph and was formerly owned by the International Malleable Iron Company (IMICO). There are no buildings on the property. Adjacent land use consisted of a mix of commercial, industrial and residential.

Given that the depths to bedrock is typically less than 2 metres and the future land use has not been determined, the applicable cleanup criteria are the Ontario Ministry of the Environment (MOE) Table 6 Site Condition Standards (Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition) for coarse grained soils.

A number of investigations have been completed in the past for both the soil and groundwater. The soil investigation for this Phase Two was completed by DCS and the groundwater sampling was completed by AECOM Canada Limited (AECOM).

The 2013 field program was developed based on the analytical results obtained during the previous soil investigation completed by DCS. Test pits were excavated in locations where elevated levels of organic contamination were found in 2007.

Ten test pits were excavated across the property. At one location the remains of a concrete floor prevented excavation of a test pit and, as a result, a borehole was advanced to the bedrock surface. In addition, a monitoring well nest was installed along the east property line at the request of the City of Guelph.

The overburden was found to consist of varying thicknesses of fill and granular native soils overlying the dolostone bedrock.

Groundwater elevations were obtained by AECOM in October 2013, the results were plotted by DCS and the inferred groundwater flow directions were determined. The flow in the shallow bedrock is to the south and, at the time of obtaining the groundwater, the flow in the deep bedrock appears to be radial from a mound located near/on the east property boundary. It should

be noted the groundwater flow pattern in the deep bedrock may vary with the season. Based on the groundwater elevation data obtained from AECOM, there appears to be an upward vertical component of groundwater flow.

Contamination is present in the soil across the property. The predominant contaminants are metals with some polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) being present. The work completed in 2013 did not detect any volatile organic compounds (VOCs) or petroleum hydrocarbons (PHCs) in the soil.

Contamination in the groundwater is generally confined to the east part of the site with evidence of VOCs being present along the south property boundary during the October 2013 sampling event. This contamination consists of VOCs with occasional PAHs. In addition, elevated zinc levels were found in the monitoring wells found along the east property line.

Based on the analytical data collected by AECOM the contamination is also present on the adjacent property to the east located at 490 York St. The source of this contamination has not been determined. Free product has been detected in one monitoring well located near the east property line. It is suspected the free product is petroleum hydrocarbons.

Abandoned sewers may be present across the property as information regarding their removal has not been located. However, given the granular nature of the overburden it is deemed these will not act as a preferential pathway for the movement of contaminants off the property as the native soils would have a hydraulic conductivity similar to the trench backfill.

2.0 INTRODUCTION

DCS was retained by the City of Guelph to complete a Phase Two ESA for the property located at 200 Beverley Street in the City of Guelph. This property is currently owned by the City of Guelph and was formerly owned by IMICO.

This Phase Two ESA report was completed in accordance with Ontario Regulation (O. Reg.) 153/04 as amended and has been prepared to support an application of a Record of Site Condition (RSC) by the property owner.

2.1 SITE DESCRIPTION

The Phase Two property is approximately 52,250 square meters (m^2) (12.9 acres) in area. The site consists of a topographically flat former heavy industrial property within an older industrial/commercial area of Guelph. The vacant site is overgrown by scrub growth. The location of the site is shown on the Key Plan in Figure 1, in Section 9.

2.1.1 Adjacent Properties

The adjacent land uses at the time of a site visit on 7 November 2013 were as follows:

North: Guelph Rail Line

South: Beverley Street followed by mainly industrial and commercial properties: ABS Friction was previously located at 10 Kingsmill Avenue, Dresco Plumbing and Supply is located at 24 Hayes Avenue, residential dwellings are located at 201, 203, and 205 Beverley Street, Stan's Plumbing and Heating Supplies is located at 101 Beverley Street, and In-Situ Contractors are located at 150 Stevenson Street South (at the intersection of Beverley Street and Stevenson Street South).

West: Stevenson Street South followed by Steele Bros. located at 60 Johnston Street, Choice Enterprises and Transportation Services is located at 143 Stevenson Street South, Sign Art Centre of Guelph Inc. is located at 145 Stevenson Street South, 147 Stevenson Street South houses WYGA Construction Ltd., as well as George's Furniture & Giorgio's Galleria, residential dwellings are located at 109 and 111 Stevenson Street South.

East: a former industrial facility that is currently for commercial purposes

No unusual conditions were observed on the adjacent lands. It should be noted that observations were made, for the most part, from the site or from publicly accessible areas.

Other property uses within the Phase Two Study Area consist mainly of low-rise commercial and industrial properties with some residential dwellings. Most of the properties just outside of the Phase Two Study Area are residential homes.

The nearest water body to the site is the Eramosa River, which is about 550 m southeast of the site. Several sensitive species of turtles, fish, snakes, insects, and plants were identified within Wellington region as discussed in Section 4.3.4 *Water Bodies and Areas of Natural Significance* of the Phase One ESA. Most of these species have not been observed in the area of the site for decades and the site and surrounding area is not generally suitable to provide habitat for these species.

2.2 PROPERTY OWNERSHIP

The site is currently owned by the City of Guelph. The service address for the owner is provided below:

City of Guelph
1 Carden Street
Guelph, Ontario
N1H 3A1

The contact information for the City of Guelph is provided below:

Mr. Prasoon Adhikari, M.Sc., P.Eng., QP_{ESA}
City of Guelph
1 Carden Street
Guelph, Ontario
N1H 3A1

2.3 CURRENT AND PROPOSED FUTURE USES

The following identifies the current and proposed site use:

2.3.1 Buildings

No buildings were present on the property during the completion of the Phase Two ESA. Based on a review of the aerial photographs and environmental reports reviewed in the Phase One ESA (DCS 2014) a large building that was occupied by the IMICO facility was formerly present on the property.

2.3.2 Subsurface Structures and Utilities

At this time the locations of buried utilities, if present, has not been determined. There are no active utilities on the site. Pits were known to be present at the facility. Some of these have been decommissioned.

2.3.3 Usage

Currently, the Phase Two Property is considered to be industrial, although it has not been used for this purpose in a number of years. The future use is not known and the property may be rezoned for a more sensitive land use, such as residential or parkland.

2.4 APPLICABLE SITE CONDITION STANDARDS

The Site Condition Standards (SCS) are presented in the Province of Ontario document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated 15 April 2011b. The 2011 document presents maximum contaminant concentrations (i.e., Standards) against agricultural or other, residential/parkland/institutional and industrial/commercial/community property uses on the following nine tables:

Table 1	Full depth Background Site Condition Standards
Table 2	Full Depth Generic Site Condition Standards in a Potable Ground Water Condition
Table 3	Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
Table 4	Stratified Site Condition Standards in a Potable Ground Water Condition
Table 5	Stratified Site Condition Standards in a Non-Potable Ground Water Condition
Table 6	Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition

Table 7	Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Table 8	Generic Site Condition Standards for Use Within 30 m of a Water Body in a Potable Ground Water Condition
Table 9	Generic Site Condition Standards for Use Within 30 m of a Water Body in a Non-Potable Ground Water Condition

Table 1 (background standards) is required to be used where a site is on or adjacent to an Area of Natural or Scientific Interest (ANSI), or the pH of the soils lie outside of the acceptable range (5 to 9 for surface soil, 5 to 11 for subsurface soil). The property is not considered to be within the proximity of an environmentally sensitive area, based on the information reviewed as part of the Phase One ESA (DCS, 2014). Soil testing for inorganics indicates that the soil pH is within the range of 5 to 9.

Potable groundwater standards are required to be used when a site is within 250 m of a property that is not supplied by a municipal water supply system, or there is a water supply well within 250 m of the site boundary. The City of Guelph has designated all lands within the City boundaries as a potential source of potable water, therefore the site is under a potable groundwater designation.

Based on work completed in the past it is known the depth to bedrock is less than 2 m and, as a result, the site is considered to be a shallow soil scenario.

The future land use has not been determined at the time of reporting and therefore all potential land uses, with the exception of agriculture, will potentially apply to the property.

Therefore, based on the above information, the MOE Table 6 Generic SCS for shallow soil in a potable ground water condition was selected as the applicable SCS for the Phase Two Property.

The soil and groundwater chemical data from the current 2013 investigation, as well as the previous subsurface investigations, have been compared against the Table 6 Standards.

3.0 BACKGROUND INFORMATION

3.1 PHYSICAL SETTING

A review of the Ministry of Natural Resources (Ontario Geological Survey) Toronto and Surrounding Area Quaternary Geology Map (Map P.2204, 1980) indicates that the native soil conditions local to the site consist of Port Stanley till; silt to sandy silt matrix that is strongly calcareous with moderate to low clast content from the Pleistocene Epoch.

A review of the Ministry of Natural Resources (Ontario Geological Survey) Geological Highway Map of Southern Ontario (Map 2441, 1979) indicates that the bedrock conditions local to the site consist of sandstone, shale, dolostone, and siltstone. Depth to bedrock at the site was determined to be between approximately 1.14 and 2.66 m during the 2007 DCS Phase II ESA.

Regional groundwater is expected to flow to the east and southeast, towards the Eramosa River, approximately 550 m southeast of the site, but may be affected locally by such features as buried utilities/services.

3.2 PAST INVESTIGATIONS

A number of subsurface environmental investigations have been completed over the past 15 years. A summary of these reports was provided in the *Phase One Environmental Site Assessment, 200 Beverley Street, Guelph, Ontario* report prepared by DCS for the City of Guelph, dated February 2014.

The purpose of the Phase One ESA was to assess the existing site conditions from an environmental perspective and to identify the presence of potential environmental concerns that might affect the future use of the site.

The Phase One ESA included a review of previous environmental reports concerning the site; a review of historical information including aerial photographs, MOE documents, fire insurance plans, chain of title information and numerous historical databases; a site reconnaissance; and preparation of a report summarizing the results of the investigation and making recommendations for further investigations at the site.

IMICO purchased the site at 200 Beverley Street in 1912 for development as a foundry. The site has been in possession of the City of Guelph since 1997 and has been vacant since its acquisition by the City.

Preliminary site assessments were completed by Proctor and Redfern (P&R) in 1989 and 1991. In the 1989 report, P&R made seventeen recommendations to characterize and delineate contaminants at the property as well as disposal and/or storage of PCB-containing equipment and materials. In 1991, P&R brought forth remediation options and provided a preliminary site remediation cost estimate following an intrusive program consisting 55 test pits, 16 core samples, and the installation of 5 groundwater observation wells. The site has been under MOE Director's Order since 1994. A hydrogeologic study to gain understanding of groundwater flow at the property has been carried out, in addition to the remediation of sumps and a PCB storage area. Furthermore, the former IMICO building was demolished in 1999. A Phase I ESA and a Phase II ESA were carried out by DCS in 2007. The intrusive investigation found soil and groundwater impacted by metals across the property and impacts from PHCs, PCBs, PAHs, and VOCs present in three main areas, the eastern side of the property, in the vicinity of the former power house and capacitor room, and in the vicinity of the former maintenance garage, with occasional occurrences elsewhere.

Potentially contaminating activities (PCAs) identified at the site include:

- Historic placement of fill of unknown origin across the site.
- Former underground storage tank in the northeast corner of the site.
- Former iron and steel manufacturing and processing.
- Former metal treatment, coating, and finishing.
- Historic use and storage of PCBs
- Former garage and maintenance and repair area.

Potentially contaminating activities within a 250 m radius of the Phase One property include:

- Chemical manufacturing, processing, and bulk storage
- Rail yard, tracks, and spurs.

Areas of Potential Environmental Concern (APECs) resulting from these PCAs include the fill soils across the site, the subsurface soil and groundwater underlying the site.

Potential contaminants of concern associated with these PCAs include metals, PHCs, BTEX compounds, PCBs, PAHs, and VOCs. Media potentially impacted includes the soil and groundwater underlying the site.

It was recommended that a Phase Two Environmental Site Assessment be carried out on the site before submission of a RSC.

4.0 SCOPE OF THE INVESTIGATION

4.1 OVERVIEW OF SITE INVESTIGATION

The Phase Two ESA work was completed to assess the current conditions at the property and to add to the chemical database generated through previous investigations. The soil investigation for this Phase Two was competed by DCS and the groundwater sampling was completed by AECOM.

4.2 MEDIA INVESTIGATED

The media investigated during this phase of the investigation included soil, however, groundwater data obtained during the annual groundwater monitoring program completed by AECOM was used to assess groundwater conditions. No bodies of water are present and therefore no sediment is present.

4.3 PHASE ONE CONCEPTUAL MODEL

The Phase One conceptual site model (CSM) is provided as Drawing 701996-P2-9.11, in Section 9 *Figures and Tables* of this report. The CSM indicates APECs on the site and the locations of PCAs potentially affecting the site.

The Phase One CSM shows the PCAs which may have affected the site include the placement of fill of unknown origin across the site; the former presence of a underground storage tank (UST) at the northeast corner of the site; former capacitor room; former sand mixer and foundry sumps; former maintenance garage; former core room, boiler and power house; and the former storage of PCBs.

APECs resulting from these PCAs at the site include the placement of fill of unknown origin across the site, a former UST in the northeast corner of the site, former iron and steel manufacturing and processing at the site, former metal treatment, coating, and finishing at the site, former use and storage of PCBs at the site, and a former garage, maintenance and repair area. PCAs associated with the adjacent properties include chemical manufacturing, processing, and bulk storage and rail yard, tracks, and spurs.

The APECs and their respective potential contaminants of concern on the site are summarized in the table below:

APEC	LOCATION OF APEC ON PHASE ONE PROPERTY	POTENTIALLY CONTAMINATING ACTIVITY	LOCATION OF PCA (ON OR OFF-SITE)	CONTAMINANTS OF POTENTIAL CONCERN	MEDIA POTENTIALLY IMPACTED (GROUND WATER, SOIL AND/OR SEDIMENT)
APEC 1	Entire property	Importation of Fill Material of Unknown Quality (30)	On-site	Metals and inorganic parameters	Soil and Groundwater
APEC 2	Eastern portion, former location of UST and machine shop	Gasoline and Associated Product Storage in Fixed Tanks (28), Metal Treatment, Coating and Finishing (33)	On-site	Metals and inorganic parameters PHCs and BTEX VOCs	Soil and Groundwater
APEC 3	Central portion of the site, in the vicinity of the former capacitor room, cooling tower and offices	Iron and Steel Manufacturing and Processing (32), Use and storage of PCBs at the site	On-Site	PHCs and BTEX PCBs PAHs VOCs	Soil and Groundwater
APEC 4	Southern portion of the site, formerly housing the sand mixer, foundry sumps, and the electrical shop	Iron and Steel Manufacturing and Processing (32)	On-Site	PHCs and BTEX PCBs PAHs VOCs	Soil and Groundwater
APEC 5	Western portion of the property, former maintenance garage	Garage, Maintenance and Repair Area	On-Site	PHCs and BTEX PAHs VOCs	Soil and Groundwater
APEC 6	Former core room, power house, and boiler house	Use and storage of PCBs	On-Site	PHCs and BTEX PCBs PAHs VOCs	Soil and Groundwater

APEC	LOCATION OF APEC ON PHASE ONE PROPERTY	POTENTIALLY CONTAMINATING ACTIVITY	LOCATION OF PCA (ON OR OFF-SITE)	CONTAMINANTS OF POTENTIAL CONCERN	MEDIA POTENTIALLY IMPACTED (GROUND WATER, SOIL AND/OR SEDIMENT)
APEC 7	Northeastern portion of the property, former storage and warehousing, including storage of PCBs, and as a machine shop	Iron and Steel Manufacturing and Processing (32), Metal Treatment, Coating and Finishing (33), Use and Storage of PCBs.	On-Site	PHCs and BTEX PCBs PAHs VOCs	Soil and Groundwater
APEC 8	Northwestern property boundary	Chemical manufacturing, processing, and bulk storage (8)	Off-Site	PHCs and BTEX PCBs PAHs VOCs	Soil and Groundwater
APEC 9	Northwestern property boundary	Rail yard, tracks, and spurs adjacent to the site (46)	Off-Site	Metals and inorganics PHCs and BTEX PAHs	Soil and Groundwater

Note: Number in brackets refers to Potentially Contaminating Activities referenced in Schedule D, Table 2, O.Reg. 153/04

It should be noted that contamination is present in the groundwater on the eastern property boundary and on the adjacent property located at 490 York Street. The MOE and the City of Guelph are conducting an on-going investigation on the source of contamination. At the time of writing, no source has been identified.

4.4 DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

No deviations from the work plan occurred.

4.5 IMPEDIMENTS

At one location in the former Machine Shop and Warehouse area it was intended that a test pit (TP-7) be excavated, however, due to the presence of the concrete floor of the former facility, a borehole (BH13-40) was advanced to the bedrock surface at that location.

5.0 INVESTIGATION METHODS

5.1 GENERAL

Ten test pits were excavated (TP-1 to TP-6 and TP-8 to TP-11) and three boreholes (MW13-39S, MW13-39D and BH13-40), of which two were converted to monitoring wells (MW13-39S and MW13-39D), were advanced on the property during the 2013 subsurface investigation program. The locations of the test pits and boreholes are shown on Drawing 701996-P2-9.1 provided in Section 9.0 of this report. The rationale for the test pit and borehole locations is provided in the table below:

Sample Location	Rationale	Analysis Required				
		PAH	PHC	VOC	Metals	PCB
TP1	Elevated PHCs and PCBs during 2007 investigation	1	1	1	1	1
TP2	Elevated PAHs during 2007 investigation	1	1	1	1	
TP3	Elevated PAHs during 2007 investigation	1	1	1	1	1
TP4	Elevated PAHs during 2007 investigation	1	1	1	1	1
TP5	Excavated at the request of the City of Guelph	1	1	1	1	
TP6	Excavated at the request of the City of Guelph	1	1	1	1	
TP7/BH13-40	Excavated at the request of the City of Guelph	1	1	1	1	
TP8	Elevated PHCs during 2007 investigation	1	1	1	1	
TP9	Elevated PAHs during 2007 investigation	1	1	1	1	
TP10	Excavated in the vicinity of former USTs	1	1	1	1	
TP11	Elevated PAHs during 2007 investigation	1	1	1	1	
MW 13-1D	Installed at the request of the City of Guelph to access potential presence of COCs in groundwater at the site due to historical site usage.			1	1	
MW 13-1S	Installed at the request of the City of Guelph to access potential presence of COCs in groundwater at the site due to historical site usage.			1	1	

Prior to commencing the field investigation program, the location of each proposed borehole was determined to be clear of public and private underground utilities. Private utilities stakeouts services were provided by Utility Marx Inc.

Standard field procedures are provided in Appendix A.

5.2 DRILLING AND TEST PITTING

The test pits were excavated on 2 and 3 December 2013 under the full-time supervision of qualified DCS staff. Grab samples were collected in each test pit from each distinct soil layer or where evidence of potential impacts were observed. All recovered samples were screened for volatile organic compound vapours using a portable GasTech instrument. This information was used in order to aid in determining sample analyses. Duplicate soil samples were collected and submitted in accordance with appropriate QA/QC practices.

The boreholes were advanced using a CME 55T track-mounted drill rig, supplied and operated by Aardvark Drilling, using hollow-stem augers to the bedrock surface. Decontamination procedures were applied between the recovery of each sample and between boreholes to avoid cross contamination. Augers, split spoons and other equipment were washed with detergent and rinsed with clean water before reuse.

Bedrock samples were obtained using standard coring techniques. The bedrock was cored in HQ size. Return wash water was monitored for the presence of contaminants and the rate of return. A loss of water return would indicate a highly permeable zone in the bedrock.

Water generated during the coring was placed in sealable 205 L drum containers and stored on site pending off-site disposal on a later date due to the potential for contaminants (i.e. VOCs) being present in the water.

5.3 SOIL SAMPLING

Soil sampling procedures were conducted in accordance with the Ontario Ministry of the Environment's (MOE's) *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, 1996. Soil samples were placed in sterile glass sample jars which were sealed with a screw top lid and placed into a protective cooler for temporary storage on site and for shipping to the laboratory. A Terracore disposable sampling device was used to

collect soil samples that were to be tested for F1 fraction PHC and BTEX. The soil samples collected with the Terracore device were placed into laboratory supplied 40 mL glass jars containing a fixed volume of methanol for preservation purposes.

Each sample was visually inspected by the DCS staff and following review assessed for soil type, the presence of foreign material, staining and odour in the field and then logged and described in detail. Samples identified as potentially exhibiting petroleum hydrocarbon contamination based on aesthetic evidence (the presence of odours and staining in soil), and samples that were collected from the areas that were previously identified as exhibiting petroleum hydrocarbon contamination were split with half of each being placed in a sterile pre-cleaned glass jar and stored on ice pending shipment to the laboratory. The second half of each sample split was placed in a plastic bag and set aside for headspace testing for soil vapours using a portable GasTech 1238ME (GasTech) gas detector.

Samples shipped to the laboratory were kept at the appropriate temperature (<8°C) by placing them in coolers packed with ice.

The descriptions of the soil samples for the depth collected are presented in the borehole logs in Appendix C and the stratigraphy of the units encountered is summarized below and in Section 6.1.

5.3.1 Asphalt

Asphalt was found in two test pits for thicknesses ranging up to 100 mm.

5.3.2 Topsoil

A layer of topsoil was found in 5 test pits and was found to range from 100 to 150 mm in thickness. It is described as brown, moist and containing numerous rootlets.

5.3.3 Fill Soils

Fill soils were found in all test pit and borehole locations. The fill was found to range in thickness from 0.30 m to 1.83 m below ground surface (m b.g.s.). A substantial thickness of fill was found in a number of areas across the property. It was known that at least two locations (TP-5 and TP-6, former PCB Storage area) the area had been the subject of a remedial program. At the other locations the cause for the fill extending to bedrock was not known.

Much of the site was covered by material that could be described as fill/reworked native sands. This stratum frequently contains coal, clinker, ash, metal, and detritus from the former foundry operations. However, the granular matrix of the fill was very similar to that found in the underlying native stratum. Based on the site history there was not believed to have been a large-scale importation of granular material. However, there may have been reworking of the on-site soils as a result of initial construction and subsequent expansion activities associated with the foundry.

Some black staining was observed within the fill during the previous investigations, however, no staining was noted during this Phase Two activity. No odours were detected in the fill within the test pits. GasTech readings were non-detect.

5.3.4 Sand, Gravel and Cobbles

Native soils were encountered underlying the fill at depths ranging from 0.30 to 0.76 m bgs. The soil is described as grey to brown, moist and consisting of sand, gravel and cobbles. Native soils were found in TP-1 through TP-4, TP-10 and TP-11.

No staining or odours were noted in the native soils. GasTech readings were non-detect.

5.3.5 Bedrock

Bedrock was found across the site at depths ranging from 1.53 m to 3.15 m bgs during the 2013 investigation. The bedrock is described as grey limestone with some shaley partings. The drill core recovery of the bedrock was generally greater than 90% and the Rock Quality Designation (RQD) ranged between 60 and 80% indicating the rock is rated as good.

Fractures in the bedrock generally were horizontal to sub-horizontal and the spacing generally decreased with depth. Numerous vugs (cavities), some completely in-filled with calcite, were present throughout the rock profile.

No loss of drill circulation water was noted during drilling.

5.4 FIELD SCREENING MEASUREMENTS

Headspace soil gas readings were collected using a portable GasTech 1238ME instrument to identify the presence of volatile organic vapours in the soil. The GasTech, in methane elimination mode, was capable of detecting organic vapours in both the 0-500 parts per million (ppm) range and 0-100% Lower Explosive Limit (LEL).

The GasTech was calibrated (using a hexane calibration gas) by DCS prior to use in the field. In addition, it was calibrated and fully serviced by Demesa Inc., on 26 June 2013. The precision of the equipment is ±5 ppm or ±5% LEL, depending on the operating mode setting of the instrument.

Each recovered soil sample was screened using this equipment. The soil vapour gas readings were obtained by inserting the tip of the instrument probe into a Zip Lock bag containing an aliquot of the soil. Results were recorded on field logs and are presented on the borehole logs in Appendix C. Samples with elevated GasTech readings were considered for submission for analysis of PHCs or VOCs, as appropriate.

5.5 GROUNDWATER: MONITORING WELL INSTALLATION

Two monitoring wells (MW13-39S and MW13-39D) were installed along the east property line in HQ sized drill holes (96 mm in diameter). One monitoring well was sealed in the upper bedrock/overburden and the second monitoring well was sealed in the deep bedrock. Groundwater monitoring wells installed by DCS comprised 55 mm diameter Schedule 40 PVC piping with a 3.0 m long No. 10 slot intake zone (well screen).

MW13-39S and MW13-39D were completed with screen elevations similar to the intervals monitored in shallow and deep monitoring wells located on the adjacent property (490 York Road, immediately east of the site) in order to address concerns raised about groundwater flow directions.

5.6 GROUNDWATER: FIELD MEASUREMENTS OF WATER QUALITY PARAMETERS

The groundwater monitoring wells were purged prior to sampling to ensure fresh formation water was present. Each purging event consists of removing one well volume and screening the recovered water sample for a number of parameters. At a minimum three well volumes were

removed as per procedures outlined in O. Reg. 153/04. The field measurements for the wells installed during this investigation are provided below:

Well #	Purge Volume (L)	Oxidation/Reduction Potential (mV)	Electrical Conductivity (mS/cm)	pH	Temperature (^{o} C)
MW13-39D	18	29	940	7.69	5.4
	18	14	920	7.70	5.6
	18	31	910	7.72	5.5
MW13-39S	8	55	800	7.33	5.1
	8	29	820	7.22	7.3
	8	27	840	7.21	6.1

5.7 GROUNDWATER: SAMPLING

Groundwater samples were obtained from the shallow and deep monitoring well installed during this investigation. Additional groundwater samples were obtained by AECOM as part of the annual groundwater monitoring program completed in 2012 and 2013.

5.8 SEDIMENT SAMPLING

There is no sediment located on site, therefore no sediment was collected for analysis.

5.9 ANALYTICAL TESTING

The samples from the field program were analyzed by Maxxam Analytics Inc. (Maxxam) in Mississauga, Ontario under Chain of Custody procedures. Maxxam is a commercial laboratory accredited by the Standards Council of Canada (SCC). The results of analysis are presented in the following tables:

Table 9.2 Results of Analysis for Metals and Inorganics in Soil - 2007
Table 9.3 Results of Analysis for Polycyclic Hydrocarbons in Soil - 2007
Table 9.4 Results of Analysis for Polychlorinated Biphenyls in Soil - 2007
Table 9.5 Results of Analysis for Metals in Soil - 2013
Table 9.6 Results of Analysis for BTEX Parameters and PHCs in Soil - 2013
Table 9.7 Results of Analysis for Volatile Organic Compounds in Soil - 2013
Table 9.8 Results of Analysis for Polycyclic Hydrocarbons in Soil - 2013
Table 9.9 Results of Analysis for Polychlorinated Biphenyls in Soil -2013

Table 9.10 Results of Analysis for Metals and Inorganics in Groundwater - 2012 and 2013

Table 9.11 Results of Analysis for Petroleum Hydrocarbons in Groundwater - 2012 and 2013

Table 9.12 Results of Analysis for Volatile Organic Compounds in Groundwater - 2012 - 2014

Table 9.13 Results of Analysis for Polycyclic Hydrocarbons in Groundwater - 2012 and 2013

5.10 RESIDUE MANAGEMENT PROCEDURES

The residues from drilling are currently on the property, together with drums of purge water collected during the annual groundwater monitoring program completed by others. These drums are to be disposed of off site following winters snow melt which will improve access to the site.

5.11 ELEVATION SURVEYING

Surveying took place on 9 and 13 January 2014. The surveying was completed by Van Harten Surveying Inc. At that time the ground surface at each of the test pits was obtained with respect to geodetic datum. The GPS location of all of the 2013 test pits and monitoring wells, in addition to all accessible older monitoring wells was determined. The elevation for the top of pipe (i.e. measuring point) for all accessible wells was also determined.

5.12 QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

The principal reason for the recovery of soil and groundwater samples in the field was to permit their inspection and analysis to determine whether contaminants or foreign matter were present at levels that constitute a health, environmental or construction-related liability, the discharge of which will require remedial or mitigative action. The accuracy with which the analytical results returned from chemical testing at the laboratory reflects the in-place condition was critical to the success of the site characterization program and thus every effort was taken to ensure that the samples were recovered, handled, stored, shipped to and received at the laboratory in a condition that was representative of the material on site.

5.12.1 Sample Preservation

Soil samples for volatile organic compounds were field preserved in methanol. Where samples were tested for the presence of semi-volatile and non-volatile organics, they were analyzed within 14 days of recovery to ensure that biodegradation did not materially affect the chemical loading in the soil. Soil sampling was carried out in accordance with the 2011 amendments to O.Reg. 153/04.

Preservation requirements for groundwater samples are dependent on the parameters for which the analyses are being conducted. MOE requirements are widely adopted by the industry in Ontario and listed in the MOE document entitled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*, dated 9 March 2004, amended as of 1 July 2011. The sample preservation procedures and holding time limits applied and the container types used were consistent with the requirements of the protocol document.

5.12.2 Chain-of-Custody

Full chain-of-custody procedures were applied from the point at which field staff surrenders responsibility for the samples in the field or, where that individual is responsible for transit from the field location to the office, at their place of work. Chain-of-custody forms, which log the date of transfer and identity of the parties by and to whom the transfer has been made, also record the identity of the samples included in the shipment, the date sampled and sample location, the analyses requested for each sample, the name and address of the laboratory to which the samples are assigned, and any clarifying notes that may be required.

5.12.3 Equipment Decontamination

Prior to the start of the drilling program, all augers and centre plugs were cleaned at the shop by the drilling contractor. The lead augers and centre plugs were hand-cleaned between boreholes to remove any residual soil or debris adhering to the down-hole tools, well away from the location of any boreholes, to avoid the possibility of cross-contamination.

All sampling tools used (putty knives, trowels, etc.) were thoroughly cleaned following the recovery of each sample. The samplers were first wiped clean of free soil or any other materials adhering to inner and outer surfaces, and then washed with a wire brush in a solution of water and laboratory-grade phosphate-free detergent (Sparkleen). Detergent residues were removed by

rinsing with municipally-treated clean tap water. In the event that persistent organic contaminants or stains adhere to the surface of the sampler, it is sprayed with methanol then distilled water to eliminate any surficial residue.

5.12.4 Sample Quality Management

Laboratory or field control checks were used to ensure that the quality of the analytical data was maintained at an acceptable level. Maxxam, the laboratory to which samples were sent for chemical analysis, was SCC-accredited and participates in applicable inter-laboratory testing rounds administered by provincial and federal agencies.

Field duplicate samples, where used, were prepared by obtaining a soil or groundwater sample split from preselected sample locations. The splits were provided with fictitious sample names (i.e. DUP) and submitted to the laboratory for analysis to permit a determination of the internal quality control and repeatability of analyses. At least one field duplicate sample was submitted to the laboratory for every ten samples analyzed for a specific parameter.

Trip blanks, comprising deionized water, were prepared by Maxxam to accompany groundwater sample containers to determine whether contamination of the containers or of the samples had occurred during shipment to the field or, following recovery, during storage and shipment from the field to the laboratory. Trip blanks were included with sample sets recovered for analysis of VOCs.

Matrix spikes were conducted a minimum of once during each project run by the laboratory. Field duplicate matrix spikes are normally not prepared. Laboratory duplicates are run in the laboratory on ten percent of the samples subject to testing.

Laboratory analysis results and QA/QC program results are carefully scrutinized on receipt to determine whether the results returned are representative. The laboratory customer services representative was contacted for clarification, if any uncertainty associated with the veracity or quality of the results was noted.

5.12.5 Deviations from the QA/QC Program

The QA/QC program was adhered to as strictly as possible with immaterial deviations.

6.0 REVIEW AND EVALUATION

6.1 GEOLOGY

Based on the results of site investigations performed by DCS the subsurface stratigraphy at depth at the boreholes drilled is mainly composed of three layers (from surface to depth):

- Fill;
- Silt, Sand and Cobbles; and,
- Bedrock

A description of the aforementioned layers is provided in Section 5.3.

6.2 GROUNDWATER ELEVATIONS AND FLOW DIRECTION

Groundwater elevations were not determined during the work completed for this Phase Two investigation. However, the groundwater elevations and groundwater flow directions were determined by AECOM in 2013 and provided to DCS. A copy of the groundwater elevations for 2012 and 2013 are provided on Table 9.1. The groundwater elevations for 2013 were plotted by DCS and the deep and shallow groundwater flow patterns are shown on Drawings 701996-P2-9.2 and 701996-P2-9.3, respectively.

It should be noted that groundwater elevations were obtained in the newly installed monitoring wells, however, this data was not used to determine groundwater flow directions as it was not obtained at the same time as the data provided by AECOM.

As may be seen, the groundwater flow direction in the shallow bedrock was to the south while flow in the deep bedrock was radial from a high located along the east property line. It should be noted that groundwater flow in the deep bedrock appears to be variable as the DCS Phase II report completed in 2007 showed flow from the neighbouring property towards the IMICO property. Work completed by AECOM in 2011 appeared to indicate the groundwater high is seasonal as it was not present during the summer months but was observed in the spring and early winter.

6.3 GROUNDWATER: HYDRAULIC GRADIENTS

The hydraulic gradient in the shallow and deep bedrock were determined based on the groundwater elevations obtained by AECOM in October 2013.

Hydraulic conductivity testing was previously completed by DCS in 2007 as a part of the Phase II ESA. The results of the testing bedrock are provided in the table below:

Monitoring Well Number	Horizontal Conductivity (m/sec)	Comments
OW07-31		Unable to drawdown
OW07-32		Unable to drawdown
OW07-33		Unable to drawdown
OW07-34S		Unable to drawdown
OW07-34D		Unable to drawdown
OW07-35	1.67E-06	Able to drawdown only 0.02 m
OW07-36S	7.13E-07	Able to drawdown only 0.07 m
OW07-36D	5.64E-06	Able to drawdown only 0.05 m
OW07-37		Unable to drawdown
OW07-38	2.87E-07	

A description of the estimated gradients are provided in the sections below:

6.3.1 Shallow Bedrock

The groundwater flow within the shallow bedrock is to the south at a gradient of 0.03 m/m. Hydraulic conductivity testing was not completed during this investigation, however, testing was completed during the Phase II ESA work completed by DCS in 2007. At that time the hydraulic conductivity (K) in the shallow bedrock was estimated to be 1.75×10^{-6} m/s. Using the determined K, gradient value and an estimated effective porosity of 0.1, the linear groundwater flow velocity was estimated to be 15 m per year.

6.3.2 Deep Bedrock

The estimated hydraulic gradients in the deep bedrock are estimated to be 0.025 m/m to the south and 0.1 m/m to the east. The hydraulic conductivity of the deep bedrock was determined to be 5.64×10^{-6} m/sec during the DCS 2007 Phase II. Assuming an effective porosity of 0.1 and the determined bedrock parameters the linear groundwater velocity was estimated to be approximately 55 m/year.

6.3.3 Vertical Hydraulic Gradients

Using the groundwater levels measured by AECOM in 2013 the vertical hydraulic gradient is generally upward and ranges from 0.02 to 0.4 m/m.

6.4 FINE-MEDIUM TEXTURED SOILS

Grain size analyses were not completed as part of this program, therefore, SCS for coarse textured soils were applied based on visual observations. In addition, if grain size analysis is not completed the coarse grained criteria must be used as indicated by O. Reg. 153/04.

6.5 SOIL: FIELD SCREENING

Field screening results (headspace vapour readings, odours, visual observations) are presented on the borehole logs. Odours or elevated headspace readings are generally used as tools for selecting soil samples for analysis, however no odours or elevated headspace readings were noted in the soil during this investigation. The samples selected for laboratory analysis are presented on the borehole logs opposite the screening results.

6.6 SOIL QUALITY

6.6.1 Historic Data

The historic soil chemistry data from previous subsurface investigation work completed by DCS and others has been provided in Tables 9.2 through 9.4 and illustrated on Drawing 701996-P2-9.4 and 701996-P2-9.5. Only non-volatile compounds are shown in the tables and on the drawing as volatile compounds data older than 18 months may not be used for a Record of Site Conditions. As it is possible a Record of Site Conditions may be generated for the property only current data (data obtained within 18 months of investigative work) is used. Data obtained for VOCs and PHCs in the soil during the 2007 investigation are provided in Appendix D.

Based on the data provided, it was identified that metals contamination was widespread across the property with the major impacts being from lead and zinc. The maximum lead concentration found on the property is 822 ug/g compared to the Table 6 SCS for both Residential/Parkland/Institutional (RPI) and Industrial/Commercial/Community (ICC) land uses

of 120 ug/g while the maximum zinc concentration found was 6,170 ug/g, compared to the Table 6 SCS of 340 ug/g.

In addition, elevated concentrations of PAHs and PCB were also found. The PCB (1.5 ug/g) were found at ground surface in one location near the west side of the property while the PAHs were widely scattered across the property. A large number of PAHs were found at various depths throughout the soil profile.

6.6.2 Current Investigation

During the current 2013 soil investigation analysis for metals, PCBs, PAHs, PCBs, VOCs, and PHCs were completed. The results of analysis are provided in Tables 9.5 through 9.9 and exceedances shown on Drawing 701966-P2-9.4 through 701966-P2-9.6. Copies of the Certificates of Analysis are provided in Appendix C.

The location of the samples collected during the 2013 investigation were based on the intent to further delineate locations where elevated values for PCBs, PAHs, PHCs and VOCs concentrations found during the 2007 investigation.

Elevated concentrations of lead, zinc, and cadmium are still widespread across the property. The concentrations detected were less than those found during the 2007 investigation but still above both RPI and ICC Table 6 SCS. The metals were found throughout the soil profile.

PHC analysis found PHC F3 fraction in soils recovered at test pit location TP-8 from a sample recovered from a sample obtained at a depth of 0.1 m bgs above RPI Table 6 SCS but below ICC Table 6 SCS. The concentration of benzene and tetrachloroethylene in soils from test pit location TP-11 at a depth of 0.015 m bgs were above RPI Table 6 SCS but below ICC Table 6 SCS, as was the concentration of trichloroethylene at monitoring well locations OW13-39S and OW13-40 in samples recovered from just above the bedrock surface

PCB concentrations were detected in one sample recovered from test pit location TP-8, excavated between the former machine shop and annealing oven buildings.

PAH concentrations were found in the three samples from across the property: two samples were recovered from test pits excavated in the east end of the property (TP-8 and TP-9) and one sample from the central portion of the property (TP-11). Several PAH compounds were detected

in concentrations above RPI and/or ICC Table 6 SCS in each of the aforementioned samples submitted.

6.7 GROUNDWATER QUALITY

6.7.1 Historic Investigation

As indicated previously, only data for volatile compounds that is less than 18 months old may typically be used in a report prepared to support an RSC. Annual groundwater monitoring programs have been completed for the property for a number of years by AECOM; DCS has been provided copies of the analytical results for 2012 and 2013. Given the age of the data, data collected in 2012 has been considered as historic information.

The 2012 groundwater was analysed for metals and inorganics, PHCs, VOCs, PAHs, and semi-volatile compounds. The analytical results are provided in Table 9.10 through 9.13. The analytical results obtained during the 2012 sampling event are shown on Drawing 701996-P2-9.7. The analytical obtained for VOCs and PHCs during the 2007 investigation are provided in Appendix D. This information is provided for informational purposes only and cannot be used in future work due to the age of the data.

Petroleum hydrocarbons (F1 and F2 fractions) were found in concentrations exceeding the MOE Table 6 SCS in one groundwater sample collected from the site. The monitoring well (OW25) is found near the centre of the property. PHC values exceeding the MOE Table 6 SCS were also found in three other off-site locations. Two locations were found along Beverley Street to the south (OW7-36S and OW7-36D) and the final location (OW30-D) was found to the east on the property located at 490 York Street.

Elevated concentrations of VOCs in groundwater above the Table 6 SCS were found in monitoring wells OW26S (located near the centre of the property along the south property line), OW9-II, OW18-II, OW24(S), OW24(D), OW6, OW28D and OW23D located at the east end of the property and OW27(S), OW27(D), OW29(S), OW29(D) and OW36D which are located off-site The VOCs generally consisted of daughter products of trichloroethylene (i.e. 1,1-dichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, trichloroethylene, and vinyl chloride). These compounds are found in both the shallow (soil/bedrock contact) and deep (bedrock) monitoring wells. The maximum concentration was found in a well located on the adjacent property to the east at 490 York Road. At this location a concentration of 4,800 ug/L (Table 6 SCS 0.5 ug/L) for 1,1,1-trichloroethane was found in monitoring well OW30D.

The concentration of PAH compound benzo(a)pyrene was found to exceed the MOE Table 6 SCS. In addition, the Reportable Detection Limit (RDL) for a number of parameters was found to exceed the applicable MOE Table 6 SCS. It was suspected that this elevated RDL was due to matrix interference from the elevated VOC concentrations in that sample.

6.7.2 Current Investigation

The groundwater samples collected by AECOM during the 2012-2013 investigation were analysed for metals and inorganics, VOCs, PAHs, and PHCs. The analytical results for groundwater may be found on Tables 9.10 through 9.13 and illustrated on Drawing 701996-9.7. Copies of the Certificates of Analysis are provided in Appendix C.

Petroleum hydrocarbons above the MOE Table 6 SCS were found in two groundwater samples recovered from the Phase Two property and from one borehole located to the south of the property. PHC (F2 and F3 fractions) were found in the groundwater sample recovered from OW22(S) and PHC (F2, F3, and F4 fractions) were detected OW23(S). These monitoring wells are located at the east end of the property in the vicinity of the former machine shop and warehouse. PHC (F4 Gravimetric fraction) was detected at concentrations above the MOE Table 6 SCS in monitoring well OW36(S). This monitoring well is located on Beverley Street to the south of the property.

PAH concentrations above the applicable standard were found in groundwater samples recovered from OW22(S) and OW23(S) that are located on the property and from OW30(S) which is located to the east of 200 Beverly Street on the property located at 490 York Street. Exceedances included benzo(a)pyrene, chrysene, fluoranthene, phenanthrene and pyrene on the property and benzo(a)pyrene, benzo(b/j)fluoranthene and chrysene on the neighbouring property. In addition, the RDL for a number of PAHs exceeded the MOE Table 6 SCS. It is assumed this is due to matrix interference and dilution required from other parameter groupings.

Volatile organic compounds exceeded Table 6 SCS in most of the groundwater samples recovered from the east end of the Phase Two property. The elevated VOCs comprised trichloroethylene or a breakdown daughter product. Benzene concentrations were also detected in a number of groundwater samples recovered from the vicinity of the former powerhouse, at the east end of the property in the machine shop and warehouse and in an area that formerly contained USTs. Additionally, the RDL were found to exceed the MOE Table 6 for a number of

VOCs. It is suspected these are due to matrix interference and the requirement for dilution for other parameter groupings.

Elevated zinc concentrations were found above the MOE Table 6 SCS in monitoring wells OW6, OW9-I, OW18-I, OW18-II, OW19, OW24 and OW19(D).

Based on information provided by AECOM, free product has been detected in monitoring well OW23(S). Product thicknesses of up to 8 cm have been recorded. Based on the analytical results it is suspected that the free product is petroleum hydrocarbons (i.e. PHC F3 fraction 580,000 ug/L). The source of the free product was not been determined during this investigation as DCS has relied on information provided by AECOM and has not completed additional off-site investigation work.

6.8 SEDIMENT QUALITY

There are no water bodies on the site and therefore no sediment on the Phase Two property.

6.9 QUALITY ASSURANCE AND QUALITY CONTROL

A QA/QC co-ordinator was assigned to the project to ensure that all samples had the proper field identification and sample location identified on the sample jar labels and that all samples were handled in accordance with the MOE Analytical Protocol. The QA/QC co-ordinator also supervised the completion of the chain-of-custody forms, releasing samples to the laboratory for analysis. A chain-of-custody form accompanied all samples at all points of handling.

The surrogate recoveries reported on the laboratory certificates were examined to ensure that the percentage recoveries fell within the laboratory's stated acceptable range.

Furthermore, the data reported on the laboratory certificates were closely studied to determine that the results returned were generally of the magnitude expected, based on examination of the recovered samples and the site history.

Blind duplicate samples were submitted with the groundwater samples for analysis. The blind duplicate samples generally showed good correlation to the original samples and all VOC parameters were reported to be non-detect in the trip blank. Relative percent differences (RPDs) were occasionally greater than 40%, this was attributed to the heterogeneous nature of the soil

sample. At least one field duplicate sample was submitted to the laboratory for every ten samples analyzed for a specific parameter.

From the above activities, it was concluded that the laboratory test results were representative of the environmental quality of the soils and groundwater at the site for the locations tested and at the date of sample collection.

Once it was determined that the laboratory test data was reliable, the results returned were entered into summary tables, and compared against applicable provincial environmental standards. Data entry and comparison of data against the standards were performed by one person, with the completed summary tables being reviewed for accuracy by at least one other person.

All certificates of analysis (C of A's) received contain a complete record of the submission and analysis, including all correspondence between the laboratory and the QP or person supervised by the QP with respect to sample collection, chain of custody, handling and analysis, as outlined in O.Reg. 153/04 as amended by O.Reg. 511/09 Subsection 47 (3). A C of A has been received for each sample submitted for analysis. For a few samples, there was insufficient sample volume available to perform all of the analyses requested. In these cases, additional sample volume was submitted to the laboratory, if available, otherwise an alternative sample from a similar depth was submitted for analysis instead.

6.10 PHASE TWO CONCEPTUAL SITE MODEL

The general geology of the property consists of granular fill and native soils overlying the dolostone bedrock. Groundwater monitoring wells have been installed in the shallow and deep bedrock to obtain water groundwater levels and to monitor contaminant distribution laterally and vertically.

Groundwater flow at the shallow bedrock/overburden contact is generally to the south (Drawing 701996-P2-9.2) while the flow in the deep bedrock appears to be radial from a high located near the east property boundary (Drawing 701996-P2-9.3). Work completed by AECOM in 2011 appeared to indicate the groundwater high is seasonal as it was not present during the summer months but was observed in the spring and early winter. The linear groundwater velocity in the shallow bedrock is estimated to be 15 m/year and is approximately 55 m/year in the deep bedrock. An upward vertical hydraulic gradient was found to be present in some wells in 2013.

The contaminant distribution in the soil and groundwater using data collected during 2013 is shown on Drawings 701996-P2-9.5 and 701996-P2-9.6 while the distribution of contaminants in the soil found in 2007 is illustrated on Drawing 701996-P2-9.4. Contaminant distribution in cross sections are illustrated in Drawings 701996-P2-9-8 and 9-9.

Metal contamination is present in the soil across the property with PAHs (TP-8 (APEC 2), TP-9 (APEC 2) and TP-11(APEC 3)) and PCBs (TP-8 (APEC 2)) being present in isolated locations. The work completed in 2013 did not detect any VOCs or PHCs in the soil at the locations tested. The locations of the APECs are provided in Drawing 701996-P2-9.10.

Contamination in the groundwater is generally confined to the east part of the site and consists of volatile organic compounds (TCE and daughter products) with occasional PAHs. Based on the analytical data collected by AECOM the contamination is also present on the property to the east located at 490 York Road. The source of this contamination has not been determined.

A Conceptual Site Model for Ecological Receptors is shown on Drawing 701996-P2-11 and the Conceptual Site Model for Human Receptors is shown on Drawing 701996-P2-12.

Abandoned sewers may be present across the property as information regarding their removal has not been located. However, given the granular nature of the overburden it is deemed these will not act as a pathway for the movement of contaminants off the property.

7.0 CONCLUSIONS

7.1 LOCATION AND CONCENTRATION OF CONTAMINANTS

Previous subsurface investigation of the site identified widespread soil metals contamination on the property and more localized PAH, PHC, and PCB impacts. Groundwater impacts were typically PHCs, VOC, and some PAHs.

For the current subsurface investigation program, groundwater samples were collected by AECOM in October 2013 and soil samples were obtained by DCS in December 2013.

Contamination in the soil consists mainly of metals (lead, zinc and cadmium) that are found across the property and PCBs and PAHs in isolated locations. The metal impacts are assessed to be due to previous site use as a foundry.

In 2007, elevated PHC F2, F3, and/or F4 fraction soil concentrations were identified at 10 locations as reported in the DCS Phase II ESA of December 2007. Those organic compounds have likely somewhat degraded since that time. The 2013 investigation in the vicinity of the 2007 PHC-impacted areas typically did not identify residual elevated PHC concentrations.

Impacts in the groundwater consist predominantly of VOCs which are found mainly at east end of the property. As VOC impacts are also present east of the site, there is a possibility that these impacts have originated from off-site. PAHs and PHCs have also been found at the east end of the site and in other isolated locations on the property. The specific source of the contamination has not been fully determined at this time. Elevated zinc concentrations above the MOE Table 6 SCS were also found along the east property line,

The maximum concentrations for soil found on the property during the 2007 and 2013 DCS investigation may be found in Table 9.14 and 9.15, respectively and maximum concentrations for groundwater samples collected during the 2012 and 2013 investigation completed by AECOM are provided Table 9.16.

7.2 ENVIRONMENTAL CONDITIONS

The soil and groundwater under the Phase Two property represent coarse grained-textured soils and the bedrock is less than 2 m from the ground surface. As a result the applicable SCS are MOE Table 6. As the future use of the site has not been determined, both RPI and ICC standards have been referenced in evaluating the data.

7.3 MEETING APPLICABLE SITE CONDITION STANDARDS

The applicable site condition standards are not met under the Phase Two property as of the date of the investigations at the site (October and December 2013). As such, certification of a Record of Site Condition cannot be undertaken using the generic site condition standards. Additional work should be completed to assess the optimal method for site remediation.

7.4 SIGNATURES

The field work for this Phase Two ESA program was undertaken by Mr. Maxwell McCormick, C. Tech. Mr. Stephen Prior, P.Eng. reviewed, evaluated and interpreted the data. This report was prepared by Mr. Prior and reviewed by Mr. Richard Browne, M.A.Sc., P.Eng. Résumés detailing the qualifications and technical experience of the site assessors are included in Appendix E.

Mr. Prior and Mr. Browne are registered with the Ministry of the Environment as qualified persons (QPs) with respect to the completion of Phase I and II Environmental Site Assessments as per O.Reg. 153/04. Additionally, Mr. Browne is registered at a Qualified Person with respect to the completion of Risk Assessments, as per O. Reg. 153/04. Mr. Prior confirms that she supervised the Phase Two ESA and that all findings and conclusions of the Phase Two ESA are included in this report.

Yours very truly,

DECOMMISSIONING CONSULTING SERVICES

Stephen Prior, P.Eng., QP_{ESA}
Senior Project Engineer

Richard Browne, M.A.Sc., P.Eng., $QP_{ESA\&RA}$
Senior Vice President

8.0 REFERENCES

Ontario Regulation 153/04, made under Environmental Protection Act, (Records of Site Condition — Part XV.1 of the Act) Consolidation Period: From 31 Oct 2011a.

Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, 15 April 2011b, Ontario Ministry of the Environment.

Protocol for Analytical Methods used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act, March 9, 2004 amended as of July 1, 2011c, Laboratory Services Branch, Ontario Ministry of the Environment.

Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, Ontario Ministry of the Environment (MOE) 2011d, Prepared by Standards Development Branch Ontario Ministry of the Environment.

Phase One Environmental Assessment, 200 Beverley St., Guelph, Ontario, prepared for City of Guelph by Decommissioning Consulting Services, dated February 2014.

Phase II Environmental Site Assessment, 200 Beverley St., Guelph, Ontario, prepared for City of Guelph by Decommissioning Consulting Services Limited, dated 2007.

2011 Annual Groundwater Monitoring Report, Former IMICO Site, 200 Beverley Street, Guelph, Ontario, prepared for the City of Guelph by AECOM Canada Limited, dated August 2013.

9.0 FIGURES AND TABLES

9.1 TABLES

The following tables are provided in this section:

9.1 Groundwater Elevations
9.2 Results of Analysis for Metals and Inorganics in Soil - 2007
9.3 Results of Analysis for Polycyclic Aromatic Hydrocarbons (PAHs) in Soil -2007
9.4 Results of Analysis for Polychlorinated Biphenyls (PCBs) in Soil -2007
9.5 Results of Analysis for Metals in Soil - 2013
9.6 Results of Analysis for BTEX Parameters and Petroleum Hydrocarbons (PHCs) in Soil - 2013
9.7 Results of Analysis for Volatile Organic Compounds (VOCs) in Soil - 2013
9.8 Results of Analysis for Polycyclic Aromatic Hydrocarbons (PAHs) in Soil - 2013
9.9 Results of Analysis for Polychlorinated Biphenyls (PCBs) in Soil - 2013
9.10 Results of Analysis for Metals and Inorganics in Groundwater - 2012 and 2013
9.11 Results of Analysis for Petroleum Hydrocarbons (PHCs) in Groundwater - 2012 and 2013
9.12 Results of Analysis for Volatile Organic Compounds (VOCs) in Groundwater - 2012 and 2013
9.13 Results of Analysis for Polycyclic Aromatic Hydrocarbons (PAHs) in Groundwater - 2012 and 2013
9.14 Maximum Concentrations in Soil – 2007
9.15 Maximum Concentrations in Soil – 2013
9.16 Maximum Concentrations in Groundwater - 2012 and 2013

9.2 FIGURES

The following figures and drawings are provided in this section. As no Areas of Natural Significance and water bodies are present on, adjacent to or within 30 metres of the subject property, a figure has not been provided showing these areas.

701996-P2-9.1 Borehole and Monitoring Well Locations
701996-P2-9.2 Groundwater Flow - Shallow Bedrock October 2013
701996-P2-9.3 Groundwater Flow – Deep Bedrock October 2013
701996-P2-9.4 2007 & 2013 Soil Sampling – Metal Exceedances
701996-P2-9.5 2007 & 2013 Soil Sampling – PAH and PCB Exceedances
701996-P2-9.6 2013 Soil Sampling – VOC and PHC Exceedances
701996-P2-9.7 2012 & 2013 Groundwater Exceedances
701996-P2-9.8 Cross Section A-A’
701996-P2-9.9 Section B-B’

701996-P2-9.10	Phase One Conceptual Site Model
701996-P2-9.11	Conceptual Site Model for Ecological Receptors
701996-P2-9.12	Conceptual Site Model for Human Health Receptors

Table 9.1
Groundwater Elevations

MONITOR	Ground Elevation (mASL)	Top of Pipe Elevation (mASL)	28-06-12			10-12-12		
			Water Level	LNAPL Thickness	Water Level Elevation	Water Level	LNAPL Thickness	Water Level Elevation
			(m)	(m)	(mASL)	(m)	(m)	(mASL)
OW2	-	315.90	2.53		313.37	2.12		313.78
OW3-I	-	316.10	3.26		312.83	2.63		313.47
OW3-II	315.30	316.13	3.39		312.74	3.10		313.03
OW4	315.70	316.56	3.85		312.71	3.51		313.05
OW5	314.90	315.82						
OW6	315.20	316.04	N/A			2.50		313.54
OW9-I	316.10	316.93	4.20		312.73	3.86		313.07
OW9-II	316.00	316.91	4.23		312.68	3.96		312.95
OW10	315.30	316.20	3.51		312.69	3.21		312.99
OW11-I	315.20	315.98	3.34		312.64	2.85		313.13
OW11-II	315.20	316.05	3.43		312.63	3.11		312.94
OW12	315.30	316.18	3.43		312.76	3.03		313.15
OW13	316.30	317.26	4.56		312.70	4.25		313.01
OW14	316.20	317.25	4.45		312.80	4.11		313.14
OW15	314.80	315.79	3.00		312.79	2.68		313.11
OW16	314.90	315.83	3.05		312.78	2.71		313.12
OW17	315.40	316.31	2.90		313.42	2.35		313.96
OW18-I	316.30	316.35	2.87		313.48	2.45		313.90
OW18-II	316.30	316.34	3.32		313.02	2.98		313.36
OW19	316.30	316.37	2.92		313.45	2.37		314.01
OW22(S)	315.00	316.06	2.55		313.52	2.07		313.99
OW22(D)	315.00	316.00	3.29		312.71	3.07		312.93
OW23(S)	316.30	316.35	3.19	0.07	313.16	2.61	0.08	313.74
OW23(D)	316.30	316.39	3.67		312.72	3.44		312.95
OW24(S)	316.30	316.40	3.45		312.95	3.11		313.29
OW24(D)	316.30	316.40	3.46		312.94	3.29		313.11
OW25	315.10	316.05	3.35		312.69	3.08		312.97
OW26(S)	315.50	316.38	3.71		312.68	3.37		313.01
OW26(D)	315.50	316.24	3.62		312.62	3.33		312.91
OW27(S)	315.80	315.44	2.04		313.39	1.49		313.95
OW27(D)	315.80	315.50	2.99		312.52	2.86		312.64
OW28(S)	315.48	316.38	N/A			2.97		313.41
OW28(D)	315.53	316.43	N/A			3.85		312.58
OW29(S)	317.16	317.11	4.41		312.71	4.90		312.21
OW29(D)	317.14	317.09	4.51		312.58	4.33		312.76
OW30(S)	316.51	316.46	3.27		313.19	2.96		313.50
OW30(D)	316.60	316.55	3.83		312.72	3.66		312.89
OW07-31*	315.14	315.93	3.01		312.92	2.72		313.21
OW07-32*	316.00	316.67	3.50		313.17	3.23		313.44
OW07-33*	315.36	316.23	3.49		312.74	3.22		313.01
OW07-34S*	315.68	316.50	3.72		312.78	3.45		313.05
OW07-34D*	315.85	316.62	3.61		313.01	3.34		313.28
OW07-35*	315.50	315.50	2.69		312.81	2.46		313.04
OW07-36S*	316.40	316.40	3.70		312.70	3.39		313.01
OW07-36D*	316.40	316.40	3.80		312.60	3.49		312.91
OW07-37*	315.79	316.53	3.62		312.91	3.33		313.20
OW07-38*	315.74	316.60	3.30		313.30	2.72		313.88

Notes:

TOP - Below top of pipe.

SL = metres above sea level.

Point Elevation - Top of riser pipe.

by The City of Guelph on March 12, 2004.

NA = Not available

INX = Inaccessible

Table 9.1
Groundwater Elevations

MONITOR	Ground Elevation (mASL)	Top of Pipe Elevation (mASL)	23-08-13			24-10-13		
			Water Level	LNAPL Thickness	Water Level Elevation	Water Level	LNAPL Thickness	Water Level Elevation
			(m)	(m)	(mASL)	(m)	(m)	(mASL)
OW2	-	315.90	INX			2.13		313.77
OW3-I	-	316.10	3.21		312.89	2.64		313.46
OW3-II	315.30	316.13	3.40		312.73	3.05		313.08
OW4	315.70	316.56	3.88		312.68	3.49		313.07
OW5	314.90	315.82						
OW6	315.20	316.04	2.82		313.22	2.48		313.56
OW9-I	316.10	316.93	4.24		312.69	3.83		313.10
OW9-II	316.00	316.91	4.28		312.63	3.88		313.03
OW10	315.30	316.20	3.53		312.67	3.15		313.05
OW11-I	315.20	315.98	3.28		312.70	2.95		313.03
OW11-II	315.20	316.05	3.40		312.65	3.10		312.95
OW12	315.30	316.18	3.40		312.78	3.07		313.11
OW13	316.30	317.26	4.62		312.64	4.21		313.05
OW14	316.20	317.25	4.50		312.75	4.04		313.21
OW15	314.80	315.79	2.97		312.82	2.66		313.13
OW16	314.90	315.83	3.02		312.81	2.67		313.16
OW17	315.40	316.31	2.68		313.63	2.35		313.96
OW18-I	316.30	316.35	2.88		313.47	2.54		313.81
OW18-II	316.30	316.34	3.38		312.96	2.95		313.39
OW19	316.30	316.37	2.84		313.53	2.42		313.95
OW22(S)	315.00	316.06	2.31		313.75	2.08		313.98
OW22(D)	315.00	316.00	3.38		312.62	2.99		313.01
OW23(S)	316.30	316.35	3.12	0.03	313.23	2.60	0.04	313.75
OW23(D)	316.30	316.39	3.75		312.64	3.36		313.03
OW24(S)	316.30	316.40	3.47		312.93	3.03		313.37
OW24(D)	316.30	316.40	3.14		313.26	INX		
OW25	315.10	316.05	3.35		312.70	3.02		313.03
OW26(S)	315.50	316.38	3.70		312.68	3.32		313.06
OW26(D)	315.50	316.24	3.62		312.62	3.23		313.01
OW27(S)	315.80	315.44	1.97		313.47	1.59		313.85
OW27(D)	315.80	315.50	3.27		312.23	2.63		312.87
OW28(S)	315.48	316.38	3.39		312.99	2.89		313.49
OW28(D)	315.53	316.43	4.18		312.25	3.52		312.91
OW29(S)	317.16	317.11	4.39		312.72	3.90		313.21
OW29(D)	317.14	317.09	4.74		312.35	4.15		312.94
OW30(S)	316.51	316.46	3.29		313.17	2.97		313.49
OW30(D)	316.60	316.55	4.04		312.51	3.52		313.03
OW07-31*	315.14	315.93	3.01		312.92	2.68		313.25
OW07-32*	316.00	316.67	3.51		313.16	3.17		313.50
OW07-33*	315.36	316.23	3.51		312.72	3.17		313.06
OW07-34S*	315.68	316.50	3.72		312.78	3.39		313.11
OW07-34D*	315.85	316.62	3.62		313.00	3.28		313.34
OW07-35*	315.50	315.50	2.77		312.73	2.37		313.13
OW07-36S*	316.40	316.40	3.80		312.60	3.55		312.85
OW07-36D*	316.40	316.40	3.73		312.67	3.39		313.01
OW07-37*	315.79	316.53	3.62		312.91	3.28		313.25
OW07-38*	315.74	316.60	3.17		313.43	2.70		313.90

Notes:

TOP - Below top of pipe.

SL = metres above sea level.

Point Elevation - Top of riser pipe.

by The City of Guelph on March 12, 2004.

NA = Not available

INX = Inaccessible

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-40 SS-1A 0.30-1.22 m Coarse	BH07-40 SS-2A 2.13-2.39 m Coarse	BH07-41 SS-1 0-0.05 m Coarse	Dup #4 BH07-41 SS-1 0-0.05 m Coarse	BH07-41 SS-2 1.22-2.29 m Coarse	BH07-42 SS-2 1.22-1.68 m Coarse	DUP #14 BH07-42 SS-2 1.22-1.68 m Coarse	BH07-43 SS-1 0-0.91 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	6.4
Arsenic	**18**	**18**	0.3	8.1	2.9	2.2	2.9	3.3	0.9	1.1	**18.7**
Barium	**390**	**670**	0.4	81.6	137	17.3	24.8	17.5	7.1	8.3	93.8
Beryllium	**4**	**8**	0.2	0.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.7
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	**10.5**	NA	0.548	NA	NA	NA	NA	NA
Cadmium	**1.2**	**1.9**	0.2	**3.4**	**1.5**	0.5	0.7	**1.4**	0.6	0.6	1.2
Chromium (Total)	**160**	**160**	0.3	16.6	5	7.2	8	10.1	3.3	4.4	19
Cobalt	**22**	**80**	0.2	7.7	14.5	2.1	2.5	3.5	1.1	1.4	20.2
Copper	**140**	**230**	0.2	27.8	28.6	17.1	22.8	16.6	5.1	5.8	63.6
Lead	**120**	**120**	0.5	**227**	25.2	75.6	97.1	68.5	25.8	34.7	**822**
Molybdenum	**6.9**	**40**	0.3	1.2	0.4	0.9	1.4	2.1	<0.3	<0.3	1.7
Nickel	**100**	**270**	0.3	17.8	18.8	7.5	11.4	6.9	2.5	3.8	27.8
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.4	<0.4	1.3
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6
Thallium	**1**	**3.3**	0.2	0.4	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	0.4
Vanadium	**86**	**86**	0.2	30	41.3	18.8	17.9	8.8	5	6.3	21.9
Zinc	**340**	**340**	0.4	**1,580**	**2,250**	180	277	**572**	**368**	**416**	**6,170**
Chromium (VI)	**8**	**8**	0.4	<0.40	NA	<0.40	NA	NA	NA	NA	NA
Cyanide (Free)	**0.051**	**0.051**	0.08	<0.08	NA	<0.08	NA	NA	NA	NA	NA
Mercury	**0.27**	**3.9**	0.011	0.125	NA	0.013	NA	NA	NA	NA	NA
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	0.384	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	2	NA	NA	NA	NA	NA	NA	NA
pH (units)	**[5-9]**	**[5-9]**	--	7.14	NA	NA	NA	NA	NA	NA	NA
Chloride (2:1)	-	-	0.2	7.72	NA	NA	NA	NA	NA	NA	NA

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

- No standard available.

< Not detected.

NA Not analyzed.

Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-43 SS-2 1.22-1.47 m Coarse	BH07-44 SS-1 0-0.61 m Coarse	BH07-44 SS-1A 0.61-1.14 m Coarse	BH07-45 SS-1 0-0.05 m Coarse	BH07-45 SS-1A 0.05-1.22 m Coarse	BH07-45 SS-2 1.22-1.78 m Coarse	DUP #2 BH07-45 SS-2 1.22-1.78 m Coarse	BH07-46 SS-1A 0.05-1.22 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	3.2	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	**18**	**18**	0.3	5.4	10.1	3.1	2	1.50	1.9	1.9	1.8
Barium	**390**	**670**	0.4	22.1	68.4	16.2	13	12.20	17.9	24.3	21.2
Beryllium	**4**	**8**	0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	**1.2**	**1.9**	0.2	1.2	1.1	0.6	**4**	**3.0**	**4.5**	**3.6**	<0.2
Chromium (Total)	**160**	**160**	0.3	5.3	12.9	5.7	5.9	4.00	6.9	4.9	5.5
Cobalt	**22**	**80**	0.2	3	8.1	2	3.9	3.10	3.7	3.6	2.8
Copper	**140**	**230**	0.2	12.8	34.3	12.5	13.6	10.40	12.2	12.4	12.9
Lead	**120**	**120**	0.5	59.2	**283**	34.5	**138**	**131**	**147**	**121**	7.3
Molybdenum	**6.9**	**40**	0.3	0.6	1.2	0.6	1.3	1.10	1.7	1.4	<0.3
Nickel	**100**	**270**	0.3	7.2	17.1	6.3	9.1	7.30	7.9	7.3	4.7
Selenium	**2.4**	**5.5**	0.8	<0.4	0.7	<0.4	<0.8	0.80	<0.8	0.6	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	0.2	<0.2	0.3	0.30	0.3	0.3	<0.2
Vanadium	**86**	**86**	0.2	8.4	17.4	7.1	10.2	8.40	9.8	9.1	8.5
Zinc	**340**	**340**	0.4	**686**	**719**	198	**1,520**	**1,560**	**1,820**	**1,480**	52.4
Chromium (VI)	**8**	**8**	0.4	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	**0.27**	**3.9**	0.011	NA	NA	NA	NA	NA	NA	NA	NA
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	NA	NA	NA	NA	NA	NA	NA
pH (units)	**[5-9]**	**[5-9]**	--	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (2:1)	**-**	**-**	0.2	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

- No standard available.

< Not detected.

NA Not analyzed.

Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-46 SS-2 1.22-1.68 m Coarse	BH07-47 SS-1 0.15-1.22 m Coarse	BH07-47 SS-2 1.22-1.80 m Coarse	BH07-48 SS-1 0.10-1.22 m Coarse	BH07-48 SS-2 1.22-1.42 m Coarse	BH07-49 SS-1 0.15-0.30 m Coarse	BH07-49 SS-2 1.22-1.83 m Coarse	BH07-50 SS-1 0.05-1.07 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	**18**	**18**	0.3	1.8	5.4	3.8	7.6	2.7	6.8	2.5	2.7
Barium	**390**	**670**	0.4	26.1	60.6	20.2	45.7	21.2	79.9	25.7	28
Beryllium	**4**	**8**	0.2	0.2	<0.2	<0.2	0.3	0.2	0.6	0.3	0.3
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	NA	NA	NA	NA	NA	NA	0.695
Cadmium	**1.2**	**1.9**	0.2	**2.9**	**1.4**	0.9	**1.5**	0.8	1.2	**1.5**	<0.2
Chromium (Total)	**160**	**160**	0.3	7.9	6.1	8.6	8.9	9.1	12.7	8.8	7.1
Cobalt	**22**	**80**	0.2	3.9	6.2	4.2	5.6	4	6.2	3.4	3.1
Copper	**140**	**230**	0.2	13.5	24.9	22.9	20.2	25.5	15.1	24	10.9
Lead	**120**	**120**	0.5	**148**	**146**	51.2	102	80.1	110	105	45.8
Molybdenum	**6.9**	**40**	0.3	1.3	0.6	0.4	0.7	<0.3	0.6	0.3	0.4
Nickel	**100**	**270**	0.3	8.9	12	12.1	13	11	12.2	12.5	6.4
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	13.8	10.1	11.6	16.1	14.2	22.1	13.5	12.4
Zinc	**340**	**340**	0.4	**1,470**	**481**	**853**	**483**	**669**	**374**	**899**	56.6
Chromium (VI)	**8**	**8**	0.4	NA	NA	NA	NA	NA	NA	NA	<0.40
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	NA	NA	NA	NA	NA	NA	<0.08
Mercury	**0.27**	**3.9**	0.011	NA	NA	NA	NA	NA	NA	NA	0.014
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	NA	NA	NA	NA	NA	NA	0.26
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	NA	NA	NA	NA	NA	NA	0.105
pH (units)	**[5-9]**	**[5-9]**	--	NA	NA	NA	NA	NA	NA	NA	7.85
Chloride (2:1)	-	-	0.2	NA	NA	NA	NA	NA	NA	NA	16

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-50 SS-2 1.22-1.67 m Coarse	BH07-51 SS-1 0-0.05 m Coarse	BH07-51 SS-2 1.22-2.06 m Coarse	BH07-52 SS-1 0-1.22 m Coarse	BH07-52 SS-2A 1.83-2.01 m Coarse	BH07-53 SS-1 0-0.05 m Coarse	BH07-53 SS-2 1.22-1.47 m Coarse	Dup #1 BH07-53 SS-2 1.22-1.47 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	2.1	<0.8	2.9	<0.8	<0.8	<0.8	<0.8
Arsenic	**18**	**18**	0.3	1.6	13.4	1.3	11.3	5.9	2.8	3.9	3.3
Barium	**390**	**670**	0.4	21.6	92.2	16.9	100	18.4	19.1	10.6	8.4
Beryllium	**4**	**8**	0.2	0.3	0.4	0.2	0.3	0.3	<0.2	<0.2	<0.2
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	NA	NA	NA	NA	0.499	NA	0.202
Cadmium	**1.2**	**1.9**	0.2	0.6	**1.4**	0.5	**1.7**	**1.3**	0.6	0.5	0.3
Chromium (Total)	**160**	**160**	0.3	7.9	59.8	7.5	20.5	8.9	7.3	5	3.5
Cobalt	**22**	**80**	0.2	4.6	7.8	2.8	6.5	5.9	2.3	2.2	1.6
Copper	**140**	**230**	0.2	15	129	13.1	**158**	30.1	9.3	17.2	12.4
Lead	**120**	**120**	0.5	59.3	**131**	68.2	**289**	103	72.4	**391**	**158**
Molybdenum	**6.9**	**40**	0.3	<0.3	**9.9**	0.4	2.3	0.7	0.7	0.4	0.4
Nickel	**100**	**270**	0.3	11.3	**117**	12.3	33.5	14.8	6.5	7.3	5.2
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	0.9	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	12.1	22.8	11.1	21.4	13.8	10.3	6.8	5.3
Zinc	**340**	**340**	0.4	**1,380**	**1,220**	**536**	**1,350**	**1,470**	220	248	189
Chromium (VI)	**8**	**8**	0.4	NA	NA	NA	NA	NA	<0.40	NA	<0.40
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	NA	NA	NA	NA	<0.08	NA	<0.08
Mercury	**0.27**	**3.9**	0.011	NA	NA	NA	NA	NA	0.027	NA	<0.011
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	NA	NA	NA	NA	0.344	NA	0.339
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	NA	NA	NA	NA	0.275	NA	0.513
pH (units)	**[5-9]**	**[5-9]**	--	NA	NA	NA	NA	NA	8.51	NA	8.61
Chloride (2:1)	-	-	0.2	NA	NA	NA	NA	NA	77.4	NA	122

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-54 SS-1A 0.05-0.61 m Coarse	BH07-54 SS-2 1.22-2.39 m Coarse	BH07-55 SS-1B 0.91-1.22 m Coarse	BH07-56 SS-1A 0.05-0.91 m Coarse	BH07-56 SS-2 1.22-1.67 m Coarse	BH07-57 SS-1A 0.05-1.22 m Coarse	Dup #5 BH07-57 SS-1A 0.05-1.22 m Coarse	BH07-57 SS-2 1.22-1.88 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	<0.8	**18.6**	<0.8	2.3	5.6	<0.8
Arsenic	**18**	**18**	0.3	7.6	4.9	6.9	9.6	1.6	8.2	7.5	3.5
Barium	**390**	**670**	0.4	100	34.5	29.1	102	23.2	260	277	24
Beryllium	**4**	**8**	0.2	0.7	<0.2	0.3	0.3	0.2	0.6	0.4	0.3
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	0.244	NA	NA	NA	0.622	NA	NA
Cadmium	**1.2**	**1.9**	0.2	**1.3**	**2.3**	0.9	**1.8**	0.7	**2**	**2.3**	0.8
Chromium (Total)	**160**	**160**	0.3	16.2	5.9	9.2	23.5	9.3	15.4	14	9.6
Cobalt	**22**	**80**	0.2	7.4	5.1	3.2	6.2	3.2	7.3	6.6	4.3
Copper	**140**	**230**	0.2	25.4	23.8	11.4	**283**	13.1	33.5	62.1	20.4
Lead	**120**	**120**	0.5	**150**	119	82.2	**545**	92.4	**232**	**243**	**176**
Molybdenum	**6.9**	**40**	0.3	0.9	0.6	0.6	2.5	<0.3	0.9	0.9	<0.3
Nickel	**100**	**270**	0.3	17	18	9.7	31.2	11.5	18.7	16.2	12.1
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.8	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	0.3	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	30.4	9.6	17.7	27.5	13.2	26	21.4	15.7
Zinc	**340**	**340**	0.4	**500**	**613**	328	**472**	**664**	**679**	**805**	**628**
Chromium (VI)	**8**	**8**	0.4	NA	<0.40	NA	NA	NA	<0.40	NA	NA
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	<0.08	NA	NA	NA	<0.08	NA	NA
Mercury	**0.27**	**3.9**	0.011	NA	0.022	NA	NA	NA	**0.32**	NA	NA
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	0.235	NA	NA	NA	0.212	NA	NA
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	0.202	NA	NA	NA	0.066	NA	NA
pH (units)	**[5-9]**	**[5-9]**	--	NA	8.29	NA	NA	NA	8.02	NA	NA
Chloride (2:1)	-	-	0.2	NA	46.3	NA	NA	NA	9.99	NA	NA

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

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Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

- No standard available.

< Not detected.

NA Not analyzed.

Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-58 SS-1A 0.05-0.61 m Coarse	BH07-58 SS-2 1.22-1.63 m Coarse	BH07-59 SS-1A 0.05-0.30 m Coarse	BH07-59 SS-1B 0.30-0.69 m Coarse	BH07-60 SS-1 0-0.05 m Coarse	BH07-60 SS-1B 0.76-1.19 m Coarse	BH07-61 SS-1A 0.05-1.22 m Coarse	BH07-61 SS-2 1.22-1.37 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	3	<0.8
Arsenic	**18**	**18**	0.3	3.5	0.6	0.7	0.6	3.6	8.1	5.7	6.5
Barium	**390**	**670**	0.4	25	19.7	7.9	14.3	24.7	39.5	50.4	137
Beryllium	**4**	**8**	0.2	<0.2	0.3	<0.2	<0.2	<0.2	0.4	0.3	0.6
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	NA	NA	NA	0.23	NA	NA	NA
Cadmium	**1.2**	**1.9**	0.2	0.8	0.2	<0.2	0.2	0.3	0.3	0.5	**2.9**
Chromium (Total)	**160**	**160**	0.3	8.8	6.1	3.4	5.9	8.5	12.1	7.6	14.4
Cobalt	**22**	**80**	0.2	2.6	1.6	0.7	1.5	1.8	4.6	3.1	6.7
Copper	**140**	**230**	0.2	54.7	3.3	2.1	2.5	22.9	5.8	31.6	39.9
Lead	**120**	**120**	0.5	75.6	33	13	38.7	71.5	**132**	**155**	**123**
Molybdenum	**6.9**	**40**	0.3	0.7	<0.3	0.5	<0.3	0.9	0.5	0.6	0.7
Nickel	**100**	**270**	0.3	7.5	5	2.3	4.7	7.8	10	8	22.7
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2
Vanadium	**86**	**86**	0.2	12.9	8.1	4.5	7.6	8.6	21.4	10.4	21.1
Zinc	**340**	**340**	0.4	310	254	79	307	102	**483**	**771**	**782**
Chromium (VI)	**8**	**8**	0.4	NA	NA	NA	NA	<0.40	NA	NA	NA
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	NA	NA	NA	<0.08	NA	NA	NA
Mercury	**0.27**	**3.9**	0.011	NA	NA	NA	NA	0.027	NA	NA	NA
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	NA	NA	NA	0.226	NA	NA	NA
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	NA	NA	NA	0.182	NA	NA	NA
pH (units)	**[5-9]**	**[5-9]**	--	NA	NA	NA	NA	8.13	NA	NA	NA
Chloride (2:1)	**-**	**-**	0.2	NA	NA	NA	NA	38.1	NA	NA	NA

NOTES:

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Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-62 SS-1A 0.05-0.61 m Coarse	BH07-62 SS-1B 0.61-1.22 m Coarse	Dup #6 BH07-62 SS-1B 0.61-1.22 m Coarse	BH07-63 SS-1A 0.05-1.22 m Coarse	BH07-63 SS-2 1.22-1.88 m Coarse	BH07-64 SS-1A 0.05-1.22 m Coarse	BH07-64 SS-2 1.22-2.29 m Coarse	BH07-65 SS-1A 0.05-0.61 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	1.5	1.2	2.2	<0.8	<0.8	<0.8	1.1
Arsenic	**18**	**18**	0.3	2.9	6.4	5.9	7.4	2.7	2.4	4.7	5.2
Barium	**390**	**670**	0.4	36	135	151	73.7	19	21.7	36.4	62.9
Beryllium	**4**	**8**	0.2	<0.2	0.4	NA	0.7	0.2	<0.2	0.3	0.3
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	0.173	0.702	0.4	NA	0.222	0.26	NA	NA
Cadmium	**1.2**	**1.9**	0.2	0.5	**1.5**	**1.4**	0.2	0.4	<0.2	0.6	**1.4**
Chromium (Total)	**160**	**160**	0.3	5.6	11.8	11.5	19.9	8	4.3	8.8	9.3
Cobalt	**22**	**80**	0.2	3.2	6	5.7	5.7	2.5	1.5	3.9	4.1
Copper	**140**	**230**	0.2	20.3	22.3	23.4	45.4	5.4	9.3	20	26.1
Lead	**120**	**120**	0.5	78.3	**199**	**200**	63.7	61.4	34.8	73	NA
Molybdenum	**6.9**	**40**	0.3	0.5	0.8	0.8	1.8	0.3	0.3	0.7	0.7
Nickel	**100**	**270**	0.3	8.2	11.9	11.8	19.2	7.3	3.5	11.9	13.2
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	9.4	19.3	17.3	28.1	14	6.8	15.7	14.9
Zinc	**340**	**340**	0.4	230	**479**	**527**	83.1	**354**	51.5	**563**	**426**
Chromium (VI)	**8**	**8**	0.4	<0.40	<0.40	NA	NA	<0.40	<0.40	NA	NA
Cyanide (Free)	**0.051**	**0.051**	0.08	<0.08	<0.08	NA	NA	<0.08	<0.08	NA	NA
Mercury	**0.27**	**3.9**	0.011	0.013	0.067	NA	NA	0.027	<0.011	NA	NA
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	0.231	0.208	NA	NA	0.2	0.074	NA	NA
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	0.292	0.073	NA	NA	0.134	0.062	NA	NA
pH (units)	**[5-9]**	**[5-9]**	--	8.27	7.79	NA	NA	7.99	7.76	NA	NA
Chloride (2:1)	-	-	0.2	62.6	14.6	NA	NA	29.4	1.78	NA	NA

NOTES:

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Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-65 SS-2 1.22-2.03 m Coarse	BH07-66 SS-1A 0.05-1.22 m Coarse	BH07-66 SS-2 1.22-1.32 m Coarse	BH07-67 SS-1A 0.05-0.91 m Coarse	BH07-67 SS-2 1.22-1.37 m Coarse	BH07-68 SS-1 0-0.05 m Coarse	BH07-68 SS-1A 0.05-0.61 m Coarse	BH07-69 SS-1A 0.08-1.22 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	1.4	<0.8	2.1	<0.8	<0.8	<0.8	<0.8
Arsenic	**18**	**18**	0.3	7.2	6.8	1.3	**23**	1.4	0.8	4.7	2.9
Barium	**390**	**670**	0.4	24.1	32.4	14.9	156	16	9.6	80.9	32.1
Beryllium	**4**	**8**	0.2	0.3	0.2	<0.2	0.4	0.2	<0.2	0.5	0.3
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	NA	NA	NA	NA	NA	NA	0.152
Cadmium	**1.2**	**1.9**	0.2	0.8	0.4	0.4	**2.1**	0.5	<0.2	0.4	<0.2
Chromium (Total)	**160**	**160**	0.3	7.9	14.3	7.1	13.2	5.5	3.4	10.2	9.4
Cobalt	**22**	**80**	0.2	3.5	7.7	2.3	2.9	3.6	0.7	4.2	3.6
Copper	**140**	**230**	0.2	15	38.3	8.2	63.1	13.5	5.4	17.2	9.8
Lead	**120**	**120**	0.5	105	43.3	53	**336**	37.5	60.4	72.5	25.5
Molybdenum	**6.9**	**40**	0.3	0.6	1.2	0.3	1.4	<0.3	<0.3	0.8	<0.3
Nickel	**100**	**270**	0.3	10.2	15.4	6.1	9.8	8.9	2.8	11.6	6.8
Selenium	**2.4**	**5.5**	0.8	<0.8	<0.8	<0.8	1	<0.8	<0.8	<0.8	<0.8
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	12.7	28.1	10	16.2	12.6	4.1	19.6	15.9
Zinc	**340**	**340**	0.4	**514**	218	**349**	**379**	**538**	81.8	200	43.7
Chromium (VI)	**8**	**8**	0.4	NA	NA	NA	NA	NA	NA	NA	<0.40
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	NA	NA	NA	NA	NA	NA	<0.08
Mercury	**0.27**	**3.9**	0.011	NA	NA	NA	NA	NA	NA	NA	0.012
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	NA	NA	NA	NA	NA	NA	0.152
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	NA	NA	NA	NA	NA	NA	0.057
pH (units)	**[5-9]**	**[5-9]**	--	NA	NA	NA	NA	NA	NA	NA	8.17
Chloride (2:1)	-	-	0.2	NA	NA	NA	NA	NA	NA	NA	6.59

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-69 SS-2 1.22-1.42 m Coarse	BH07-70 SS-1A 0.05-1.22 m Coarse	BH07-70 SS-2 1.22-1.73 m Coarse	BH07-71 SS-1A 0.05-1.22 m Coarse	BH07-71 SS-2 1.22-1.32 m Coarse	OW07-32 SS-1 0-1.07 m Coarse	OW07-33 SS-1 0-1.22 m Coarse	OW07-34 SS-1 0-1.22 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.5	<0.8	2.6
Arsenic	**18**	**18**	0.3	0.5	3.5	2.3	3.4	1.8	7.1	3.7	8.2
Barium	**390**	**670**	0.4	14.6	64	38.7	56.3	11.2	36.2	62.8	107
Beryllium	**4**	**8**	0.2	<0.2	0.4	<0.2	0.3	<0.2	0.4	0.3	0.5
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	NA	0.759	NA	0.105	NA	0.57	0.21	1.47
Cadmium	**1.2**	**1.9**	0.2	0.3	1	0.4	<0.2	<0.2	0.5	1.2	**1.3**
Chromium (Total)	**160**	**160**	0.3	5.8	11.3	77.5	6.3	3.3	11.9	9.3	25.9
Cobalt	**22**	**80**	0.2	1.8	3.4	12.7	3.4	0.8	4.8	4.7	3.6
Copper	**140**	**230**	0.2	4.7	26.7	17.1	8.9	3	50.3	15.6	48.2
Lead	**120**	**120**	0.5	29.4	110	67	45.3	11	117	107	**274**
Molybdenum	**6.9**	**40**	0.3	<0.3	0.5	0.4	0.4	<0.3	1.5	0.4	0.8
Nickel	**100**	**270**	0.3	5.3	10.3	46.5	6.9	3.4	11.2	11	10.6
Selenium	**2.4**	**5.5**	0.8	<0.8	0.8	<0.8	<0.8	<0.8	<0.4	<0.4	<0.4
Silver	**20**	**40**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4
Thallium	**1**	**3.3**	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	7.6	19.5	35.8	12.8	3.8	18.9	15.3	16.8
Zinc	**340**	**340**	0.4	275	**699**	**1,110**	34.9	164	256	**720**	**635**
Chromium (VI)	**8**	**8**	0.4	NA	<0.40	NA	<0.40	NA	<0.40	<0.40	<0.40
Cyanide (Free)	**0.051**	**0.051**	0.08	NA	<0.08	NA	<0.08	NA	<0.08	<0.08	<0.08
Mercury	**0.27**	**3.9**	0.011	NA	0.064	NA	<0.011	NA	0.036	0.037	0.051
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	NA	0.208	NA	0.125	NA	0.514	0.244	0.296
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	NA	0.623	NA	0.027	NA	0.151	0.142	0.165
pH (units)	**[5-9]**	**[5-9]**	--	NA	7.76	NA	7.95	NA	7.80	7.96	7.50
Chloride (2:1)	-	-	0.2	NA	9.05	NA	3.8	NA	18.8	33.1	25.3

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

-- No MDL reported by the laboratory.

- No standard available.

< Not detected.

NA Not analyzed.

Borehole drilled outside site limits

TABLE 9.2
RESULTS OF ANALYSES FOR METALS AND INORGANIC PARAMETERS IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	OW07-35 SS-1 0-1.22 m Coarse	OW07-35 SS-2 1.22-2.44 m Coarse	OW07-36 SS-1 0-0.61 m Coarse	OW07-36 SS-1A 0.61-1.22 m Coarse	OW07-37 SS-1 0-0.61 m Coarse	OW07-37 SS-1A 0.61-1.22 m Coarse	OW07-38 SS-1 0-1.22 m Coarse	OW07-42 SS-1 0-0.61 m Coarse
Antimony	**7.5**	**40**	0.8	<0.8	<0.8	3	<0.8	<0.8	<0.8	1.5	<0.8
Arsenic	**18**	**18**	0.3	2.6	6.9	3.9	8.9	3.2	2.1	**20.5**	8.5
Barium	**390**	**670**	0.4	16.2	62.9	47.2	65.2	13.7	13.6	63.6	85.6
Beryllium	**4**	**8**	0.2	<0.2	0.3	<0.2	0.6	<0.2	<0.2	0.4	0.6
Boron (Hot Water Extractable)	**1.5**	**2**	0.1	0.22	NA	0.35	0.82	NA	NA	NA	0.5
Cadmium	**1.2**	**1.9**	0.2	0.5	**1.6**	0.7	**2**	0.4	<0.2	**1.3**	**1.8**
Chromium (Total)	**160**	**160**	0.3	4.9	11.2	12.4	16.8	5	3.6	41.4	15.6
Cobalt	**22**	**80**	0.2	2.1	6.9	6.7	7.6	2.1	2.3	7.5	6.6
Copper	**140**	**230**	0.2	8	32.1	24.7	25.8	26.1	6	84.4	28.4
Lead	**120**	**120**	0.5	39.9	**160**	**292**	**177**	81.9	9.6	90.1	**133**
Molybdenum	**6.9**	**40**	0.3	0.3	0.8	1.5	0.8	0.6	<0.3	**9.3**	1
Nickel	**100**	**270**	0.3	4.1	15.3	12	19.6	5.9	4.5	43.9	15.8
Selenium	**2.4**	**5.5**	0.8	<0.4	<0.4	<0.4	0.5	<0.4	<0.4	0.9	0.7
Silver	**20**	**40**	0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	**1**	**3.3**	0.2	<0.2	0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Vanadium	**86**	**86**	0.2	8	18.8	15.5	26.2	9	6.1	14.8	24.5
Zinc	**340**	**340**	0.4	206	**1,020**	308	**908**	306	39.8	**371**	**828**
Chromium (VI)	**8**	**8**	0.4	<0.40	NA	<0.40	<0.40	NA	NA	NA	<0.40
Cyanide (Free)	**0.051**	**0.051**	0.08	<0.08	NA	<0.08	<0.08	NA	NA	NA	<0.08
Mercury	**0.27**	**3.9**	0.011	0.014	NA	0.049	0.113	NA	NA	NA	0.11
Electrical Conductivity (mS/cm)	**0.7**	**1.4**	0.002	0.352	NA	**3.02**	**0.706**	NA	NA	NA	0.248
Sodium Adsorption Ratio (meq/L)	**5**	**12**	--	1.74	NA	**24.3**	**7.04**	NA	NA	NA	0.067
pH (units)	**[5-9]**	**[5-9]**	--	7.85	NA	8.18	8.12	NA	NA	NA	7.60
Chloride (2:1)	-	-	0.2	100	NA	1600	254	NA	NA	NA	9.31

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
-- No MDL reported by the laboratory.
- No standard available.
< Not detected.
NA Not analyzed.
Borehole drilled outside site limits

TABLE 9.3
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-40 SS-1A 0.30-1.22 m Coarse	BH07-41 SS-1 0-0.05 m Coarse	BH07-45 SS-2 1.22-1.78 m Coarse	Dup #2 BH07-45 SS-2 1.22-1.78 m Coarse	BH07-46 SS-1A 0.05-1.22 m Coarse	BH07-46 SS-2 1.22-1.68 m Coarse	BH07-47 SS-2 1.22-1.80 m Coarse	BH07-48 SS-1 0.10-1.22 m Coarse
Acenaphthene	**7.9**	**21**	0.03	0.08	<0.30	<0.03	<0.03	<0.03	0.09	<0.03	<0.03
Acenaphthylene	**0.15**	**0.15**	0.02	0.04	<0.20	<0.02	<0.02	<0.02	0.02	<0.02	<0.02
Anthracene	**0.67**	**0.67**	0.02	0.42	0.25	<0.02	<0.02	<0.02	0.07	0.02	<0.02
Benzo(a)anthracene	**0.5**	**0.96**	0.02	0.31	0.36	<0.02	<0.02	0.05	<0.02	0.03	<0.02
Benzo(a)pyrene	**0.3**	**0.3**	0.02	0.15	**0.53**	<0.02	<0.02	0.04	<0.02	0.02	<0.02
Benzo(b)fluoranthene	**0.78**	**0.96**	0.02	0.28	**0.9**	<0.02	<0.02	0.06	<0.02	0.03	<0.02
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.02	0.12	0.74	<0.02	<0.02	0.07	<0.02	0.02	<0.02
Benzo(k)fluoranthene	**0.78**	**0.96**	0.02	0.09	0.33	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Chrysene	**7**	**9.6**	0.02	1.4	0.51	0.03	0.03	0.06	0.04	0.06	0.02
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.02	0.04	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	**0.69**	**9.6**	0.02	0.35	**1.6**	<0.02	<0.02	0.1	0.06	0.05	0.03
Fluorene	**62**	**62**	0.02	0.48	<0.20	<0.02	<0.02	<0.02	0.19	<0.02	<0.02
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.02	0.1	**0.57**	<0.02	<0.02	0.03	<0.02	<0.02	<0.02
Naphthalene	**0.6**	**9.6**	0.03	0.17	0.31	<0.03	<0.03	<0.03	0.04	0.03	<0.03
Phenanthrene	**6.2**	**12**	0.02	3.3	1.3	0.06	0.06	0.06	0.5	0.07	0.02
Pyrene	**78**	**96**	0.02	1.4	1.2	0.02	0.02	0.08	0.11	0.05	0.03

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

< Not detected.

TABLE 9.3
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-49 SS-2 1.22-1.83 m Coarse	BH07-51 SS-2 1.22-2.06 m Coarse	BH07-52 SS-1 0-1.22 m Coarse	BH07-53 SS-1 0-0.05 m Coarse	Dup #1 BH07-53 SS-2 1.22-1.47 m Coarse	BH07-54 SS-2 1.22-2.39 m Coarse	BH07-55 SS-1B 0.91-1.22 m Coarse	BH07-56 SS-1A 0.05-0.91 m Coarse
Acenaphthene	**7.9**	**21**	0.03	<0.03	0.03	0.09	<0.03	<0.03	<0.03	<0.03	0.08
Acenaphthylene	**0.15**	**0.15**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03
Anthracene	**0.67**	**0.67**	0.02	<0.02	<0.02	0.16	0.02	<0.02	<0.02	<0.02	0.1
Benzo(a)anthracene	**0.5**	**0.96**	0.02	<0.02	<0.02	0.22	0.06	<0.02	0.05	<0.02	0.38
Benzo(a)pyrene	**0.3**	**0.3**	0.02	<0.02	<0.02	0.15	0.05	<0.02	0.04	<0.02	**0.35**
Benzo(b)fluoranthene	**0.78**	**0.96**	0.02	<0.02	<0.02	0.23	0.08	<0.02	0.07	<0.02	0.54
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.02	<0.02	<0.02	0.17	0.04	<0.02	0.04	<0.02	0.71
Benzo(k)fluoranthene	**0.78**	**0.96**	0.02	<0.02	<0.02	0.1	0.03	<0.02	0.03	<0.02	0.18
Chrysene	**7**	**9.6**	0.02	<0.02	<0.02	0.23	0.07	<0.02	0.05	<0.02	0.49
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02
Fluoranthene	**0.69**	**9.6**	0.02	<0.02	0.02	0.69	0.14	<0.02	0.11	<0.02	**0.84**
Fluorene	**62**	**62**	0.02	<0.02	0.03	0.12	<0.02	<0.02	<0.02	<0.02	0.08
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.02	<0.02	<0.02	0.09	0.03	<0.02	0.03	<0.02	0.31
Naphthalene	**0.6**	**9.6**	0.03	<0.03	**0.73**	0.21	<0.03	<0.03	<0.03	<0.03	0.22
Phenanthrene	**6.2**	**12**	0.02	<0.02	<0.02	0.77	0.09	<0.02	0.08	<0.02	0.76
Pyrene	**78**	**96**	0.02	<0.02	0.02	0.5	0.12	<0.02	0.09	<0.02	0.71

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.3
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-57 SS-1A 0.05-1.22 m Coarse	BH07-58 SS-1A 0.05-0.61 m Coarse	BH07-59 SS-1A 0.05-0.30 m Coarse	BH07-60 SS-1 0-0.05 m Coarse	BH07-61 SS-1A 0.05-1.22 m Coarse	BH07-62 SS-1B 0.61-1.22 m Coarse	BH07-64 SS-1A 0.05-1.22 m Coarse	BH07-65 SS-1A 0.05-0.61 m Coarse
Acenaphthene	**7.9**	**21**	0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03
Acenaphthylene	**0.15**	**0.15**	0.02	<0.02	<0.02	<0.02	0.08	<0.02	0.02	<0.02	<0.02
Anthracene	**0.67**	**0.67**	0.02	<0.02	<0.02	0.11	0.04	0.03	<0.02	0.03	0.04
Benzo(a)anthracene	**0.5**	**0.96**	0.02	0.07	0.03	0.19	0.11	0.12	0.09	0.37	0.13
Benzo(a)pyrene	**0.3**	**0.3**	0.02	0.08	0.03	0.14	0.14	0.09	0.11	**0.44**	0.1
Benzo(b)fluoranthene	**0.78**	**0.96**	0.02	0.1	0.05	0.19	0.21	0.13	0.17	0.64	0.15
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.02	0.12	0.04	0.07	0.11	0.06	0.17	0.37	0.08
Benzo(k)fluoranthene	**0.78**	**0.96**	0.02	0.05	<0.02	0.08	0.08	0.06	0.05	0.22	0.06
Chrysene	**7**	**9.6**	0.02	0.08	0.06	0.2	0.12	0.15	0.14	0.45	0.17
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02
Fluoranthene	**0.69**	**9.6**	0.02	0.09	0.06	0.52	0.26	0.3	0.18	0.53	0.34
Fluorene	**62**	**62**	0.02	<0.02	<0.02	0.05	0.02	0.02	<0.02	<0.02	0.02
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.02	0.06	0.02	0.08	0.11	0.06	0.11	0.3	0.06
Naphthalene	**0.6**	**9.6**	0.03	0.03	0.11	0.03	0.07	0.03	0.03	0.04	0.07
Phenanthrene	**6.2**	**12**	0.02	0.04	0.17	0.44	0.1	0.21	0.08	0.19	0.25
Pyrene	**78**	**96**	0.02	0.08	0.05	0.41	0.22	0.24	0.15	0.46	0.27

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

< Not detected.

TABLE 9.3
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-66 SS-1A 0.05-1.22 m Coarse	BH07-68 SS-1 0-0.05 m Coarse	BH07-69 SS-1A 0.08-1.22 m Coarse	BH07-70 SS-1A 0.05-1.22 m Coarse	BH07-71 SS-1A 0.05-1.22 m Coarse	N.Pile SS-1 0-1.22 m Coarse	OW07-32 SS-1 0-1.07 m Coarse	OW07-34 SS-1 0-1.22 m Coarse
Acenaphthene	**7.9**	**21**	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	**94**
Acenaphthylene	**0.15**	**0.15**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	<2.00
Anthracene	**0.67**	**0.67**	0.02	<0.02	0.12	<0.02	<0.02	<0.02	0.05	0.05	**160**
Benzo(a)anthracene	**0.5**	**0.96**	0.02	0.03	0.09	<0.02	0.07	<0.02	0.5	**0.6**	**200**
Benzo(a)pyrene	**0.3**	**0.3**	0.02	0.02	0.13	<0.02	0.06	<0.02	**0.47**	**0.54**	**130**
Benzo(b)fluoranthene	**0.78**	**0.96**	0.02	0.03	0.03	0.02	0.09	0.02	0.66	0.77	**190**
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.02	0.06	<0.02	<0.02	0.04	<0.02	0.45	0.45	**70**
Benzo(k)fluoranthene	**0.78**	**0.96**	0.02	<0.02	0.1	<0.02	0.04	<0.02	0.19	0.23	**66**
Chrysene	**7**	**9.6**	0.02	0.06	0.16	0.03	0.09	0.02	0.54	0.56	**180**
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.02	<0.02	**0.31**	<0.02	<0.02	<0.02	0.08	**0.12**	**6**
Fluoranthene	**0.69**	**9.6**	0.02	0.05	0.17	0.03	0.17	0.02	**0.73**	**0.78**	**660**
Fluorene	**62**	**62**	0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02	<0.02	**150**
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.02	0.03	<0.02	<0.02	0.03	<0.02	**0.44**	**0.46**	**80**
Naphthalene	**0.6**	**9.6**	0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.05	**220**
Phenanthrene	**6.2**	**12**	0.02	0.06	0.1	0.08	0.09	0.02	0.26	0.41	**900**
Pyrene	**78**	**96**	0.02	0.04	0.03	0.02	0.14	0.02	0.63	0.7	**470**

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

< Not detected.

TABLE 9.3
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	OW07-37 SS-1 0-0.61 m Coarse	OW07-37 SS-1A 0.61-1.22 m Coarse
Acenaphthene	**7.9**	**21**	0.03	<0.03	<0.03
Acenaphthylene	**0.15**	**0.15**	0.02	<0.02	<0.02
Anthracene	**0.67**	**0.67**	0.02	<0.02	<0.02
Benzo(a)anthracene	**0.5**	**0.96**	0.02	0.03	0.02
Benzo(a)pyrene	**0.3**	**0.3**	0.02	0.04	<0.02
Benzo(b)fluoranthene	**0.78**	**0.96**	0.02	0.05	0.02
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.02	0.08	0.02
Benzo(k)fluoranthene	**0.78**	**0.96**	0.02	<0.02	<0.02
Chrysene	**7**	**9.6**	0.02	0.04	0.02
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.02	0.02	<0.02
Fluoranthene	**0.69**	**9.6**	0.02	0.04	0.03
Fluorene	**62**	**62**	0.02	<0.02	<0.02
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.02	0.06	0.02
Naphthalene	**0.6**	**9.6**	0.03	<0.03	0.03
Phenanthrene	**6.2**	**12**	0.02	0.05	0.04
Pyrene	**78**	**96**	0.02	<0.02	0.02

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.

< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-40 SS-1A 0.30-1.22 m Coarse	BH07-40 SS-2A 2.13-2.39 m Coarse	BH07-41 SS-1 0-0.05 m Coarse	BH07-45 SS-2 1.22-1.78 m Coarse	Dup #2 BH07-45 SS-2 1.22-1.78 m Coarse	BH07-46 SS-1A 0.05-1.22 m Coarse	BH07-46 SS-2 1.22-1.68 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-47 SS-2 1.22-1.80 m Coarse	BH07-48 SS-1 0.10-1.22 m Coarse	BH07-49 SS-2 1.22-1.83 m Coarse	BH07-50 SS-1 0.05-1.07 m Coarse	BH07-50 SS-2 1.22-1.67 m Coarse	BH07-51 SS-1 0-0.05 m Coarse	BH07-52 SS-1 0-1.22 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	Dup #3 BH07-52 SS-1 0-1.22 m Coarse	BH07-56 SS-1A 0.05-0.91 m Coarse	BH07-57 SS-1A 0.05-1.22 m Coarse	BH07-58 SS-1A 0.05-0.61 m Coarse	BH07-59 SS-1A 0.05-0.30 m Coarse	BH07-61 SS-1A 0.05-1.22 m Coarse	BH07-62 SS-1B 0.61-1.22 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-65 SS-1A 0.05-0.61 m Coarse	BH07-65 SS-2 1.22-2.03 m Coarse	BH07-66 SS-1A 0.05-1.22 m Coarse	BH07-66 SS-2 1.22-1.32 m Coarse	BH07-67 SS-1A 0.05-0.91 m Coarse	BH07-67 SS-2 1.22-1.37 m Coarse	BH07-68 SS-1 0-0.05 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	<0.02	<0.02	<0.02	<0.02	**1.5**	<0.02	0.07

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 **Bold**	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	BH07-68 SS-1A 0.05-0.61 m Coarse	BH07-70 SS-1A 0.05-1.22 m Coarse	N.Pile SS-1 0-1.22 m Coarse	S.Pile SS-1 0-1.22 m Coarse	OW07-32 SS-1 0-1.07 m Coarse	OW07-32 SS-2 1.22-1.65 m Coarse	OW07-33 SS-1 0-1.22 m Coarse	OW07-34 SS-1 0-1.22 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.4
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2007

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	MDL Depth Texture	DUP #11 OW07-34 SS-1 0-1.22 m Coarse	OW07-34 SS-2 1.22-1.57 m Coarse	OW07-42 SS-1 0-0.61 m Coarse	OW07-43 SS-1 0-0.91 m Coarse	OW07-44 SS-1 0-0.61 m Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	0.03	<0.02	<0.02	0.1	0.02

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (201
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

MDL Method Detection Limit.
< Not detected.

TABLE 9.5
RESULTS OF ANALYSES FOR METALS IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6	RDL Maxxam ID Depth Date Texture	TP1-5'' UD5893 0.08-0.18 m 02-Dec-13 Coarse	TP3-6'' UD5895 0.10-0.20 m 02-Dec-13 Coarse	TP4-6'' UD5896 0.10-0.20 m 02-Dec-13 Coarse	TP6-4'' UD5898 0.05-0.15 m 02-Dec-13 Coarse	TP8-4'' UD5899 0.05-0.15 m 02-Dec-13 Coarse	DUP1 (TP8-4'') UD5903 03-Dec-13 Coarse
	Bold	Underline							
Antimony	**7.5**	**40**	0.20	1.7	0.29	2	<0.20	2.6	2.6
Arsenic	**18**	**18**	1.0	6.2	3	5.2	1.9	8.8	8.6
Barium	**390**	**670**	0.50	43	19	42	9.4	150	150
Beryllium	**4**	**8**	0.20	0.34	<0.20	0.24	<0.20	0.56	0.51
Boron (Total)	**120**	**120**	5.0	15	<5.0	<5.0	13	23	20
Cadmium	**1.2**	**1.9**	0.10	0.67	0.77	0.38	**5.1**	**2.2**	**1.6**
Chromium (Total)	**160**	**160**	1.0	11	8.7	15	4.2	40	33
Cobalt	**22**	**80**	0.10	4.6	2.6	2.8	4	6.6	6
Copper	**140**	**230**	0.50	24	24	33	11	70	73
Lead	**120**	**120**	1.0	110	75	110	**150**	**310**	**460**
Mercury	**0.27**	**3.9**	0.050	0.14	<0.050	<0.050	0.084	<0.050	0.051
Molybdenum	**6.9**	**40**	0.50	1	0.61	1.5	1.5	3.4	2.4
Nickel	**100**	**270**	0.50	10	8.2	12	8.4	36	35
Selenium	**2.4**	**5.5**	0.50	0.64	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	**20**	**40**	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	**1**	**3.3**	0.050	0.087	0.087	<0.050	0.25	0.064	0.077
Vanadium	**86**	**86**	5.0	22	16	15	8.7	36	34
Uranium	**23**	**33**	0.050	0.75	0.4	0.41	2	0.58	0.53
Zinc	**340**	**340**	5.0	**360**	**470**	190	**2,000**	**760**	**810**

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
NA Not analyzed.
< Not detected.

TABLE 9.5
RESULTS OF ANALYSES FOR METALS IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP9-1'' UD5900 0-0.08 m 02-Dec-13 Coarse	TP11-6'' UD5902 0.10-0.20 m 03-Dec-13 Coarse	DUP2 (TP11-6'') UD5904 03-Dec-13 Coarse	TP2-4' UD5906 1.17-1.27 m 02-Dec-13 Coarse	TP5-4' UD5909 1.17-1.27 m 02-Dec-13 Coarse	TP10-4' UD5913 1.17-1.27 m 03-Dec-13 Coarse	OW13-39S UG9416 2.29-2.52 m 12-Dec-13 Coarse	BH13-40 UG9417 1.83-2.44 m 12-Dec-13 Coarse
Antimony	**7.5**	**40**	0.20	4.2	1.1	2.1	<0.20	<0.20	0.46	0.98	<0.20
Arsenic	**18**	**18**	1.0	6	7.4	9	3.7	2.2	8.2	4.9	4.9
Barium	**390**	**670**	0.50	36	100	94	28	19	40	190	11
Beryllium	**4**	**8**	0.20	0.29	0.85	0.62	<0.20	<0.20	0.47	<0.20	<0.20
Boron (Total)	**120**	**120**	5.0	7.7	11	11	<5.0	15	6.7	8.7	<5.0
Cadmium	**1.2**	**1.9**	0.10	**2.3**	**1.9**	**3.8**	0.53	**4.8**	**1.6**	**1.9**	0.65
Chromium (Total)	**160**	**160**	1.0	14	19	39	9.2	5.7	13	9	5.9
Cobalt	**22**	**80**	0.10	4.9	2.4	3.9	4.6	4.6	7.6	3.6	4.1
Copper	**140**	**230**	0.50	41	43	62	30	12	25	29	16
Lead	**120**	**120**	1.0	**270**	**230**	**470**	37	**230**	**160**	**220**	30
Mercury	**0.27**	**3.9**	0.050	0.13	<0.050	0.097	<0.050	0.09	<0.050	NA	NA
Molybdenum	**6.9**	**40**	0.50	1.3	1.6	2.1	<0.50	1.4	0.66	0.79	<0.50
Nickel	**100**	**270**	0.50	13	11	19	10	10	17	11	10
Selenium	**2.4**	**5.5**	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	**20**	**40**	0.20	<0.20	0.2	0.39	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	**1**	**3.3**	0.050	0.2	0.062	0.1	0.094	0.21	0.17	0.13	0.087
Vanadium	**86**	**86**	5.0	22	18	27	26	10	29	0.5	0.64
Uranium	**23**	**33**	0.050	0.33	2.6	1.8	0.33	1.9	0.51	11	8.9
Zinc	**340**	**340**	5.0	**5,600**	**890**	**2,200**	**400**	**2,000**	**940**	**2,400**	**620**

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
NA Not analyzed.
< Not detected.

TABLE 9.6
RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBONS (PHCs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP1-5'' UD5893 0.08-0.18 m 02-Dec-13 Coarse	TP3-6'' UD5895 0.10-0.20 m 02-Dec-13 Coarse	TP4-6'' UD5896 0.10-0.20 m 02-Dec-13 Coarse	TP6-4'' UD5898 0.05-0.15 m 02-Dec-13 Coarse	TP8-4'' UD5899 0.05-0.15 m 02-Dec-13 Coarse	DUP1 (TP8-4'') UD5903 03-Dec-13 Coarse
Benzene	**0.21**	**0.32**	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	**2.3**	**6.4**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	**1.1**	**1.1**	0.020	<0.020	<0.020	0.025	<0.020	<0.020	<0.020
Total Xylenes	**3.1**	**26**	0.020	0.11	<0.020	0.12	<0.020	<0.020	<0.020
CCME F1 (C6-C10)	**55**	**55**	10	<20	<10	<10	<10	<10	<10
CCME F F1(C6-C10) minus BTEX	-	-	10	<20	<10	<10	<10	<10	<10
CCME F2 (>C10-C16)	**98**	**230**	10	<10	<10	<10	13	25	38
CCME F3 (>C16-C34)	**300**	**1,700**	50	<50	<50	150	88	**520**	**770**
CCME F4 (>C34)	**2,800**	**3,300**	50	<50	<50	<50	<50	250	360
Gravimetric Heavy Hydrocarbons	-	-	100	NA	NA	NA	NA	510	1,100

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parkland/Institutional- Table 6, Full Depth Generic Site Condition Standards in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.6
RESULTS OF ANALYSES FOR BTEX AND PETROLEUM HYDROCARBONS (PHCs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP9-1'' UD5900 0-0.08 m 02-Dec-13 Coarse	TP11-6'' UD5902 0.10-0.20 m 03-Dec-13 Coarse	DUP2 (TP11-6'') UD5904 03-Dec-13 Coarse	TP2-4' UD5906 1.17-1.27 m 02-Dec-13 Coarse	TP5-4' UD5909 1.17-1.27 m 02-Dec-13 Coarse	TP10-4' UD5913 1.17-1.27 m 03-Dec-13 Coarse	BH13-40 UG9417 1.83-2.44 m 12-Dec-13 Coarse
Benzene	**0.21**	**0.32**	0.020	<0.020	**0.23**	**0.25**	<0.020	<0.020	<0.020	<0.020
Toluene	**2.3**	**6.4**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	**1.1**	**1.1**	0.020	<0.020	0.36	0.4	<0.020	<0.020	<0.020	<0.020
Total Xylenes	**3.1**	**26**	0.020	<0.020	1.5	1.7	<0.020	<0.020	<0.020	<0.020
CCME F1 (C6-C10)	**55**	**55**	10	<10	<20	<10	<10	<10	<10	<10
CCME F F1(C6-C10) minus BTEX	**-**	**-**	10	<10	<20	<10	<10	<10	<10	<10
CCME F2 (>C10-C16)	**98**	**230**	10	<10	29	60	<10	14	<10	<10
CCME F3 (>C16-C34)	**300**	**1,700**	50	290	240	370	<50	96	86	<50
CCME F4 (>C34)	**2,800**	**3,300**	50	98	81	80	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	**-**	**-**	100	NA	NA	NA	NA	NA	NA	NA

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parkland/Institutional- Table 6, Full Depth Generic Site Condition Standards in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.7
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6	RDL Maxxam ID Depth Date Texture	TP1-5'' UD5893 0.08-0.18 m 02-Dec-13 Coarse	TP3-6'' UD5895 0.10-0.20 m 02-Dec-13 Coarse	TP4-6'' UD5896 0.10-0.20 m 02-Dec-13 Coarse	TP6-4'' UD5898 0.05-0.15 m 02-Dec-13 Coarse	TP8-4'' UD5899 0.05-0.15 m 02-Dec-13 Coarse	DUP1 (TP8-4'') UD5903 03-Dec-13 Coarse	TP9-1'' UD5900 0-0.08 m 02-Dec-13 Coarse	TP11-6'' UD5902 0.10-0.20 m 03-Dec-13 Coarse	DUP2 (TP11-6'') UD5904 03-Dec-13 Coarse	TP2-4' UD5906 1.17-1.27 m 02-Dec-13 Coarse
	Bold	Underline											
Acetone	**16**	**16**	0.50	0.68	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	**0.21**	**0.32**	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	**0.23**	**0.25**	<0.020
Bromodichloromethane	**1.5**	**1.5**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	**0.27**	**0.61**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	**0.05**	**0.21**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	**2.4**	**2.4**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	**0.05**	**0.47**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	**2.3**	**2.3**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1.2**	**1.2**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene (m-Dichlorobenzene)	**4.8**	**9.6**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene (p-Dichlorobenzene)	**0.083**	**0.2**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	**0.47**	**0.47**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene (1,1-Dichloroethene)	**0.05**	**0.064**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	**1.9**	**1.9**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	**0.084**	**1.3**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	**0.05**	**0.16**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene [(1)]	**0.05**	**0.059**	0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene [(1)]	**0.05**	**0.059**	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Ethylbenzene	**1.1**	**1.1**	0.020	<0.020	<0.020	0.025	<0.020	<0.020	<0.020	<0.020	0.36	0.4	<0.020
Ethylene Dibromide	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexane(n)	**2.8**	**46**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.12	0.12	<0.050
Methylene Chloride	**0.1**	**1.6**	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone (MIBK)	**1.7**	**31**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone (MEK)	**16**	**70**	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Tert Butyl Ether (MTBE)	**0.75**	**1.6**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	**0.7**	**34**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,1,2-Tetrachloroethane	**0.058**	**0.087**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene (Perchloroethylene) (Tetrachloroethene)	**0.28**	**1.9**	0.020	<0.020	<0.020	0.067	<0.020	<0.020	<0.020	<0.020	**1**	**1.2**	<0.020
Toluene	**2.3**	**6.4**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,1-Trichloroethane	**0.38**	**6.1**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene (Trichloroethene)	**0.061**	**0.55**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichlorofluoromethane	**4**	**4**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	**0.02**	**0.032**	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
m,p-Xylenes	-	-	0.020	0.06	<0.020	0.061	<0.020	<0.020	<0.020	<0.020	0.78	0.87	<0.020
o-Xylene	-	-	0.020	0.047	<0.020	0.06	<0.020	<0.020	<0.020	<0.020	0.73	0.83	<0.020
Xylenes (total)	**3.1**	**26**	0.020	0.11	<0.020	0.12	<0.020	<0.020	<0.020	<0.020	1.5	1.7	<0.020
Dichlorodifluoromethane	**16**	**16**	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
\- No standard available.
< Not detected.
(1) Standard applies to the sum of Cis- and Trans-1,3-Dichloropropene

TABLE 9.7
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6	RDL Maxxam ID Depth Date Texture	TP5-4' UD5909 1.17-1.27 m 02-Dec-13 Coarse	TP10-4' UD5913 1.17-1.27 m 03-Dec-13 Coarse	OW13-39S UG9416 2.29-2.52 m 12-Dec-13 Coarse	BH13-40 UG9417 1.83-2.44 m 12-Dec-13 Coarse
	Bold	Underline					
Acetone	**16**	**16**	0.50	<0.50	<0.50	<0.50	<0.50
Benzene	**0.21**	**0.32**	0.020	<0.020	<0.020	<0.020	<0.020
Bromodichloromethane	**1.5**	**1.5**	0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	**0.27**	**0.61**	0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	**0.05**	**0.21**	0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	**2.4**	**2.4**	0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	**0.05**	**0.47**	0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	**2.3**	**2.3**	0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1.2**	**1.2**	0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene (m-Dichlorobenzene)	**4.8**	**9.6**	0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene (p-Dichlorobenzene)	**0.083**	**0.2**	0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	**0.47**	**0.47**	0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene (1,1-Dichloroethene)	**0.05**	**0.064**	0.050	<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	**1.9**	**1.9**	0.050	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	**0.084**	**1.3**	0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	**0.05**	**0.16**	0.050	<0.050	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene (1)	**0.05**	**0.059**	0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene (1)	**0.05**	**0.059**	0.040	<0.040	<0.040	<0.040	<0.040
Ethylbenzene	**1.1**	**1.1**	0.020	<0.020	<0.020	<0.020	<0.020
Ethylene Dibromide	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050
Hexane(n)	**2.8**	**46**	0.050	<0.050	<0.050	<0.050	<0.050
Methylene Chloride	**0.1**	**1.6**	0.50	<0.50	<0.50	<0.050	<0.050
Methyl Isobutyl Ketone (MIBK)	**1.7**	**31**	0.050	<0.050	<0.050	<0.50	<0.50
Methyl Ethyl Ketone (MEK)	**16**	**70**	0.50	<0.50	<0.50	<0.50	<0.50
Methyl Tert Butyl Ether (MTBE)	**0.75**	**1.6**	0.050	<0.050	<0.050	<0.050	<0.050
Styrene	**0.7**	**34**	0.050	<0.050	<0.050	<0.050	<0.050
1,1,1,2-Tetrachloroethane	**0.058**	**0.087**	0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene (Perchloroethylene) (Tetrachloroethene)	**0.28**	**1.9**	0.020	<0.020	<0.020	<0.050	<0.050
Toluene	**2.3**	**6.4**	0.050	<0.050	<0.050	<0.020	<0.020
1,1,1-Trichloroethane	**0.38**	**6.1**	0.050	<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	**0.05**	**0.05**	0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene (Trichloroethene)	**0.061**	**0.55**	0.050	<0.050	<0.050	**1**	**0.08**
Trichlorofluoromethane	**4**	**4**	0.050	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	**0.02**	**0.032**	0.020	<0.020	<0.020	<0.020	<0.020
m,p-Xylenes	-	-	0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	-	-	0.020	<0.020	<0.020	<0.020	<0.020
Xylenes (total)	**3.1**	**26**	0.020	<0.020	<0.020	<0.020	<0.020
Dichlorodifluoromethane	**16**	**16**	0.050	<0.050	<0.050	<0.050	<0.050

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
\- No standard available.
< Not detected.
(1) Standard applies to the sum of Cis- and Trans-1,3-Dichloropropene

TABLE 9.8
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP1-5'' UD5893 0.08-0.18 m 02-Dec-13 Coarse	TP3-6'' UD5895 0.10-0.20 m 02-Dec-13 Coarse	TP4-6'' UD5896 0.10-0.20 m 02-Dec-13 Coarse	TP6-4'' UD5898 0.05-0.15 m 02-Dec-13 Coarse	TP8-4'' UD5899 0.05-0.15 m 02-Dec-13 Coarse	DUP1 (TP8-4'') UD5903 03-Dec-13 Coarse
Acenaphthene	**7.9**	**21**	0.0050	<0.0050	0.0068	0.012	<0.0050	1.5	4.1
Acenaphthylene	**0.15**	**0.15**	0.0050	<0.0050	<0.0050	0.0072	<0.0050	**0.48**	**1**
Anthracene	**0.67**	**0.67**	0.0050	0.0059	0.0091	0.028	<0.0050	**4.3**	**10**
Benzo(a)anthracene	**0.5**	**0.96**	0.0050	0.043	0.022	0.11	0.0097	**11**	**22**
Benzo(a)pyrene	**0.3**	**0.3**	0.0050	0.044	0.018	0.1	0.0091	**8.9**	**17**
Benzo(b)fluoranthene	**0.78**	**0.96**	0.0050	0.13	0.032	0.18	0.012	**12**	**19**
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.0050	0.07	0.013	0.064	0.0061	5.5	**7.8**
Benzo(k)fluoranthene	**0.78**	**0.96**	0.0050	0.03	0.0091	0.06	<0.0050	**4.5**	**7.3**
Chrysene	**7**	**9.6**	0.0050	0.064	0.025	0.12	0.014	**9.1**	**18**
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.0050	0.013	<0.0050	0.018	<0.0050	**1.5**	**2.4**
Fluoranthene	**0.69**	**9.6**	0.0050	0.07	0.061	0.21	0.024	**28**	**58**
Fluorene	**62**	**62**	0.0050	<0.0050	0.0064	0.011	<0.0050	1.9	5.1
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.0050	0.058	0.012	0.067	<0.0050	**5.9**	**8.8**
1-Methylnaphthalene (1)	**0.99**	**30**	0.0050	0.04	0.02	0.074	<0.0050	0.34	0.79
2-Methylnaphthalene (1)	**0.99**	**30**	0.0050	0.038	0.024	0.08	<0.0050	0.32	0.79
Naphthalene	**0.6**	**9.6**	0.0050	0.024	0.047	0.064	<0.0050	**0.72**	**1.5**
Phenanthrene	**6.2**	**12**	0.0050	0.049	0.063	0.18	0.031	**17**	**48**
Pyrene	**78**	**96**	0.0050	0.16	0.048	0.17	0.02	18	44

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.

< Not detected.

(1) Standard applies to the sum of 1- and 2-Methylnaphthalene.

TABLE 9.8
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP9-1'' UD5900 0-0.08 m 02-Dec-13 Coarse	TP11-6'' UD5902 0.10-0.20 m 03-Dec-13 Coarse	DUP2 (TP11-6'') UD5904 03-Dec-13 Coarse	TP2-4' UD5906 1.17-1.27 m 02-Dec-13 Coarse	TP5-4' UD5909 1.17-1.27 m 02-Dec-13 Coarse	TP10-4' UD5913 1.17-1.27 m 03-Dec-13 Coarse	BH13-40 UG9417 1.83-2.44 m 12-Dec-13 Coarse
Acenaphthene	**7.9**	**21**	0.0050	0.13	0.23	0.44	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	**0.15**	**0.15**	0.0050	0.095	**0.16**	0.1	<0.0050	<0.0050	0.023	<0.0050
Anthracene	**0.67**	**0.67**	0.0050	0.28	0.55	**0.89**	<0.0050	<0.0050	0.028	<0.0050
Benzo(a)anthracene	**0.5**	**0.96**	0.0050	**0.9**	**1.5**	**1.9**	<0.0050	0.0073	0.051	0.0051
Benzo(a)pyrene	**0.3**	**0.3**	0.0050	**0.95**	**1**	**1.2**	<0.0050	0.0053	0.056	<0.0050
Benzo(b)fluoranthene	**0.78**	**0.96**	0.0050	**1.3**	**1.7**	**1.9**	<0.0050	0.0092	0.082	0.0056
Benzo(g,h,I)perylene	**6.6**	**9.6**	0.0050	0.65	0.44	0.45	<0.0050	<0.0050	0.037	<0.0050
Benzo(k)fluoranthene	**0.78**	**0.96**	0.0050	0.45	0.57	0.66	<0.0050	<0.0050	0.027	<0.0050
Chrysene	**7**	**9.6**	0.0050	0.77	1.3	1.7	<0.0050	0.015	0.041	0.0066
Dibenzo(a,h)anthracene	**0.1**	**0.1**	0.0050	**0.15**	**0.16**	**0.19**	<0.0050	<0.0050	0.0078	<0.0050
Fluoranthene	**0.69**	**9.6**	0.0050	**1.8**	**3.7**	**4.9**	<0.0050	0.013	0.12	0.012
Fluorene	**62**	**62**	0.0050	0.082	0.27	0.55	<0.0050	<0.0050	0.0093	<0.0050
Indeno(1,2,3-cd)pyrene	**0.38**	**0.76**	0.0050	**0.68**	**0.53**	**0.58**	<0.0050	<0.0050	0.038	<0.0050
1-Methylnaphthalene (1)	**0.99**	**30**	0.0050	0.014	0.92	0.72	<0.0050	0.0053	0.0088	<0.0050
2-Methylnaphthalene (1)	**0.99**	**30**	0.0050	0.014	**1.1**	0.87	<0.0050	<0.0050	0.0073	<0.0050
Naphthalene	**0.6**	**9.6**	0.0050	0.015	**1.2**	**1.1**	<0.0050	<0.0050	0.0073	<0.0050
Phenanthrene	**6.2**	**12**	0.0050	1.1	2.8	4.8	<0.0050	0.031	0.075	0.01
Pyrene	**78**	**96**	0.0050	1.5	2.9	3.7	<0.0050	0.012	0.094	0.011

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.

< Not detected.

(1) Standard applies to the sum of 1- and 2-Methylnaphthalene.

TABLE 9.9
RESULTS OF ANALYSES FOR POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL - 2013

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6 Bold	MOE ICC STANDARDS Cleanup Table 6 Underline	RDL Maxxam ID Depth Date Texture	TP1-5'' UD5893 0.08-0.18 m 02-Dec-13 Coarse	RDL	TP3-6'' UD5895 0.10-0.20 m 02-Dec-13 Coarse	TP4-6'' UD5896 0.10-0.20 m 02-Dec-13 Coarse	TP8-4'' UD5899 0.05-0.15 m 03-Dec-13 Coarse	DUP1 (TP8-4'') UD5903 03-Dec-13 Coarse
Total Polychlorinated Biphenyls (PCBs)	**0.35**	**1.1**	0.02	<0.020	0.01	<0.010	<0.010	**0.4**	0.065

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):
Bold Exceeds Residential/Parklands/Institutional Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.
Underline Exceeds Industrial/Commercial/Community Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW2 PZ0190 12-Dec-12	OW2 TQ8354 25-Oct-13	OW3-I PZ0188 12-Dec-12	OW3-I TP9538 24-Oct-13	OW3-II PZ0189 12-Dec-12	OW3-II TP9536 24-Oct-13	OW6 PZ0203 12-Dec-12
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	5	4.8	3.3	3.9	7.3	7.9	219
Zinc	**890**	0.01	0.49	0.48	0.39	0.44	<0.01	0.03	2.71
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	5	4	4	3	4	4	450
pH	**[5-9]**	--	7.59	7.61	7.51	7.54	7.53	7.59	7.47

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW6 TQ8355 25-Oct-13	OW9-I PZ0192 12-Dec-12	OW9-I TP9545 24-Oct-13	OW9-II PZ0193 12-Dec-12	OW9-II TP9542 24-Oct-13	OW16 PZ0191 12-Dec-12	OW16 TP9541 24-Oct-13
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Lead	**10**	0.05	NA	NA	NA	<0.05	NA	NA	NA
Sodium	**490,000**	0.5	204	3.3	4.6	28.8	32.1	1.5	NA
Zinc	**890**	0.01	2.26	1.89	2.5	0.72	0.69	0.18	NA
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.33	0.16
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	290	3	3	40	48	2	2
pH	**[5-9]**	--	7.59	7.50	7.76	7.67	7.78	7.62	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW18-I PZ0204 12-Dec-12	OW18-I TQ8356 25-Oct-13	OW18-II PZ0195 12-Dec-12	OW18-II TQ8357 25-Oct-13	OW19 PZ0196 12-Dec-12	OW19 TQ8358 25-Oct-13	OW22(D) PZ0199 12-Dec-12
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	7.9	4.5	15.8	14	3.8	3.6	22.6
Zinc	**890**	0.01	1.12	1.08	0.82	0.91	1.84	1.93	0.02
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	6	2	20	18	6	2	35
pH	**[5-9]**	--	7.62	7.59	7.75	7.64	7.34	7.31	7.72

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW300 Duplicate of OW22D PZ0201 12-Dec-12	OW22(D) TQ8360 25-Oct-13	OW22(S) PZ0200 12-Dec-12	OW22(S) TQ8359 25-Oct-13	OW23(D) PZ0207 12-Dec-12	OW23(D) TQ8362 25-Oct-13	OW23(S) PZ0208 12-Dec-12
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	22.6	26.9	1	2.1	34	29.4	13.1
Zinc	**890**	0.01	0.02	0.03	3.22	0.28	0.69	0.61	<0.01
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NA	<0.10
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	<0.010
Chloride (mg/L)	**790**	1	36	42	2	2	56	NA	6
pH	**[5-9]**	--	7.73	7.61	7.36	7.63	7.71	NA	7.33

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW23(S) TQ8361 25-Oct-13	OW24(D) PZ0198 12-Dec-12	OW24(S) TQ8363 12-Dec-12	OW24(S) PZ0197 25-Oct-13	OW25 PY5887 11-Dec-12	OW100 Duplicate of OW25 PY5888 11-Dec-12	OW25 TP9544 24-Oct-13
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	10.7	47	3.7	4.2	7.3	7.2	8.1
Zinc	**890**	0.01	<0.01	0.14	0.89	1.07	0.27	0.27	<0.01
Nitrate (mg/L)	-	0.10	<0.10	<0.10	0.22	<0.10	<0.10	<0.10	<0.10
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	6	74	4	3	3	3	5
pH	**[5-9]**	--	7.19	7.78	7.78	7.67	7.92	7.88	7.86

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW26(D) PY5881 11-Dec-12	OW26(D) TP9540 24-Oct-13	OW26(S) PY5882 11-Dec-12	OW26(S) TP9539 24-Oct-13	OW27(D) PY5880 11-Dec-12	OW27(D) TQ8365 25-Oct-13	OW27(S) PY5879 11-Dec-12
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	106	90.8	54.5	42.1	46	47.3	15
Zinc	**890**	0.01	0.31	0.3	0.9	0.8	<0.01	<0.01	0.61
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.2
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	140	140	77	60	75	79	12
pH	**[5-9]**	--	7.81	7.89	7.75	7.63	7.83	7.77	7.89

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW27(S) TQ8364 25-Oct-13	OW28(D) PZ0206 12-Dec-12	OW28(D) TQ8367 25-Oct-13	OW28(S) PZ0205 12-Dec-12	OW28(S) TQ8366 25-Oct-13	OW29(D) PY5878 11-Dec-12	OW29(D) TQ8369 25-Oct-13
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	13.4	36.6	38.8	5.5	4.4	30.3	24.8
Zinc	**890**	0.01	0.66	0.02	0.02	0.49	0.5	0.99	0.94
Nitrate (mg/L)	-	0.10	0.85	<0.10	<0.10	1.3	0.82	<0.10	<0.10
Nitrite (mg/L)	-	0.010	0.017	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	12	61	73	8	6	46	38
pH	**[5-9]**	--	7.73	7.84	7.82	7.81	7.84	7.90	7.66

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW29(S) PY5877 11-Dec-12	OW29(S) TQ8368 25-Oct-13	OW30(D) PY5886 11-Dec-12	OW30(D) TQ8371 25-Oct-13	OW30(S) PY5883 11-Dec-12	OW30(S) TQ8370 25-Oct-13	OW07-34(D) PY5889 11-Dec-12
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	NA	NA	NA	NA	NA
Sodium	**490,000**	0.5	278	163	32.3	27.7	26.9	22.8	75.3
Zinc	**890**	0.01	0.68	0.19	0.2	0.19	0.7	0.53	0.77
Nitrate (mg/L)	**-**	0.10	0.31	0.3	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite (mg/L)	**-**	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	360	230	47	44	36	34	110
pH	**[5-9]**	--	7.81	7.91	7.90	7.82	7.88	7.76	7.78

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.10
RESULTS OF ANALYSES FOR METALS AND INORGANICS IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW200 Duplicate of OW7-34D PY5890 11-Dec-12	OW07-34D TP9543 24-Oct-13	OW07-36(D) PY5885 11-Dec-12	OW07-36D TP9535 24-Oct-13	OW07-36(S) PY5884 11-Dec-12	OW07-36S TP9537 24-Oct-13
Copper	**69**	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	**10**	0.05	NA	NA	<0.05	NA	<0.05	NA
Sodium	**490,000**	0.5	75.8	64.7	16.2	23.3	92.9	44.8
Zinc	**890**	0.01	0.77	0.73	0.73	0.87	0.13	0.32
Nitrate (mg/L)	-	0.10	<0.10	<0.10	<0.10	<0.10	0.12	<0.10
Nitrite (mg/L)	-	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride (mg/L)	**790**	1	110	99	18	29	110	46
pH	**[5-9]**	--	7.74	7.77	7.68	7.42	7.84	7.57

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
-- No RDL provided.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW2 PZ0190 12-Dec-12	OW18-I PZ0204 12-Dec-12	RDL	OW9-I TP9545 24-Oct-13	OW9-II TP9542 24-Oct-13	OW25 TP9544 24-Oct-13	OW26(D) TP9540 24-Oct-13	OW07-36S TP9537 24-Oct-13	OW07-36D TP9535 24-Oct-13
Benzene	**0.5**	0.1	<0.10	<0.10	0.25	<0.25	**3.3**	<0.25	<0.25	<0.25	**0.57**
Toluene	**24**	0.2	<0.20	<0.20	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	**2.4**	0.2	<0.20	<0.20	0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
o-Xylene	**-**	0.1	<0.10	<0.10	0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
p+m-Xylene	**-**	0.2	<0.20	<0.20	0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Total Xylenes	**72**	0.5	<0.50	<0.50	0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
F1 (C6-C10)	**420**	25	<25	<25	25	<25	<25	<25	<25	<25	<25
F1 (C6-C10) - BTEX	**420**	25	<25	<25	25	<25	<25	<25	<25	<25	<25
F2 (C10-C16)	**150**	100	<100	<100	100	<100	<100	<100	<100	<100	<100
F3 (C16-C34)	**500**	100	<100	<100	200	<200	<200	400	<200	370	<200
F4 (C34-C50)	**500**	100	<100	<100	200	<200	<200	<200	<200	440	<200
F4 Gravimetric	**500**	500	NA	NA	500	NA	NA	NA	NA	**1,600**	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW2 TQ8354 25-Oct-13	OW18-I TQ8356 25-Oct-13	OW22(D) TQ8360 25-Oct-13	OW23(D) TQ8362 25-Oct-13	OW26(S) TP9539 24-Oct-13	OW27(S) TQ8364 25-Oct-13	OW27(D) TQ8365 25-Oct-13	RDL	OW23(S) PZ0200 12-Dec-12
Benzene	**0.5**	0.1	<0.10	<0.10	NA	**1.5**	<0.10	<0.10	<0.10	2.5	**<2.5**
Toluene	**24**	0.2	<0.20	<0.20	NA	<0.20	<0.20	<0.20	<0.20	5	<5.0
Ethylbenzene	**2.4**	0.1	<0.10	<0.10	NA	<0.10	<0.10	<0.10	<0.10	5	**<5.0**
o-Xylene	**-**	0.1	<0.10	<0.10	NA	<0.10	<0.10	<0.10	<0.10	2.5	<2.5
p+m-Xylene	**-**	0.1	<0.10	<0.10	NA	<0.10	<0.10	<0.10	<0.10	5	<5.0
Total Xylenes	**72**	0.1	<0.10	<0.10	NA	<0.10	<0.10	<0.10	<0.10	13	<13
F1 (C6-C10)	**420**	25	<25	<25	<25	<25	<25	<25	<25	25	<25
F1 (C6-C10) - BTEX	**420**	25	<25	<25	<25	<25	<25	<25	<25	25	<25
F2 (C10-C16)	**150**	100	<100	<100	<100	<100	<100	<100	<100	200	**10,000**
F3 (C16-C34)	**500**	200	<200	<200	<200	<200	<200	<200	<200	200	**430,000**
F4 (C34-C50)	**500**	200	<200	<200	<200	<200	<200	<200	<200	200	**24,000**
F4 Gravimetric	**500**	500	NA	NA	NA	NA	NA	NA	NA	500	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW9-I PZ0192 12-Dec-12	OW9-II PZ0193 12-Dec-12	RDL	OW18-II PZ0195 12-Dec-12	OW23(D) PZ0207 12-Dec-12	OW28(S) PZ0205 12-Dec-12	OW07-36(S) PY5884 11-Dec-12	RDL	OW18-II TQ8357 25-Oct-13
Benzene	**0.5**	0.2	<0.20	**3.4**	0.5	**2.4**	**2**	<0.50	<0.10	1	**2.8**
Toluene	**24**	0.4	<0.40	<0.40	1	<1.0	<1.0	<1.0	<0.20	2	<2.0
Ethylbenzene	**2.4**	0.4	<0.40	<0.40	1	<1.0	<1.0	<1.0	<0.20	1	<1.0
o-Xylene	**-**	0.2	<0.20	<0.20	0.5	<0.50	<0.50	<0.50	<0.10	1	<1.0
p+m-Xylene	**-**	0.4	<0.40	<0.40	1	<1.0	<1.0	<1.0	<1.0	1	<1.0
Total Xylenes	**72**	1	<1.0	<1.0	2.5	<2.5	<2.5	<2.5	<0.50	1	<1.0
F1 (C6-C10)	**420**	25	<25	<25	25	<25	<25	<25	<25	25	<25
F1 (C6-C10) - BTEX	**420**	25	<25	<25	25	<25	<25	<25	<25	25	<25
F2 (C10-C16)	**150**	100	<100	<100	100	<100	<100	<100	<100	100	<100
F3 (C16-C34)	**500**	100	<100	<100	100	<100	<100	<100	**590**	200	<200
F4 (C34-C50)	**500**	100	<100	<100	100	<100	<100	<100	470	200	<200
F4 Gravimetric	**500**	500	NA	NA	500	NA	NA	NA	**1,000**	500	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW25 PY5887 11-Dec-12	OW100 Duplicate of OW25 PY5888 11-Dec-12	OW26(S) PY5882 11-Dec-12	OW26(D) PY5881 11-Dec-12	OW27(S) PY5879 11-Dec-12	OW27(D) PY5880 11-Dec-12	RDL	OW28(S) TQ8366 25-Oct-13	OW28(D) TQ8367 25-Oct-13
Benzene	**0.5**	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5	<0.50	<0.50
Toluene	**24**	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1	<1.0	<1.0
Ethylbenzene	**2.4**	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	<0.50	<0.50
o-Xylene	**-**	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.5	<0.50	<0.50
p+m-Xylene	**-**	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.5	<0.50	<0.50
Total Xylenes	**72**	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	<0.50	<0.50
F1 (C6-C10)	**420**	25	<25	<25	<25	<25	<25	<25	25	<25	<25
F1 (C6-C10) - BTEX	**420**	25	<25	<25	<25	<25	<25	<25	25	<25	<25
F2 (C10-C16)	**150**	100	120	110	<100	<100	<100	<100	100	<100	<100
F3 (C16-C34)	**500**	100	**2,100**	**1,200**	<100	<100	<100	<100	200	<200	<200
F4 (C34-C50)	**500**	100	<100	<100	<100	<100	<100	<100	200	<200	<200
F4 Gravimetric	**500**	500	NA	NA	NA	NA	NA	NA	500	NA	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW22(S) PZ0200 12-Dec-12	OW22(S) TQ8359 25-Oct-13	OW22(D) PZ0199 12-Dec-12	OW300 Duplicate of OW22D PZ0201 12-Dec-12	RDL	OW23(S) TQ8359 25-Oct-13	RDL	OW28(D) PZ0206 12-Dec-12	RDL	OW30(D) PY5886 11-Dec-12
Benzene	**0.5**	0.2	<0.20	NA	**1.3**	**1.3**	5	**<5.0**	1	**<1.0**	25	**<25**
Toluene	**24**	0.2	<0.20	NA	<0.20	<0.20	10	<10	2	<2.0	50	**<50**
Ethylbenzene	**2.4**	0.2	<0.20	NA	<0.20	<0.20	5	**<5.0**	2	<2.0	50	**<50**
o-Xylene	**-**	0.2	<0.20	NA	<0.20	<0.20	5	<5.0	1	<1.0	25	<25
p+m-Xylene	**-**	0.4	<0.40	NA	<0.40	<0.40	5	<5.0	2	<2.0	250	<250
Total Xylenes	**72**	0.4	<0.40	NA	<0.40	<0.40	5	<5.0	5	<5.0	130	**<130**
F1 (C6-C10)	**420**	25	<25	<25	<25	<25	25	<25	25	<25	25	**950**
F1 (C6-C10) - BTEX	**420**	25	<25	<25	<25	<25	25	<25	25	<25	25	**950**
F2 (C10-C16)	**150**	100	**830**	**630**	<100	<100	100	**13,000**	100	<100	100	<100
F3 (C16-C34)	**500**	100	**7,800**	**6,000**	<100	<100	200	**580,000**	100	<100	100	<100
F4 (C34-C50)	**500**	100	360	300	<100	<100	200	**23,000**	100	<100	100	<100
F4 Gravimetric	**500**	500	NA	NA	NA	NA	500	NA	500	NA	500	NA

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.11
RESULTS OF ANALYSES FOR PETROLEUM HYDROCARBONS (PHCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL Maxxam ID Date	OW30(D) TQ8371 25-Oct-13	RDL	OW07-36(D) PY5885 11-Dec-12
Benzene	**0.5**	20	**<20**	0.5	<0.50
Toluene	**24**	40	**<40**	1	<1.0
Ethylbenzene	**2.4**	20	**<20**	1	<1.0
o-Xylene	**-**	20	<20	0.5	<0.50
p+m-Xylene	**-**	20	<20	5	<5.0
Total Xylenes	**72**	20	<20	2.5	<2.5
F1 (C6-C10)	**420**	25	**820**	25	<25
F1 (C6-C10) - BTEX	**420**	25	**820**	25	<25
F2 (C10-C16)	**150**	100	<100	100	<100
F3 (C16-C34)	**500**	200	<200	100	250
F4 (C34-C50)	**500**	200	<200	100	250
F4 Gravimetric	**500**	500	NA	500	**1,000**

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6	RDL	OW2	RDL	OW2	RDL	OW6	RDL	OW6	RDL	OW9-I	RDL	OW9-I	RDL	OW9-II	RDL	OW9-II
	Bold	Maxxam ID	PZ0190 12-Dec-12		TQ8354 25-Oct-13		PZ0203 12-Dec-12		TQ8355 25-Oct-13		PZ0192 12-Dec-12		TP9545 24-Oct-13		PZ0193 12-Dec-12		TP9542 24-Oct-13
Acetone (2-Propanone)	**2,700**	10	<10	10	<10	50	<50	10	<10	20	<20	25	<25	20	<20	25	<25
Benzene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	0.12	0.2	<0.20	0.25	<0.25	0.2	**3.4**	0.25	**3.3**
Bromodichloromethane	**16**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
Bromoform	**5**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
Bromomethane	**0.89**	0.5	<0.50	0.5	<0.50	2.5	**<2.5**	0.5	<0.50	1	**<1.0**	1.3	**<1.3**	1	<1.0	1.3	**<1.3**
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.1	<0.10	0.5	**<0.50**	0.1	<0.10	0.2	<0.20	0.25	**<0.25**	0.2	<0.20	0.25	**<0.25**
Chlorobenzene	**30**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
Chloroform	**2**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
Dibromochloromethane	**25**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
Dichlorodifluoromethane	**590**	0.1	<0.10	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.2	<0.20	1.3	<1.3	0.2	<0.20	1.3	<1.3
1,1-Dichloroethane	**5**	0.2	<0.20	0.1	<0.10	1	<1.0	0.1	<0.10	0.4	<0.40	0.25	<0.25	0.4	<0.40	0.25	<0.25
1,2-Dichloroethane	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,1-Dichloroethylene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	**2.7**	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	**9.0**	0.25	<0.25
cis-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	**3.1**	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	**9.1**
trans-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	0.25	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
1,2-Dichloropropane	**0.58**	0.2	<0.20	0.1	<0.10	1	**<1.0**	0.1	<0.10	0.4	<0.40	0.25	<0.25	0.4	<0.40	0.25	<0.25
cis-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
trans-1,3-Dichloropropene[(1)]	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.5	<0.50
Ethylbenzene	**2.4**	0.2	<0.20	0.1	<0.10	1	<1.0	0.1	<0.10	0.4	<0.40	0.25	<0.25	0.4	<0.40	0.25	<0.25
Ethylene Dibromide	**0.2**	0.5	<0.50	0.2	<0.20	2.5	**<2.5**	0.2	<0.20	1	**<1.0**	0.5	**<0.50**	1	<1.0	0.5	**<0.50**
Hexane(n)	**5**	5	<5.0	0.5	<0.50	25	**<25**	0.5	<0.50	10	**<10**	1.3	<1.3	10	<10	1.3	<1.3
Methylene Chloride(Dichloromethane)	**26**	5	<5.0	0.5	<0.50	25	<25	0.5	<0.50	10	<10	1.3	<1.3	10	<10	1.3	<1.3
Methyl Isobutyl Ketone	**640**	0.2	<0.20	5	<5.0	1	<1.0	5	<5.0	0.4	<0.40	13	<13	0.4	<0.40	13	<13
Methyl Ethyl Ketone (2-Butanone)	**1800**	0.2	<0.20	5	<5.0	1	<1.0	5	<5.0	0.4	<0.40	13	<13	0.4	<0.40	13	<13
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
Styrene	**5.4**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
1,1,1,2-Tetrachloroethane	**1.1**	0.1	<0.10	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
Tetrachloroethylene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
Toluene	**24**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
1,1,1-Trichloroethane	**23**	0.1	<0.10	0.1	<0.10	0.5	2.7	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	0.26	0.25	<0.25
1,1,2-Trichloroethane	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	**6.8**	0.5	<0.50
Trichloroethylene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	**2.2**	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
Trichlorofluoromethane	**150**	0.2	<0.20	0.2	<0.20	1	<1.0	0.2	<0.20	0.4	<0.40	0.5	<0.50	0.4	<0.40	0.5	<0.50
Vinyl Chloride	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.5	**8.9**
p+m-Xylene	-	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.25	<0.25
o-Xylene	-	0.2	<0.20	0.1	<0.10	1	<1.0	0.1	<0.10	0.4	<0.40	0.25	<0.25	0.4	<0.40	0.25	<0.25
Xylene (Total)	**72**	0.5	<0.50	0.1	<0.10	2.5	<2.5	0.1	<0.10	1	<1.0	0.25	<0.25	1	<1.0	0.25	<0.25

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6	RDL	OW18-I	RDL	OW18-I	RDL	OW18-II	RDL	OW18-II	RDL	OW23(S)	RDL	OW23(S)	RDL	OW23(D)
	Bold		PZ0204 12-Dec-12		TQ8356 25-Oct-13		PZ0195 12-Dec-12		TQ8357 25-Oct-13		PZ0200 12-Dec-12		TQ8359 25-Oct-13		PZ0207 12-Dec-12
Acetone (2-Propanone)	**2,700**	10	<10	10	<10	50	<50	100	<100	250	<250	500	<500	50	<50
Benzene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	**2.4**	1	**2.8**	2.5	**<2.5**	5	**<5.0**	0.5	**2.0**
Bromodichloromethane	**16**	0.1	<0.10	0.1	<0.10	0.5	<0.50	1	<1.0	2.5	<2.5	5	<5.0	0.5	<0.50
Bromoform	**5**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	**<10**	1	<1.0
Bromomethane	**0.89**	0.5	<0.50	0.5	<0.50	2.5	**<2.5**	5	**<5.0**	13	**<13**	25	**<25**	2.5	**<2.5**
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.1	<0.10	0.5	**<0.50**	1	**<1.0**	2.5	**<2.5**	5	**<5.0**	0.5	**<0.50**
Chlorobenzene	**30**	0.1	<0.10	0.1	<0.10	0.5	<0.50	1	<1.0	2.5	<2.5	5	<5.0	0.5	<0.50
Chloroform	**2**	0.1	<0.10	0.1	<0.10	0.5	<0.50	1	<1.0	2.5	**<2.5**	5	**<5.0**	0.5	<0.50
Dibromochloromethane	**25**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	<10	1	<1.0
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	**<5.0**	10	**<10**	1	<1.0
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	<10	1	<1.0
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	2	**<2.0**	5	**<5.0**	10	**<10**	1	**<1.0**
Dichlorodifluoromethane	**590**	0.1	<0.10	0.5	<0.50	0.5	<0.50	5	<5.0	2.5	<2.5	25	<25	0.5	<0.50
1,1-Dichloroethane	**5**	0.2	<0.20	0.1	<0.10	1	<1.0	1	<1.0	5	<5.0	5	<5.0	1	<1.0
1,2-Dichloroethane	**0.5**	0.1	<0.10	0.2	<0.20	0.5	**1.3**	2	**<2.0**	2.5	**<2.5**	10	**<10**	0.5	<0.50
1,1-Dichloroethylene	**0.5**	0.1	**0.71**	0.1	<0.10	0.5	**110**	1	**1.9**	2.5	**<2.5**	5	**<5.0**	0.5	**26**
cis-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	0.84	0.5	**2.7**	1	**120**	2.5	**<2.5**	5	**<5.0**	0.5	<0.50
trans-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	<0.10	0.5	<0.50	1	**3.1**	2.5	**<2.5**	5	**<5.0**	0.5	<0.50
1,2-Dichloropropane	**0.58**	0.2	<0.20	0.1	<0.10	1	**<1.0**	1	**<1.0**	5	**<5.0**	5	**<5.0**	1	**<1.0**
cis-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	2	**<2.0**	5	**<5.0**	10	**<10**	1	**<1.0**
trans-1,3-Dichloropropene[(1)]	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	2	**<2.0**	2.5	**<2.5**	10	**<10**	0.5	<0.50
Ethylbenzene	**2.4**	0.2	<0.20	0.1	<0.10	1	<1.0	1	<1.0	5	**<5.0**	5	**<5.0**	1	<1.0
Ethylene Dibromide	**0.2**	0.5	**<0.50**	0.2	<0.20	2.5	**<2.5**	2	**<2.0**	13	**<13**	10	**<10**	2.5	**<2.5**
Hexane(n)	**5**	5	<5.0	0.5	<0.50	25	**<25**	5	<5.0	130	**<130**	25	**<25**	25	**<25**
Methylene Chloride(Dichloromethane)	**26**	5	<5.0	0.5	<0.50	25	<25	5	<5.0	130	**<130**	25	<25	25	<25
Methyl Isobutyl Ketone	**640**	0.2	<0.20	5	<5.0	1	<1.0	50	<50	5	<5.0	250	<250	1	<1.0
Methyl Ethyl Ketone (2-Butanone)	**1800**	0.2	<0.20	5	<5.0	1	<1.0	50	<50	5	<5.0	250	<250	1	<1.0
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	<10	1	<1.0
Styrene	**5.4**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	**<10**	1	<1.0
1,1,1,2-Tetrachloroethane	**1.1**	0.1	<0.10	0.2	<0.20	0.5	<0.50	2	**<2.0**	2.5	**<2.5**	10	**<10**	0.5	<0.50
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	2	**<2.0**	5	**<5.0**	10	**<10**	1	**<1.0**
Tetrachloroethylene	**0.5**	0.1	0.16	0.1	0.11	0.5	<0.50	1	**<1.0**	2.5	**<2.5**	5	**<5.0**	0.5	<0.50
Toluene	**24**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	<10	1	<1.0
1,1,1-Trichloroethane	**23**	0.1	13	0.1	0.15	0.5	1.4	1	<1.0	2.5	<2.5	5	<5.0	0.5	1.8
1,1,2-Trichloroethane	**0.5**	0.2	<0.20	0.2	<0.20	1	**26**	2	**<2.0**	5	**<5.0**	10	**<10**	1	**7**
Trichloroethylene	**0.5**	0.1	<0.10	0.1	**13**	0.5	<0.50	1	**2.3**	2.5	**<2.5**	5	**<5.0**	0.5	<0.50
Trichlorofluoromethane	**150**	0.2	<0.20	0.2	<0.20	1	<1.0	2	<2.0	5	<5.0	10	<10	1	<1.0
Vinyl Chloride	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	2	**45**	2.5	**<2.5**	10	**<10**	0.5	<0.50
p+m-Xylene	-	0.1	<0.10	0.1	<0.10	0.5	<0.50	1	<1.0	2.5	<2.5	5	<5.0	0.5	<0.50
o-Xylene	-	0.2	<0.20	0.1	<0.10	1	<1.0	1	<1.0	5	<5.0	5	<5.0	1	<1.0
Xylene (Total)	**72**	0.5	<0.50	0.1	<0.10	2.5	<2.5	1	<1.0	13	<13	5	<5.0	2.5	<2.5

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW23(D) TQ8362 25-Oct-13	RDL	OW24(S) TQ8363 12-Dec-12	RDL	OW24(S) PZ0197 25-Oct-13	RDL	OW24(D) PZ0198 12-Dec-12	RDL	OW25 PY5887 11-Dec-12	RDL	OW100 Duplicate of OW25 PY5888 11-Dec-12	RDL	OW25 TP9544 24-Oct-13
Acetone (2-Propanone)	**2,700**	10	<10	20	<20	25	<25	2000	<2000	10	<10	10	<10	25	<25
Benzene	**0.5**	0.1	**1.5**	0.2	<0.20	0.25	<0.25	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	<0.25
Bromodichloromethane	**16**	0.1	<0.10	0.2	<0.20	0.25	<0.25	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	<0.25
Bromoform	**5**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
Bromomethane	**0.89**	0.5	<0.50	1	**<1.0**	1.3	<1.3	100	**<100**	0.5	<0.50	0.5	<0.50	1.3	**<1.3**
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.2	<0.20	0.25	**<0.25**	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	**<0.25**
Chlorobenzene	**30**	0.1	<0.10	0.2	<0.20	0.25	<0.25	20	<20	0.1	<0.10	0.1	<0.10	0.25	<0.25
Chloroform	**2**	0.1	<0.10	0.2	<0.20	0.25	<0.25	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	<0.25
Dibromochloromethane	**25**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	<40	0.2	<0.20	0.2	<0.20	0.5	<0.50
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
Dichlorodifluoromethane	**590**	0.5	<0.50	0.2	<0.20	1.3	<1.3	20	<20	0.1	0.13	0.1	0.13	1.3	<1.3
1,1-Dichloroethane	**5**	0.1	<0.10	0.4	<0.40	0.25	<0.25	40	**<40**	0.2	<0.20	0.2	<0.20	0.25	0.29
1,2-Dichloroethane	**0.5**	0.2	<0.20	0.2	<0.20	0.5	<0.50	20	**33**	0.1	<0.10	0.1	<0.10	0.5	<0.50
1,1-Dichloroethylene	**0.5**	0.1	0.14	0.2	**3.8**	0.25	<0.25	20	**600**	0.1	**0.54**	0.1	**0.55**	0.25	<0.25
cis-1,2-Dichloroethylene	**1.6**	0.1	**27**	0.2	<0.20	0.25	**4.1**	20	**55**	0.1	<0.10	0.1	<0.10	0.25	1.6
trans-1,2-Dichloroethylene	**1.6**	0.1	0.43	0.2	<0.20	0.25	<0.25	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	0.29
1,2-Dichloropropane	**0.58**	0.1	<0.10	0.4	<0.40	0.25	<0.25	40	**<40**	0.2	<0.20	0.2	<0.20	0.25	<0.25
cis-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
trans-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.2	<0.20	0.5	<0.50	20	**<20**	0.1	<0.10	0.1	<0.10	0.5	<0.50
Ethylbenzene	**2.4**	0.1	<0.10	0.4	<0.40	0.25	<0.25	40	**<40**	0.2	<0.20	0.2	<0.20	0.25	<0.25
Ethylene Dibromide	**0.2**	0.2	<0.20	1	**<1.0**	0.5	<0.50	100	**<100**	0.5	**<0.50**	0.5	**<0.50**	0.5	**<0.50**
Hexane(n)	**5**	0.5	<0.50	10	**<10**	1.3	<1.3	1,000	**<1,000**	5	<5.0	5	<5.0	1.3	<1.3
Methylene Chloride(Dichloromethane)	**26**	0.5	<0.50	10	<10	1.3	<1.3	1,000	**<1,000**	5	<5.0	5	<5.0	1.3	<1.3
Methyl Isobutyl Ketone	**640**	5	<5.0	0.4	<0.40	13	<13	40	<40	0.2	<0.20	0.2	<0.20	13	<13
Methyl Ethyl Ketone (2-Butanone)	**1800**	5	<5.0	0.4	<0.40	13	<13	40	<40	0.2	<0.20	0.2	<0.20	13	<13
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
Styrene	**5.4**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
1,1,1,2-Tetrachloroethane	**1.1**	0.2	<0.20	0.2	<0.20	0.5	<0.50	20	**<20**	0.1	<0.10	0.1	<0.10	0.5	<0.50
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
Tetrachloroethylene	**0.5**	0.1	<0.10	0.2	<0.20	0.25	<0.25	20	**<20**	0.1	0.35	0.1	0.28	0.25	<0.25
Toluene	**24**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**<40**	0.2	<0.20	0.2	<0.20	0.5	<0.50
1,1,1-Trichloroethane	**23**	0.1	<0.10	0.2	**52**	0.25	<0.25	20	**3,900**	0.1	2.9	0.1	2.3	0.25	0.25
1,1,2-Trichloroethane	**0.5**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	**45**	0.2	<0.20	0.2	<0.20	0.5	<0.50
Trichloroethylene	**0.5**	0.1	**1.7**	0.2	<0.20	0.25	**54**	20	**<20**	0.1	<0.10	0.1	<0.10	0.25	**2.1**
Trichlorofluoromethane	**150**	0.2	<0.20	0.4	<0.40	0.5	<0.50	40	<40	0.2	<0.20	0.2	<0.20	0.5	<0.50
Vinyl Chloride	**0.5**	0.2	**9.6**	0.2	<0.20	0.5	<0.50	20	**<20**	0.1	<0.10	0.1	<0.10	0.5	**0.77**
p+m-Xylene	-	0.1	<0.10	0.2	<0.20	0.25	<0.25	20	<20	0.1	<0.10	0.1	<0.10	0.25	<0.25
o-Xylene	-	0.1	<0.10	0.4	<0.40	0.25	<0.25	40	<40	1	<1.0	1	<1.0	0.25	<0.25
Xylene (Total)	**72**	0.1	<0.10	1	<1.0	0.25	<0.25	100	**<100**	0.5	<0.50	0.5	<0.50	0.25	<0.25

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW26(S) PY5882 11-Dec-12	RDL	OW26(S) TP9539 24-Oct-13	RDL	OW26(D) PY5881 11-Dec-12	RDL	OW26(D) TP9540 24-Oct-13	RDL	OW27(S) PY5879 11-Dec-12	RDL	OW27(S) TQ8364 25-Oct-13	RDL	OW300 Duplicate of OW27S TQ8374 25-Oct-13
Acetone (2-Propanone)	**2,700**	10	<10	10	<10	10	<10	25	<25	10	<10	10	<10	10	<10
Benzene	**0.5**	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
Bromodichloromethane	**16**	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
Bromoform	**5**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Bromomethane	**0.89**	0.5	<0.50	0.5	<0.50	0.5	<0.50	1.3	**<1.3**	0.5	<0.50	0.5	<0.50	0.5	<0.50
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	**<0.25**	0.1	<0.10	0.1	<0.10	0.1	<0.10
Chlorobenzene	**30**	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
Chloroform	**2**	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
Dibromochloromethane	**25**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Dichlorodifluoromethane	**590**	0.1	4	0.5	<0.50	0.1	1.5	1.3	<1.3	0.1	<0.10	0.5	<0.50	0.5	<0.50
1,1-Dichloroethane	**5**	0.2	<0.20	0.1	4.5	0.2	<0.20	0.25	1.7	0.2	<0.20	0.1	<0.10	0.1	<0.10
1,2-Dichloroethane	**0.5**	0.1	0.12	0.2	<0.20	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.2	<0.20
1,1-Dichloroethylene	**0.5**	0.1	**0.67**	0.1	0.14	0.1	**2.2**	0.25	<0.25	0.1	**6.7**	0.1	<0.10	0.1	<0.10
cis-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	0.75	0.1	<0.10	0.25	**2.3**	0.1	0.69	0.1	**7.9**	0.1	**9.0**
trans-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	0.12	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	0.93	0.1	0.91
1,2-Dichloropropane	**0.58**	0.2	<0.20	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.1	<0.10	0.1	<0.10
cis-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
trans-1,3-Dichloropropene[(1)]	**0.5**	0.1	<0.10	0.2	<0.20	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.2	<0.20
Ethylbenzene	**2.4**	0.2	<0.20	0.1	<0.10	0.2	<0.20	0.25	<0.25	0.2	<0.20	0.1	<0.10	0.1	<0.10
Ethylene Dibromide	**0.2**	0.5	**<0.50**	0.2	<0.20	0.5	**<0.50**	0.5	**<0.50**	0.5	**<0.50**	0.2	<0.20	0.2	<0.20
Hexane(n)	**5**	5	<5.0	0.5	<0.50	5	<5.0	1.3	<1.3	5	<5.0	0.5	<0.50	0.5	<0.50
Methylene Chloride(Dichloromethane)	**26**	5	<5.0	0.5	<0.50	5	<5.0	1.3	<1.3	5	<5.0	0.5	<0.50	0.5	<0.50
Methyl Isobutyl Ketone	**640**	0.2	<0.20	5	<5.0	0.2	<0.20	13	<13	0.2	<0.20	5	<5.0	5	<5.0
Methyl Ethyl Ketone (2-Butanone)	**1800**	0.2	<0.20	5	<5.0	0.2	<0.20	13	<13	0.2	<0.20	5	<5.0	5	<5.0
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Styrene	**5.4**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
1,1,1,2-Tetrachloroethane	**1.1**	0.1	<0.10	0.2	<0.20	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.2	<0.20
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Tetrachloroethylene	**0.5**	0.1	**2.6**	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
Toluene	**24**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
1,1,1-Trichloroethane	**23**	0.1	0.34	0.1	3	0.1	0.2	0.25	<0.25	0.1	14	0.1	<0.10	0.1	<0.10
1,1,2-Trichloroethane	**0.5**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Trichloroethylene	**0.5**	0.1	<0.10	0.1	0.4	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	**16**	0.1	**16**
Trichlorofluoromethane	**150**	0.2	<0.20	0.2	<0.20	0.2	<0.20	0.5	<0.50	0.2	<0.20	0.2	<0.20	0.2	<0.20
Vinyl Chloride	**0.5**	0.1	<0.10	0.2	<0.20	0.1	<0.10	0.5	<0.50	0.1	<0.10	0.2	<0.20	0.2	<0.20
p+m-Xylene	-	0.1	<0.10	0.1	<0.10	0.1	<0.10	0.25	<0.25	0.1	<0.10	0.1	<0.10	0.1	<0.10
o-Xylene	-	1	<1.0	0.1	<0.10	1	<1.0	0.25	<0.25	1	<1.0	0.1	<0.10	0.1	<0.10
Xylene (Total)	**72**	0.5	<0.50	0.1	<0.10	0.5	<0.50	0.25	<0.25	0.5	<0.50	0.1	<0.10	0.1	<0.10

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW27(D) PY5880 11-Dec-12	RDL	OW27(D) TQ8365 25-Oct-13	RDL	OW28(S) PZ0205 12-Dec-12	RDL	OW28(S) TQ8366 25-Oct-13	RDL	OW28(D) PZ0206 12-Dec-12	RDL	OW28(D) TQ8367 25-Oct-13	RDL	OW29(S) PY5877 11-Dec-12
Acetone (2-Propanone)	**2,700**	10	<10	10	<10	50	<50	50	<50	100	<100	50	<50	100	<100
Benzene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	**<1.0**	0.5	<0.50	1	**<1.0**
Bromodichloromethane	**16**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	<1.0	0.5	<0.50	1	<1.0
Bromoform	**5**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
Bromomethane	**0.89**	0.5	<0.50	0.5	<0.50	2.5	**<2.5**	2.5	**<2.5**	5	**<5.0**	2.5	**<2.5**	5	**<5.0**
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.1	<0.10	0.5	**<0.50**	0.5	**<0.50**	1	**<1.0**	0.5	**<0.50**	1	**<1.0**
Chlorobenzene	**30**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	<1.0	0.5	<0.50	1	<1.0
Chloroform	**2**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	<1.0	0.5	<0.50	1	<1.0
Dibromochloromethane	**25**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	1	**<1.0**	2	**<2.0**	1	<1.0	2	**<2.0**
Dichlorodifluoromethane	**590**	0.1	<0.10	0.5	<0.50	0.5	<0.50	2.5	<2.5	1	<1.0	2.5	<2.5	1	<1.0
1,1-Dichloroethane	**5**	0.2	<0.20	0.1	<0.10	1	<1.0	0.5	<0.50	2	<2.0	0.5	<0.50	2	<2.0
1,2-Dichloroethane	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	1	<1.0	1	**1.4**	1	<1.0	1	**<1.0**
1,1-Dichloroethylene	**0.5**	0.1	**2.1**	0.1	<0.10	0.5	**1.6**	0.5	<0.50	1	**170**	0.5	0.74	1	**5.1**
cis-1,2-Dichloroethylene	**1.6**	0.1	0.17	0.1	1.4	0.5	<0.50	0.5	**2.1**	1	1.2	0.5	**72**	1	<1.0
trans-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	0.16	0.5	<0.50	0.5	<0.50	1	<1.0	0.5	0.56	1	<1.0
1,2-Dichloropropane	**0.58**	0.2	<0.20	0.1	<0.10	1	**<1.0**	0.5	<0.50	2	**<2.0**	0.5	<0.50	2	**<2.0**
cis-1,3-Dichloropropene[1]	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	1	<1.0	2	**<2.0**	1	**<1.0**	2	**<2.0**
trans-1,3-Dichloropropene[1]	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	1	<1.0	1	**<1.0**	1	**<1.0**	1	**<1.0**
Ethylbenzene	**2.4**	0.2	<0.20	0.1	<0.10	1	<1.0	0.5	<0.50	2	<2.0	0.5	<0.50	2	<2.0
Ethylene Dibromide	**0.2**	0.5	**<0.50**	0.2	<0.20	2.5	**<2.5**	1	<1.0	5	**<5.0**	1	**<1.0**	5	**<5.0**
Hexane(n)	**5**	5	<5.0	0.5	<0.50	25	**<25**	2.5	<2.5	50	**<50**	2.5	<2.5	50	**<50**
Methylene Chloride(Dichloromethane)	**26**	5	<5.0	0.5	<0.50	25	<25	2.5	<2.5	50	**<50**	2.5	<2.5	50	**<50**
Methyl Isobutyl Ketone	**640**	0.2	<0.20	5	<5.0	1	<1.0	25	<25	2	<2.0	25	<25	2	<2.0
Methyl Ethyl Ketone (2-Butanone)	**1800**	0.2	<0.20	5	<5.0	1	<1.0	25	<25	2	<2.0	25	<25	2	<2.0
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
Styrene	**5.4**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
1,1,1,2-Tetrachloroethane	**1.1**	0.1	<0.10	0.2	<0.20	0.5	<0.50	1	<1.0	1	<1.0	1	<1.0	1	<1.0
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.2	<0.20	1	**<1.0**	1	**<1.0**	2	**<2.0**	1	**<1.0**	2	**<2.0**
Tetrachloroethylene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	**<1.0**	0.5	<0.50	1	**<1.0**
Toluene	**24**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
1,1,1-Trichloroethane	**23**	0.1	<0.10	0.1	<0.10	0.5	**67**	0.5	<0.50	1	<1.0	0.5	<0.50	1	**170**
1,1,2-Trichloroethane	**0.5**	0.2	0.22	0.2	<0.20	1	**<1.0**	1	**<1.0**	2	**14**	1	**<1.0**	2	**<2.0**
Trichloroethylene	**0.5**	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	**87**	1	**<1.0**	0.5	<0.50	1	**<1.0**
Trichlorofluoromethane	**150**	0.2	<0.20	0.2	<0.20	1	<1.0	1	<1.0	2	<2.0	1	<1.0	2	<2.0
Vinyl Chloride	**0.5**	0.1	<0.10	0.2	<0.20	0.5	<0.50	1	**<1.0**	1	**<1.0**	1	**14**	1	**<1.0**
p+m-Xylene	-	0.1	<0.10	0.1	<0.10	0.5	<0.50	0.5	<0.50	1	<1.0	0.5	<0.50	1	<1.0
o-Xylene	-	1	<1.0	0.1	<0.10	1	<1.0	0.5	<0.50	2	<2.0	0.5	<0.50	10	<10
Xylene (Total)	**72**	0.5	<0.50	0.1	<0.10	2.5	<2.5	0.5	<0.50	5	<5.0	0.5	<0.50	5	<5.0

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW29(S) TQ8368 25-Oct-13	RDL	OW100 Duplicate of OW29S TQ8372 25-Oct-13	RDL	OW29(D) PY5878 11-Dec-12	RDL	OW29(D) TQ8369 25-Oct-13	RDL	OW30(S) PY5883 11-Dec-12	RDL	OW30(S) TQ8370 25-Oct-13	RDL	OW30(D) PY5886 11-Dec-12
Acetone (2-Propanone)	**2,700**	50	<50	50	<50	500	<500	500	<500	500	<500	500	<500	2500	<2500
Benzene	**0.5**	0.5	<0.50	0.5	<0.50	5	**<5.0**	5	**<5.0**	5	**<5.0**	5	**<5.0**	25	**<25**
Bromodichloromethane	**16**	0.5	<0.50	0.5	<0.50	5	<5.0	5	<5.0	5	<5.0	5	<5.0	25	**<25**
Bromoform	**5**	1	<1.0	1	<1.0	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
Bromomethane	**0.89**	2.5	**<2.5**	2.5	**<2.5**	25	**<25**	25	**<25**	25	**<25**	25	**<25**	130	**<130**
Carbon Tetrachloride	**0.2**	0.5	**<0.50**	0.5	**<0.50**	5	**<5.0**	5	**<5.0**	5	**<5.0**	5	**<5.0**	25	**<25**
Chlorobenzene	**30**	0.5	<0.50	0.5	<0.50	5	<5.0	5	<5.0	5	<5.0	5	<5.0	25	<25
Chloroform	**2**	0.5	<0.50	0.5	<0.50	5	**<5.0**	5	**<5.0**	5	**<5.0**	5	**<5.0**	25	**<25**
Dibromochloromethane	**25**	1	<1.0	1	<1.0	10	<10	10	<10	10	<10	10	<10	50	**<50**
1,2-Dichlorobenzene	**3**	1	<1.0	1	<1.0	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
1,3-Dichlorobenzene	**59**	1	<1.0	1	<1.0	10	<10	10	<10	10	<10	10	<10	50	<50
1,4-Dichlorobenzene	**0.5**	1	**<1.0**	1	**<1.0**	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
Dichlorodifluoromethane	**590**	2.5	<2.5	2.5	<2.5	5	<5.0	25	<25	5	<5.0	25	<25	25	<25
1,1-Dichloroethane	**5**	0.5	<0.50	0.5	<0.50	10	**<10**	5	<5.0	10	**<10**	5	<5.0	50	**<50**
1,2-Dichloroethane	**0.5**	1	**<1.0**	1	**<1.0**	5	**<5.0**	10	**<10**	5	**<5.0**	10	**<10**	25	**38**
1,1-Dichloroethylene	**0.5**	0.5	<0.50	0.5	<0.50	5	**53**	5	**<5.0**	5	**100**	5	**<5.0**	25	**560**
cis-1,2-Dichloroethylene	**1.6**	0.5	**65**	0.5	**65**	5	**<5.0**	5	**57**	5	**5.2**	5	**210**	25	**28**
trans-1,2-Dichloroethylene	**1.6**	0.5	<0.50	0.5	<0.50	5	**<5.0**	5	**<5.0**	5	**<5.0**	5	**7.1**	25	**<25**
1,2-Dichloropropane	**0.58**	0.5	<0.50	0.5	<0.50	10	**<10**	5	**<5.0**	10	**<10**	5	**<5.0**	50	**<50**
cis-1,3-Dichloropropene[(1)]	**0.5**	1	**<1.0**	1	**<1.0**	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
trans-1,3-Dichloropropene[(1)]	**0.5**	1	**<1.0**	1	**<1.0**	5	**<5.0**	10	**<10**	5	**<5.0**	10	**<10**	25	**<25**
Ethylbenzene	**2.4**	0.5	<0.50	0.5	<0.50	10	**<10**	5	**<5.0**	10	**<10**	5	**<5.0**	50	**<50**
Ethylene Dibromide	**0.2**	1	**<1.0**	1	**<1.0**	25	**<25**	10	**<10**	25	**<25**	10	**<10**	130	**<130**
Hexane(n)	**5**	2.5	<2.5	2.5	<2.5	250	**<250**	25	**<25**	250	**<250**	25	**<25**	1,300	**<1,300**
Methylene Chloride(Dichloromethane)	**26**	2.5	<2.5	2.5	<2.5	250	**<250**	25	**<25**	250	**<250**	25	<25	1,300	**<1,300**
Methyl Isobutyl Ketone	**640**	25	<25	25	<25	10	<10	250	<250	10	<10	250	<250	50	<50
Methyl Ethyl Ketone (2-Butanone)	**1800**	25	<25	25	<25	10	<10	250	<250	10	<10	250	<250	50	<50
Methyl t-butyl ether (MTBE)	**15**	1	<1.0	1	<1.0	10	<10	10	<10	10	<10	10	<10	50	**<50**
Styrene	**5.4**	1	<1.0	1	<1.0	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
1,1,1,2-Tetrachloroethane	**1.1**	1	<1.0	1	<1.0	5	**<5.0**	10	**<10**	5	**<5.0**	10	**<10**	25	**<25**
1,1,2,2-Tetrachloroethane	**0.5**	1	**<1.0**	1	**<1.0**	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**<50**
Tetrachloroethylene	**0.5**	0.5	<0.50	0.5	<0.50	5	**<5.0**	5	**<5.0**	5	**<5.0**	5	**<5.0**	25	**<25**
Toluene	**24**	1	<1.0	1	<1.0	10	<10	10	<10	10	<10	10	<10	50	**<50**
1,1,1-Trichloroethane	**23**	0.5	<0.50	0.5	<0.50	5	**1,000**	5	<5.0	5	**690**	5	<5.0	25	**4,800**
1,1,2-Trichloroethane	**0.5**	1	**<1.0**	1	**<1.0**	10	**<10**	10	**<10**	10	**<10**	10	**<10**	50	**63**
Trichloroethylene	**0.5**	0.5	**61**	0.5	**61**	5	**<5.0**	5	**900**	5	**<5.0**	5	**780**	25	**<25**
Trichlorofluoromethane	**150**	1	<1.0	1	<1.0	10	<10	10	<10	10	<10	10	<10	50	<50
Vinyl Chloride	**0.5**	1	**<1.0**	1	**<1.0**	5	**<5.0**	10	**<10**	5	**<5.0**	10	**<10**	25	**<25**
p+m-Xylene	-	0.5	<0.50	0.5	<0.50	5	<5.0	5	<5.0	5	<5.0	5	<5.0	25	<25
o-Xylene	-	0.5	<0.50	0.5	<0.50	50	<50	5	<5.0	50	<50	5	<5.0	250	<250
Xylene (Total)	**72**	0.5	<0.50	0.5	<0.50	25	<25	5	<5.0	25	<25	5	<5.0	130	**<130**

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW30(D) TQ8371 25-Oct-13	RDL	OW200 Duplicate of OW30D TQ8373 25-Oct-13	RDL	OW07-34(D) PY5889 11-Dec-12	RDL	OW200 Duplicate of OW7-34D PZ0201 11-Dec-12	RDL	OW07-34D TP9543 24-Oct-13	RDL	OW07-36(S) PY5884 11-Dec-12	RDL	OW07-36S TP9537 24-Oct-13
Acetone (2-Propanone)	**2,700**	2000	<2000	2000	<2000	50	<50	50	<50	25	<25	10	<10	25	<25
Benzene	**0.5**	20	**<20**	20	**<20**	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
Bromodichloromethane	**16**	20	**<20**	20	**<20**	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
Bromoform	**5**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
Bromomethane	**0.89**	100	**<100**	100	**<100**	2.5	**<2.5**	2.5	**<2.5**	1.3	**<1.3**	0.5	<0.50	1.3	**<1.3**
Carbon Tetrachloride	**0.2**	20	**<20**	20	**<20**	0.5	**<0.50**	0.5	**<0.50**	0.25	**<0.25**	0.1	<0.10	0.25	**<0.25**
Chlorobenzene	**30**	20	<20	20	<20	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
Chloroform	**2**	20	**<20**	20	**<20**	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
Dibromochloromethane	**25**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,2-Dichlorobenzene	**3**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,3-Dichlorobenzene	**59**	40	<40	40	<40	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,4-Dichlorobenzene	**0.5**	40	**<40**	40	**<40**	1	**<1.0**	1	**<1.0**	0.5	<0.50	0.2	<0.20	0.5	<0.50
Dichlorodifluoromethane	**590**	100	<100	100	<100	0.5	1.3	0.5	1.3	1.3	<1.3	0.1	<0.10	1.3	<1.3
1,1-Dichloroethane	**5**	20	**<20**	20	**<20**	1	<1.0	1	<1.0	0.25	0.91	0.2	<0.20	0.25	<0.25
1,2-Dichloroethane	**0.5**	40	**<40**	40	**<40**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.1	<0.10	0.5	<0.50
1,1-Dichloroethylene	**0.5**	20	**36**	20	**33**	0.5	**0.92**	0.5	**0.96**	0.25	<0.25	0.1	0.37	0.25	<0.25
cis-1,2-Dichloroethylene	**1.6**	20	**560**	20	**530**	0.5	<0.50	0.5	<0.50	0.25	0.98	0.1	<0.10	0.25	**2**
trans-1,2-Dichloroethylene	**1.6**	20	**30**	20	**30**	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
1,2-Dichloropropane	**0.58**	20	**<20**	20	**<20**	1	**<1.0**	1	**<1.0**	0.25	<0.25	0.2	<0.20	0.25	<0.25
cis-1,3-Dichloropropene(1)	**0.5**	40	**<40**	40	**<40**	1	**<1.0**	1	**<1.0**	0.5	<0.50	0.2	<0.20	0.5	<0.50
trans-1,3-Dichloropropene(1)	**0.5**	40	**<40**	40	**<40**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.1	<0.10	0.5	<0.50
Ethylbenzene	**2.4**	20	**<20**	20	**<20**	1	<1.0	1	<1.0	0.25	<0.25	0.2	<0.20	0.25	<0.25
Ethylene Dibromide	**0.2**	40	**<40**	40	**<40**	2.5	**<2.5**	2.5	**<2.5**	0.5	**<0.50**	0.5	**<0.50**	0.5	**<0.50**
Hexane(n)	**5**	100	**<100**	100	**<100**	25	**<25**	25	**<25**	1.3	<1.3	5	<5.0	1.3	<1.3
Methylene Chloride(Dichloromethane)	**26**	100	**<100**	100	**<100**	25	<25	25	<25	1.3	<1.3	5	<5.0	1.3	<1.3
Methyl Isobutyl Ketone	**640**	1,000	**<1,000**	1,000	**<1,000**	1	<1.0	1	<1.0	13	<13	0.2	<0.20	13	<13
Methyl Ethyl Ketone (2-Butanone)	**1800**	1,000	<1,000	1,000	<1,000	1	<1.0	1	<1.0	13	<13	0.2	<0.20	13	<13
Methyl t-butyl ether (MTBE)	**15**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
Styrene	**5.4**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,1,1,2-Tetrachloroethane	**1.1**	40	**<40**	40	**<40**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.1	<0.10	0.5	<0.50
1,1,2,2-Tetrachloroethane	**0.5**	40	**<40**	40	**<40**	1	**<1.0**	1	**<1.0**	0.5	<0.50	0.2	0.25	0.5	<0.50
Tetrachloroethylene	**0.5**	20	**<20**	20	**<20**	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
Toluene	**24**	40	**<40**	40	**<40**	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
1,1,1-Trichloroethane	**23**	20	<20	20	<20	0.5	0.7	0.5	0.69	0.25	<0.25	0.1	0.42	0.25	<0.25
1,1,2-Trichloroethane	**0.5**	40	**<40**	40	**<40**	1	**<1.0**	1	**<1.0**	0.5	<0.50	0.2	<0.20	0.5	<0.50
Trichloroethylene	**0.5**	20	**4,200**	20	**3,900**	0.5	<0.50	0.5	<0.50	0.25	0.5	0.1	<0.10	0.25	**0.67**
Trichlorofluoromethane	**150**	40	<40	40	<40	1	<1.0	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50
Vinyl Chloride	**0.5**	40	**71**	40	**67**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.1	<0.10	0.5	<0.50
p+m-Xylene	-	20	<20	20	<20	0.5	<0.50	0.5	<0.50	0.25	<0.25	0.1	<0.10	0.25	<0.25
o-Xylene	-	20	<20	20	<20	5	<5.0	5	<5.0	0.25	<0.25	1	<1.0	0.25	<0.25
Xylene (Total)	**72**	20	<20	20	<20	2.5	<2.5	2.5	<2.5	0.25	<0.25	0.5	<0.50	0.25	<0.25

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6	RDL	OW07-36(D)	RDL	OW07-36D	RDL	OW13-39S	RDL	OW13-39D	DUP (OW13-39D)	RDL	TS-2000 Trip Spike	RDL	TB-2000
	Bold		PY5885 11-Dec-12		TP9535 24-Oct-13		UL6815 06-Jan-14		UL6817 06-Jan-14	UL6816 06-Jan-14		PZ0186 12-Dec-12		PZ0187 12-Dec-12
Acetone (2-Propanone)	**2,700**	50	<50	25	<25	10	<10	25	<25	<25	10	80	10	<10
Benzene	**0.5**	0.5	<0.50	0.25	**0.57**	0.2	<0.20	0.5	<0.50	<0.50	0.1	**92**	0.1	<0.10
Bromodichloromethane	**16**	0.5	<0.50	0.25	<0.25	0.5	<0.50	1.3	<1.3	<1.3	0.1	**94**	0.1	<0.10
Bromoform	**5**	1	<1.0	0.5	<0.50	1	<1.0	2.5	<2.5	<2.5	0.2	**96**	0.2	<0.20
Bromomethane	**0.89**	2.5	**<2.5**	1.3	**<1.3**	0.5	<0.50	0.5	<0.50	<0.50	0.5	**91**	0.5	<0.50
Carbon Tetrachloride	**0.2**	0.5	**<0.50**	0.25	**<0.25**	0.2	<0.20	0.2	<0.20	<0.20	0.1	**86**	0.1	<0.10
Chlorobenzene	**30**	0.5	<0.50	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.1	**91**	0.1	<0.10
Chloroform	**2**	0.5	<0.50	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.1	**100**	0.1	<0.10
Dibromochloromethane	**25**	1	<1.0	0.5	<0.50	0.5	<0.50	1.3	<1.3	<1.3	0.2	**98**	0.2	<0.20
1,2-Dichlorobenzene	**3**	1	<1.0	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**91**	0.2	<0.20
1,3-Dichlorobenzene	**59**	1	<1.0	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**90**	0.2	<0.20
1,4-Dichlorobenzene	**0.5**	1	**<1.0**	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**86**	0.2	<0.20
Dichlorodifluoromethane	**590**	0.5	<0.50	1.3	<1.3	1	<1.0	2.5	<2.5	<2.5	0.1	75	0.1	<0.10
1,1-Dichloroethane	**5**	1	<1.0	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.2	**93**	0.2	<0.20
1,2-Dichloroethane	**0.5**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.1	**85**	0.1	<0.10
1,1-Dichloroethylene	**0.5**	0.5	**9.2**	0.25	<0.25	0.2	**2.1**	0.5	**4.4**	**4.4**	0.1	**90**	0.1	<0.10
cis-1,2-Dichloroethylene	**1.6**	0.5	<0.50	0.25	**22**	0.5	**100**	1.3	**180**	**180**	0.1	**86**	0.1	<0.10
trans-1,2-Dichloroethylene	**1.6**	0.5	<0.50	0.25	0.65	0.5	**9.1**	1.3	**9.3**	**9.3**	0.1	**91**	0.1	<0.10
1,2-Dichloropropane	**0.58**	1	**<1.0**	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.2	**85**	0.2	<0.20
cis-1,3-Dichloropropene[(1)]	**0.5**	1	**<1.0**	0.5	<0.50	0.3	<0.30	0.3	<0.30	<0.30	0.2	**83**	0.2	<0.20
trans-1,3-Dichloropropene[(1)]	**0.5**	0.5	<0.50	0.5	<0.50	0.4	<0.40	0.4	<0.40	<0.40	0.1	**92**	0.1	<0.10
Ethylbenzene	**2.4**	1	<1.0	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.2	**94**	0.2	<0.20
Ethylene Dibromide	**0.2**	2.5	**<2.5**	0.5	**<0.50**	0.2	<0.20	0.2	<0.20	<0.20	0.5	**82**	0.5	<0.50
Hexane(n)	**5**	25	**<25**	1.3	<1.3	1	<1.0	2.5	<2.5	<2.5	5	**93**	5	<5.0
Methylene Chloride(Dichloromethane)	**26**	25	<25	1.3	<1.3	2	<2.0	5	<5.0	<5.0	5	**87**	5	<5.0
Methyl Isobutyl Ketone	**640**	1	<1.0	13	<13	5	<5.0	13	<13	<13	0.2	83	0.2	<0.20
Methyl Ethyl Ketone (2-Butanone)	**1800**	1	<1.0	13	<13	10	<10	25	<25	<25	0.2	86	0.2	<0.20
Methyl t-butyl ether (MTBE)	**15**	1	<1.0	0.5	<0.50	0.5	<0.50	1.3	<1.3	<1.3	0.2	**91**	0.2	<0.20
Styrene	**5.4**	1	<1.0	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**87**	0.2	<0.20
1,1,1,2-Tetrachloroethane	**1.1**	0.5	<0.50	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.1	**87**	0.1	<0.10
1,1,2,2-Tetrachloroethane	**0.5**	1	**<1.0**	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**94**	0.2	<0.20
Tetrachloroethylene	**0.5**	0.5	<0.50	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.1	**81**	0.1	<0.10
Toluene	**24**	1	<1.0	0.5	<0.50	0.2	<0.20	0.5	<0.50	<0.50	0.2	**91**	0.2	<0.20
1,1,1-Trichloroethane	**23**	0.5	1.2	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.1	**92**	0.1	<0.10
1,1,2-Trichloroethane	**0.5**	1	**1.3**	0.5	<0.50	0.5	<0.50	0.5	<0.50	<0.50	0.2	**72**	0.2	<0.20
Trichloroethylene	**0.5**	0.5	<0.50	0.25	**1.5**	0.2	**130**	0.5	**560**	**560**	0.1	**89**	0.1	<0.10
Trichlorofluoromethane	**150**	1	<1.0	0.5	<0.50	0.5	<0.50	1.3	<1.3	<1.3	0.2	84	0.2	<0.20
Vinyl Chloride	**0.5**	0.5	<0.50	0.5	**2.7**	0.2	**12**	0.5	**28**	**28**	0.1	**93**	0.1	<0.10
p+m-Xylene	-	0.5	<0.50	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.1	NA	0.1	<0.10
o-Xylene	-	5	<5.0	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.2	81	0.2	<0.20
Xylene (Total)	**72**	2.5	<2.5	0.25	<0.25	0.2	<0.20	0.5	<0.50	<0.50	0.5	**79**	0.5	<0.50

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.12
RESULTS OF ANALYSES FOR VOLATILE ORGANIC COMPOUNDS (VOCs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW2000 Duplicate of OW22D PZ0190 12-Dec-12	RDL	TS-1000 PY5874 11-Dec-12	RDL	TB-1000 PY5875 11-Dec-12	RDL	OW1000 PY5876 11-Dec-12
Acetone (2-Propanone)	**2,700**	10	<10	10	83	10	<10	10	<10
Benzene	**0.5**	0.1	<0.10	0.1	**95**	0.1	<0.10	0.1	<0.10
Bromodichloromethane	**16**	0.1	<0.10	0.1	**95**	0.1	<0.10	0.1	<0.10
Bromoform	**5**	0.2	<0.20	0.2	**98**	0.2	<0.20	0.2	<0.20
Bromomethane	**0.89**	0.5	<0.50	0.5	**96**	0.5	<0.50	0.5	<0.50
Carbon Tetrachloride	**0.2**	0.1	<0.10	0.1	**94**	0.1	<0.10	0.1	<0.10
Chlorobenzene	**30**	0.1	<0.10	0.1	**93**	0.1	<0.10	0.1	<0.10
Chloroform	**2**	0.1	<0.10	0.1	**100**	0.1	<0.10	0.1	<0.10
Dibromochloromethane	**25**	0.2	<0.20	0.2	**98**	0.2	<0.20	0.2	<0.20
1,2-Dichlorobenzene	**3**	0.2	<0.20	0.2	**92**	0.2	<0.20	0.2	<0.20
1,3-Dichlorobenzene	**59**	0.2	<0.20	0.2	**91**	0.2	<0.20	0.2	<0.20
1,4-Dichlorobenzene	**0.5**	0.2	<0.20	0.2	**94**	0.2	<0.20	0.2	<0.20
Dichlorodifluoromethane	**590**	0.1	<0.10	0.1	80	0.1	<0.10	0.1	<0.10
1,1-Dichloroethane	**5**	0.2	<0.20	0.2	**92**	0.2	<0.20	0.2	<0.20
1,2-Dichloroethane	**0.5**	0.1	<0.10	0.1	**90**	0.1	<0.10	0.1	<0.10
1,1-Dichloroethylene	**0.5**	0.1	<0.10	0.1	**93**	0.1	<0.10	0.1	<0.10
cis-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	**94**	0.1	<0.10	0.1	<0.10
trans-1,2-Dichloroethylene	**1.6**	0.1	<0.10	0.1	**92**	0.1	<0.10	0.1	<0.10
1,2-Dichloropropane	**0.58**	0.2	<0.20	0.2	**87**	0.2	<0.20	0.2	<0.20
cis-1,3-Dichloropropene[(1)]	**0.5**	0.2	<0.20	0.2	**86**	0.2	<0.20	0.2	<0.20
trans-1,3-Dichloropropene[(1)]	**0.5**	0.1	<0.10	0.1	**96**	0.1	<0.10	0.1	<0.10
Ethylbenzene	**2.4**	0.2	<0.20	0.2	**92**	0.2	<0.20	0.2	<0.20
Ethylene Dibromide	**0.2**	0.5	**<0.50**	0.5	**87**	0.5	<0.50	0.5	<0.50
Hexane(n)	**5**	5	<5.0	5	**90**	5	<5.0	5	<5.0
Methylene Chloride(Dichloromethane)	**26**	5	<5.0	5	**84**	5	<5.0	5	<5.0
Methyl Isobutyl Ketone	**640**	0.2	<0.20	0.2	92	0.2	<0.20	0.2	<0.20
Methyl Ethyl Ketone (2-Butanone)	**1800**	0.2	<0.20	0.2	100	0.2	<0.20	0.2	<0.20
Methyl t-butyl ether (MTBE)	**15**	0.2	<0.20	0.2	**95**	0.2	<0.20	0.2	<0.20
Styrene	**5.4**	0.2	<0.20	0.2	**84**	0.2	<0.20	0.2	<0.20
1,1,1,2-Tetrachloroethane	**1.1**	0.1	<0.10	0.1	**91**	0.1	<0.10	0.1	<0.10
1,1,2,2-Tetrachloroethane	**0.5**	0.2	<0.20	0.2	**95**	0.2	<0.20	0.2	<0.20
Tetrachloroethylene	**0.5**	0.1	<0.10	0.1	**87**	0.1	<0.10	0.1	<0.10
Toluene	**24**	0.2	<0.20	0.2	**93**	0.2	<0.20	0.2	<0.20
1,1,1-Trichloroethane	**23**	0.1	<0.10	0.1	**97**	0.1	<0.10	0.1	<0.10
1,1,2-Trichloroethane	**0.5**	0.2	<0.20	0.2	**82**	0.2	<0.20	0.2	<0.20
Trichloroethylene	**0.5**	0.1	<0.10	0.1	**100**	0.1	<0.10	0.1	<0.10
Trichlorofluoromethane	**150**	0.2	<0.20	0.2	91	0.2	<0.20	0.2	<0.20
Vinyl Chloride	**0.5**	0.1	<0.10	0.1	**100**	0.1	<0.10	0.1	<0.10
p+m-Xylene	-	0.1	<0.10	0.1	200	0.1	<0.10	0.1	<0.10
o-Xylene	-	0.2	<0.20	1	85	1	<1.0	1	<1.0
Xylene (Total)	**72**	0.5	<0.50	0.5	**81**	0.5	<0.50	0.5	<0.50

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit.
< Not detected.
- No standard available.
NA Not analyzed.
(1) Standard applies to the sum of cis- and trans-Dichloropropene.

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW2 PZ0190 12-Dec-12	OW2 TQ8354 25-Oct-13	OW3-I PZ0188 12-Dec-12	OW3-I TP9538 24-Oct-13	OW3-II PZ0189 12-Dec-12	OW3-II TP9536 24-Oct-13	OW6 PZ0203 12-Dec-12	OW6 TQ8355 25-Oct-13
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	**0.41**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	**1**	0.03	<0.030	<0.030	<0.030	<0.050	<0.030	<0.030	<0.030	<0.030
Pyrene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition.

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW18-I PZ0204 12-Dec-12	OW18-I TQ8356 25-Oct-13	OW18-II PZ0195 12-Dec-12	OW18-II TQ8357 25-Oct-13	OW19 PZ0196 12-Dec-12	OW19 TQ8358 25-Oct-13	RDL	OW22(S) PZ0200 12-Dec-12
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	0.24	0.61	0.5	<0.50
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	<0.50
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.055	0.5	<0.50
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	<0.50
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1	**<0.10**
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2	**<2.0**
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
Fluoranthene	**0.41**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	0.14	0.49	0.5	<0.50
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	**<0.50**
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.11	0.5	<0.50
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	<0.50
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5	<0.50
Phenanthrene	**1**	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.3	<0.30
Pyrene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.065	0.5	0.82

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW22(S) TQ8359 25-Oct-13	OW22(D) PZ0199 12-Dec-12	OW300 Duplicate of OW22D PZ0201 12-Dec-12	OW22(D) TQ8360 25-Oct-13	RDL	OW23(S) PZ0208 12-Dec-12	RDL	OW23(S) TQ8361 25-Oct-13
Acenaphthene	**4.1**	0.05	0.15	0.13	0.13	0.21	10	**<10**	5	**<5.0**
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Anthracene	**1**	0.05	<0.50	<0.050	<0.050	<0.050	20	**<20**	5	**<5.0**
Benzo(a)anthracene	**1**	0.05	0.085	<0.050	<0.050	<0.050	10	**11**	5	**<5.0**
Benzo(a)pyrene	**0.01**	0.01	**0.03**	<0.010	<0.010	<0.010	2	**<2.0**	1	**<1.0**
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Chrysene	**0.1**	0.05	**<0.20**	<0.050	<0.050	<0.050	10	**<10**	5	**9**
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Fluoranthene	**0.41**	0.05	0.29	<0.050	<0.050	<0.050	20	**<20**	5	**11**
Fluorene	**120**	0.05	<0.50	<0.050	0.067	0.11	20	<20	5	5.5
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
1-Methylnaphthalene(1)	**3.2**	0.05	<0.10	<0.050	<0.050	0.055	10	**<10**	5	**<5.0**
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	**<5.0**
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	10	**<10**	5	<5.0
Phenanthrene	**1**	0.03	<0.10	<0.030	<0.030	<0.030	6	**56**	3	**23**
Pyrene	**4.1**	0.05	0.59	<0.050	<0.050	<0.050	10	**38**	5	**16**

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW23(D) PZ0207 12-Dec-12	OW23(D) TQ8362 25-Oct-13	OW24(S) TQ8363 12-Dec-12	OW24(S) PZ0197 25-Oct-13	OW24(D) PZ0198 12-Dec-12	RDL	OW25 PY5887 11-Dec-12	OW100 Duplicate of OW25 PY5888 11-Dec-12
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	<0.010
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**	**<0.25**
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Fluoranthene	**0.41**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Naphthalene	**7**	0.05	<0.050	0.17	<0.050	<0.050	<0.050	0.05	<0.050	<0.050
Phenanthrene	**1**	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	0.03	<0.030	<0.030
Pyrene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	<0.050

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW25 TP9544 24-Oct-13	OW26(S) PY5882 11-Dec-12	OW26(S) TP9539 24-Oct-13	OW26(D) PY5881 11-Dec-12	OW26(D) TP9540 24-Oct-13	OW27(S) PY5879 11-Dec-12	OW27(S) TQ8364 25-Oct-13
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	**0.41**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	**1**	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Pyrene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW27(D) PY5880 11-Dec-12	OW27(D) TQ8365 25-Oct-13	OW28(S) PZ0205 12-Dec-12	OW28(S) TQ8366 25-Oct-13	OW28(D) PZ0206 12-Dec-12	OW28(D) TQ8367 25-Oct-13	OW30(S) TQ8370 25-Oct-13
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.12
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	**0.028**	<0.010	<0.010	<0.010	**0.12**
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.15**
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.08
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.06
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.14**
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	**0.41**	0.05	<0.050	<0.050	0.084	<0.050	<0.050	<0.050	0.32
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.085
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	**1**	0.03	<0.030	<0.030	0.048	<0.030	<0.030	<0.030	0.18
Pyrene	**4.1**	0.05	<0.050	<0.050	0.073	<0.050	<0.050	<0.050	0.26

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.13
RESULTS OF ANALYSES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN GROUNDWATER - 2012 and 2013

PARAMETERS	MOE STANDARDS Cleanup Table 6 Bold	RDL	OW30(D) PY5886 11-Dec-12	OW30(D) TQ8371 25-Oct-13	OW07-34(D) PY5889 11-Dec-12	OW07-34D TP9543 24-Oct-13	OW200 Duplicate of OW7-34D PY5890 11-Dec-12	RDL	OW30(S) PY5883 11-Dec-12
Acenaphthene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Acenaphthylene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Benzo(a)anthracene	**1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Benzo(a)pyrene	**0.01**	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	0.05	**0.08**
Benzo(b/j)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
Benzo(ghi)perylene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
Benzo(k)fluoranthene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
Chrysene	**0.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
Dibenzo(a,h)anthracene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
Fluoranthene	**0.41**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Fluorene	**120**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Indeno(1,2,3-cd)pyrene	**0.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	**<0.25**
1-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
2-Methylnaphthalene(1)	**3.2**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Naphthalene	**7**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25
Phenanthrene	**1**	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	0.15	<0.15
Pyrene	**4.1**	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	<0.25

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.
MOE Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA (2011):

Bold Exceeds all property use Standards - Table 6, Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition

RDL Reportable Detection Limit
< Not detected.
(1) Standard applies to the sum of 1- and 2-Methylnapthalene

TABLE 9.14
MAXIMUM CONCENTRRATION IN SOIL - 2007

PARAMETERS	Maximum	Location of Maximum
Antimony	18.6	BH07-56 SS1A
Arsenic	23	BH07-67 SS1A
Barium	277	DUP#5 (BH07-57 SS1A)
Beryllium	0.7	BH07-40 SS1A
Boron (Hot Water Extractable)	10.5	BH07-40 SS1A
Cadmium	4.5	BH07-45 SS2
Chromium (Total)	77.5	BH07-70 SS2
Cobalt	20.2	BH07-43 SS1
Copper	283	BH07-56 SS1A
Lead	822	BH07-43 SS1
Molybdenum	9.9	BH07-51 SS1
Nickel	117	BH07-51 SS1
Selenium	1.3	BH07-43 SS1
Silver	0.9	BH07-52 SS1
Thallium	0.6	BH07-40 SS2A
Vanadium	41.3	BH07-40 SS2A
Zinc	6170	BH07-43 SS1
Chromium (VI)	<0.40	Various
Cyanide (Free)	<0.08	Various
Mercury	0.32	BH07-57 SS1A
Electrical Conductivity (mS/cm)	3.02	OW07-36 SS1
Sodium Adsorption Ratio (meq/L)	24.3	OW07-36 SS1
pH (units)	8.61	DUP#1 (BH07-53 SS2)
Chloride (2:1)	1600	OW07-36 SS1
Acenaphthene	94	OW07-34 SS1
Acenaphthylene	<2.00	OW07-34 SS1
Anthracene	160	OW07-34 SS1
Benzo(a)anthracene	200	OW07-34 SS1
Benzo(a)pyrene	130	OW07-34 SS1
Benzo(b)fluoranthene	190	OW07-34 SS1
Benzo(g,h,I)perylene	70	OW07-34 SS1
Benzo(k)fluoranthene	66	OW07-34 SS1
Chrysene	180	OW07-34 SS1
Dibenzo(a,h)anthracene	6	OW07-34 SS1
Fluoranthene	660	OW07-34 SS1
Fluorene	150	OW07-34 SS1
Indeno(1,2,3-cd)pyrene	80	OW07-34 SS1
Naphthalene	220	OW07-34 SS1
Phenanthrene	900	OW07-34 SS1
Pyrene	470	OW07-34 SS1
Total Polychlorinated Biphenyls (PCBs)	1.5	BH07-67 SS1A

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

< Not detected.

TABLE 9.15
MAXIMUM CONCENTRATIONS IN SOIL - 2013

PARAMETERS	Maximum	Location of Maximum	Date of Maximum
Antimony	4.2	TP9-1"	02-Dec-13
Arsenic	9	DUP2 (TP11-6")	03-Dec-13
Barium	190	OW13-39S	12-Dec-13
Beryllium	0.85	TP11-6"	03-Dec-13
Boron (Total)	23	TP8-4"	02-Dec-13
Cadmium	5.1	TP6-4"	02-Dec-13
Chromium (Total)	40	TP8-4"	02-Dec-13
Cobalt	7.6	TP10-4'	03-Dec-13
Copper	73	DUP1 (TP8-4")	03-Dec-13
Lead	470	DUP2 (TP11-6")	03-Dec-13
Mercury	0.14	TP1-5"	02-Dec-13
Molybdenum	3.4	TP8-4"	02-Dec-13
Nickel	36	TP8-4"	02-Dec-13
Selenium	0.64	TP1-5"	02-Dec-13
Silver	0.39	DUP2 (TP11-6")	03-Dec-13
Thallium	0.25	TP6-4"	02-Dec-13
Vanadium	36	TP8-4"	02-Dec-13
Uranium	11	OW13-39S	12-Dec-13
Zinc	5600	TP9-1"	02-Dec-13
Acenaphthene	4.1	DUP1 (TP8-4")	03-Dec-13
Acenaphthylene	1	DUP1 (TP8-4")	03-Dec-13
Anthracene	10	DUP1 (TP8-4")	03-Dec-13
Benzo(a)anthracene	22	DUP1 (TP8-4")	03-Dec-13
Benzo(a)pyrene	17	DUP1 (TP8-4")	03-Dec-13
Benzo(b)fluoranthene	19	DUP1 (TP8-4")	03-Dec-13
Benzo(g,h,I)perylene	7.8	DUP1 (TP8-4")	03-Dec-13
Benzo(k)fluoranthene	7.3	DUP1 (TP8-4")	03-Dec-13
Chrysene	18	DUP1 (TP8-4")	03-Dec-13
Dibenzo(a,h)anthracene	2.4	DUP1 (TP8-4")	03-Dec-13
Fluoranthene	58	DUP1 (TP8-4")	03-Dec-13
Fluorene	5.1	DUP1 (TP8-4")	03-Dec-13
Indeno(1,2,3-cd)pyrene	8.8	DUP1 (TP8-4")	03-Dec-13
1-Methylnaphthalene	0.92	TP11-6"	03-Dec-13
2-Methylnaphthalene	1.1	TP11-6"	03-Dec-13
Naphthalene	1.5	DUP1 (TP8-4")	03-Dec-13
Phenanthrene	48	DUP1 (TP8-4")	03-Dec-13
Pyrene	44	DUP1 (TP8-4")	03-Dec-13
Total Polychlorinated Biphenyls (PCBs)	0.4	TP8-4"	03-Dec-13
Benzene	0.25	DUP2 (TP11-6")	03-Dec-13
Toluene	<0.050	Various	Various
Ethylbenzene	0.4	DUP2 (TP11-6")	03-Dec-13
Total Xylenes	1.7	DUP2 (TP11-6")	03-Dec-13
CCME F1 (C6-C10)	<20	TP11-6"	03-Dec-13
CCME F1 (F1(C6-C10) minus BTEX	<20	TP11-6"	03-Dec-13
CCME F2 (>C10-C16)	60	DUP2 (TP11-6")	03-Dec-13
CCME F3 (>C16-C34)	770	DUP1 (TP8-4")	03-Dec-13
CCME F4 (>C34)	360	DUP1 (TP8-4")	03-Dec-13
Gravimetric Heavy Hydrocarbons	1100	DUP1 (TP8-4")	03-Dec-13
Acetone	0.68	TP1-5"	02-Dec-13
Benzene	0.25	DUP2 (TP11-6")	03-Dec-13
Bromodichloromethane	<0.050	Various	Various
Bromoform	<0.050	Various	Various
Bromomethane	<0.050	Various	Various
Carbon Tetrachloride	<0.050	Various	Various
Chlorobenzene	<0.050	Various	Various
Chloroform	<0.050	Various	Various
Dibromochloromethane	<0.050	Various	Various
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.050	Various	Various
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.050	Various	Various
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.050	Various	Various
1,1-Dichloroethane	<0.050	Various	Various

TABLE 9.15
MAXIMUM CONCENTRATIONS IN SOIL - 2013

PARAMETERS	Maximum	Location of Maximum	Date of Maximum
1,2-Dichloroethane	<0.050	Various	Various
1,1-Dichloroethylene (1,1-Dichloroethene)	<0.050	Various	Various
cis-1,2-Dichloroethylene	<0.050	Various	Various
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	<0.050	Various	Various
1,2-Dichloropropane	<0.050	Various	Various
cis-1,3-Dichloropropene	<0.030	Various	Various
trans-1,3-Dichloropropene	<0.040	Various	Various
Ethylbenzene	0.4	DUP2 (TP11-6")	03-Dec-13
Ethylene Dibromide	<0.050	Various	Various
Hexane(n)	0.12	DUP2 (TP11-6")	03-Dec-13
Methylene Chloride	<0.050	Various	Various
Methyl Isobutyl Ketone (MIBK)	<0.50	Various	Various
Methyl Ethyl Ketone (MEK)	<0.50	Various	Various
Methyl Tert Butyl Ether (MTBE)	<0.050	Various	Various
Styrene	<0.050	Various	Various
1,1,1,2-Tetrachloroethane	<0.050	Various	Various
1,1,2,2-Tetrachloroethane	<0.050	Various	Various
Tetrachloroethylene (Perchloroethylene) (Tetrachloroethe	1.2	DUP2 (TP11-6")	03-Dec-13
Toluene	<0.020	Various	Various
1,1,1-Trichloroethane	<0.050	Various	Various
1,1,2-Trichloroethane	<0.050	Various	Various
Trichloroethylene (Trichloroethene)	1	OW13-39S	12-Dec-13
Trichlorofluoromethane	<0.050	Various	Various
Vinyl Chloride	<0.020	Various	Various
m,p-Xylenes	0.87	DUP2 (TP11-6")	03-Dec-13
o-Xylene	0.83	DUP2 (TP11-6")	03-Dec-13
Xylenes (total)	1.7	DUP2 (TP11-6")	03-Dec-13
Dichlorodifluoromethane	<0.050	Various	Various

NOTES:

All parameter values in ug/g (ppm) unless otherwise indicated.

< Not detected.

TABLE 9.16
MAXIMUM CONCENTRATIONS IN GROUNDWATER 2012 and 2013

PARAMETERS	Maximum	Location of Maximum	Date of Maximum
Copper	<0.02	Various	Various
Lead	<0.05	Various	Various
Sodium	278	OW29(S)	11-Dec-12
Zinc	3.22	OW22(S)	12-Dec-12
Nitrate (mg/L)	1.3	OW28(S)	12-Dec-12
Nitrite (mg/L)	0.017	OW27(S)	25-Oct-13
Chloride (mg/L)	450	OW6	12-Dec-12
pH	7.92	OW25	11-Dec-12
Acenaphthene	<10	OW23(S)	12-Dec-12
Acenaphthylene	<10	OW23(S)	12-Dec-12
Anthracene	<20	OW23(S)	12-Dec-12
Benzo(a)anthracene	11	OW23(S)	12-Dec-12
Benzo(a)pyrene	<2.0	OW23(S)	12-Dec-12
Benzo(b/j)fluoranthene	<10	OW23(S)	12-Dec-12
Benzo(ghi)perylene	<10	OW23(S)	12-Dec-12
Benzo(k)fluoranthene	<10	OW23(S)	12-Dec-12
Chrysene	<10	OW23(S)	12-Dec-12
Dibenzo(a,h)anthracene	<10	OW23(S)	12-Dec-12
Fluoranthene	<20	OW23(S)	12-Dec-12
Fluorene	<20	OW23(S)	12-Dec-12
Indeno(1,2,3-cd)pyrene	<10	OW23(S)	12-Dec-12
1-Methylnaphthalene	<10	OW23(S)	12-Dec-12
2-Methylnaphthalene	<10	OW23(S)	12-Dec-12
Naphthalene	<10	OW23(S)	12-Dec-12
Phenanthrene	56	OW23(S)	12-Dec-12
Pyrene	38	OW23(S)	12-Dec-12
Benzene	<25	OW30(D)	11-Dec-12
Toluene	<50	OW30(D)	11-Dec-12
Ethylbenzene	<50	OW30(D)	11-Dec-12
o-Xylene	<25	OW30(D)	11-Dec-12
p+m-Xylene	<250	OW30(D)	11-Dec-12
Total Xylenes	<130	OW30(D)	11-Dec-12
F1 (C6-C10)	950	OW30(D)	11-Dec-12
F1 (C6-C10) - BTEX	950	OW30(D)	11-Dec-12
F2 (C10-C16)	13000	OW23(S)	25-Oct-13
F3 (C16-C34)	580000	OW23(S)	25-Oct-13
F4 (C34-C50)	24000	OW23(S)	12-Dec-12
F4 Gravimetric	1600	OW07-36S	24-Oct-13
Acetone (2-Propanone)	<2500	OW30(D)	11-Dec-12
Benzene	<25	OW30(D)	11-Dec-12
Bromodichloromethane	<25	OW30(D)	11-Dec-12
Bromoform	<50	OW30(D)	11-Dec-12
Bromomethane	<130	OW30(D)	11-Dec-12
Carbon Tetrachloride	<25	OW30(D)	11-Dec-12
Chlorobenzene	<25	OW30(D)	11-Dec-12
Chloroform	<25	OW30(D)	11-Dec-12
Dibromochloromethane	<50	OW30(D)	11-Dec-12
1,2-Dichlorobenzene	<50	OW30(D)	11-Dec-12
1,3-Dichlorobenzene	<50	OW30(D)	11-Dec-12
1,4-Dichlorobenzene	<50	OW30(D)	11-Dec-12
Dichlorodifluoromethane	<100	OW30(D)	25-Oct-13
1,1-Dichloroethane	<50	OW30(D)	11-Dec-12
1,2-Dichloroethane	<40	OW30(D)	25-Oct-13
1,1-Dichloroethylene	600	OW24(D)	12-Dec-12

DCS

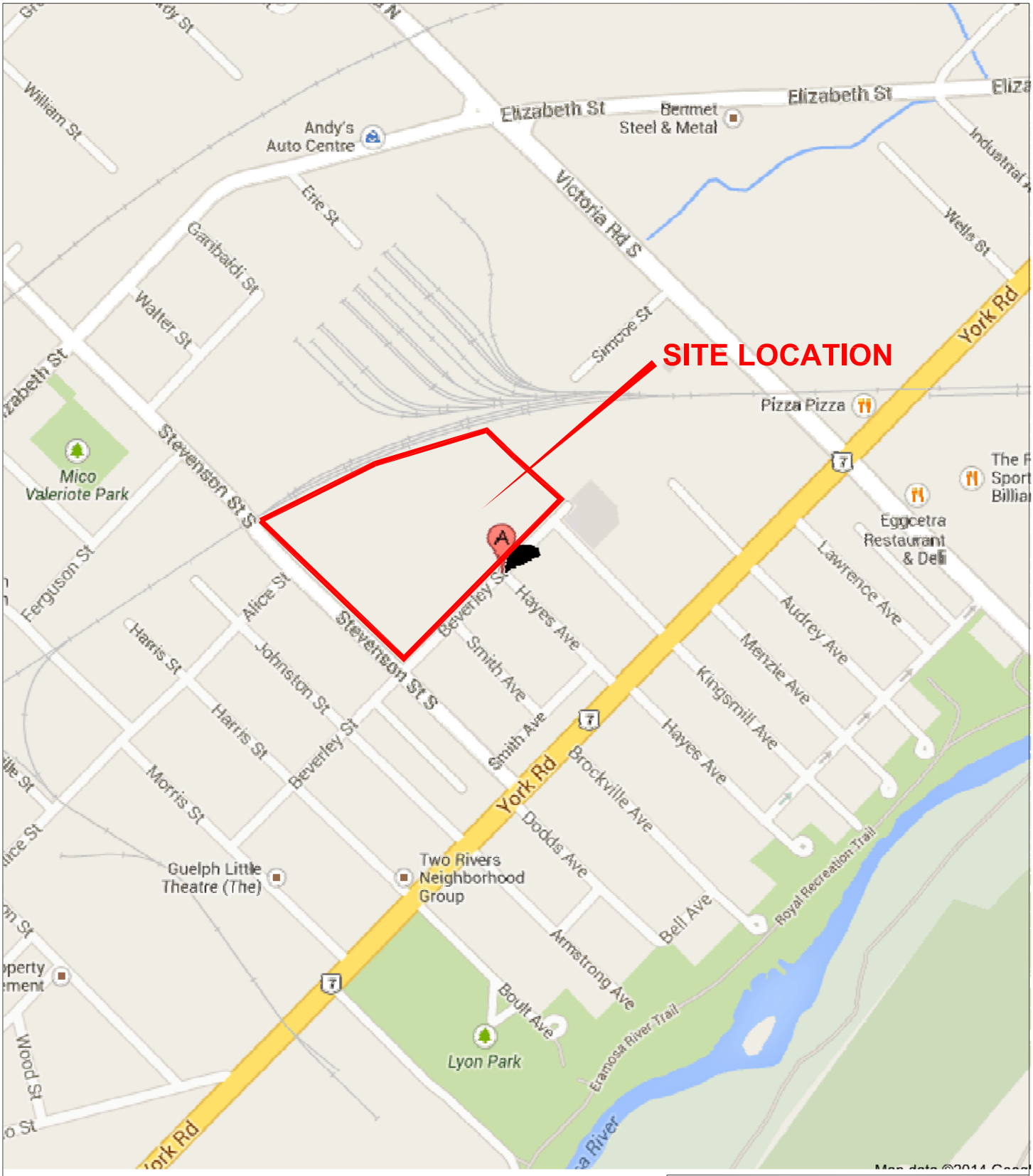
TABLE 9.16
MAXIMUM CONCENTRATIONS IN GROUNDWATER 2012 and 2013

PARAMETERS	Maximum	Location of Maximum	Date of Maximum
cis-1,2-Dichloroethylene	560	OW30(D)	25-Oct-13
trans-1,2-Dichloroethylene	30	OW30(D)	25-Oct-13
1,2-Dichloropropane	<50	OW30(D)	11-Dec-12
cis-1,3-Dichloropropene	<50	OW30(D)	11-Dec-12
trans-1,3-Dichloropropene	<40	OW30(D)	25-Oct-13
Ethylbenzene	<50	OW30(D)	11-Dec-12
Ethylene Dibromide	<130	OW30(D)	11-Dec-12
Hexane(n)	<1300	OW30(D)	11-Dec-12
Methylene Chloride(Dichloromethane)	<1300	OW30(D)	11-Dec-12
Methyl Isobutyl Ketone	<1000	OW30(D)	25-Oct-13
Methyl Ethyl Ketone (2-Butanone)	<1000	OW30(D)	25-Oct-13
Methyl t-butyl ether (MTBE)	<50	OW30(D)	11-Dec-12
Styrene	<50	OW30(D)	11-Dec-12
1,1,1,2-Tetrachloroethane	<40	OW30(D)	25-Oct-13
1,1,2,2-Tetrachloroethane	<50	OW30(D)	11-Dec-12
Tetrachloroethylene	<25	OW30(D)	11-Dec-12
Toluene	<50	OW30(D)	11-Dec-12
1,1,1-Trichloroethane	4800	OW30(D)	11-Dec-12
1,1,2-Trichloroethane	63	OW30(D)	11-Dec-12
Trichloroethylene	4200	OW30(D)	25-Oct-13
Trichlorofluoromethane	<50	OW30(D)	11-Dec-12
Vinyl Chloride	71	OW30(D)	25-Oct-13
p+m-Xylene	<25	OW30(D)	11-Dec-12
o-Xylene	<250	OW30(D)	11-Dec-12
Xylene (Total)	<130	OW30(D)	11-Dec-12

NOTES:

All parameter values in ug/L (ppb) unless otherwise indicated.

< Not detected.



DCS AN ARCADIS COMPANY
DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH
200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY
PHASE TWO ESA

KEY PLAN

701996-000-001	FEB. 2014	N.T.S.	FIGURE 1

Apr 02, 2014 – 10:44am – USER izba
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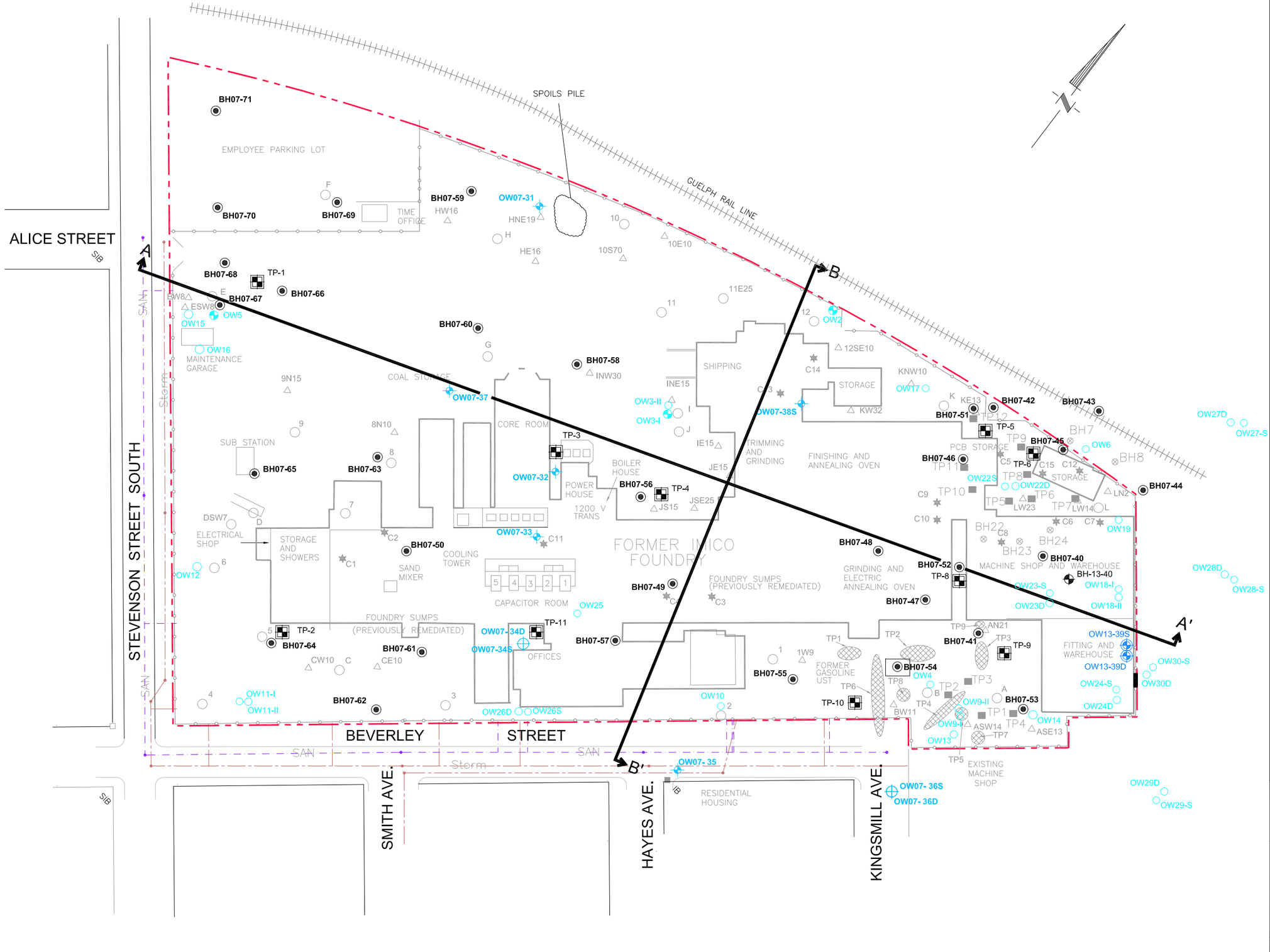

LEGEND:

PROPERTY LINE

SAMPLING LOCATIONS - DCS

- OW13-39 — MONITORING WELL LOCATION (DCS 2013)
- TP-1 — TEST PIT LOCATION (DCS 2013)
- BH-13-40 — BOREHOLE LOCATION (DCS 2013)
- OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)
- OW07- 36D — DEEP MONITORING WELL IN ROCK (2007)
- BH07-39 — SHALLOW BOREHOLE (2007)

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATON (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.
- A — A' — LOCATION OF SECTION LINES

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

*PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS, 2007

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200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

BOREHOLE AND MONITORING WELL LOCATIONS

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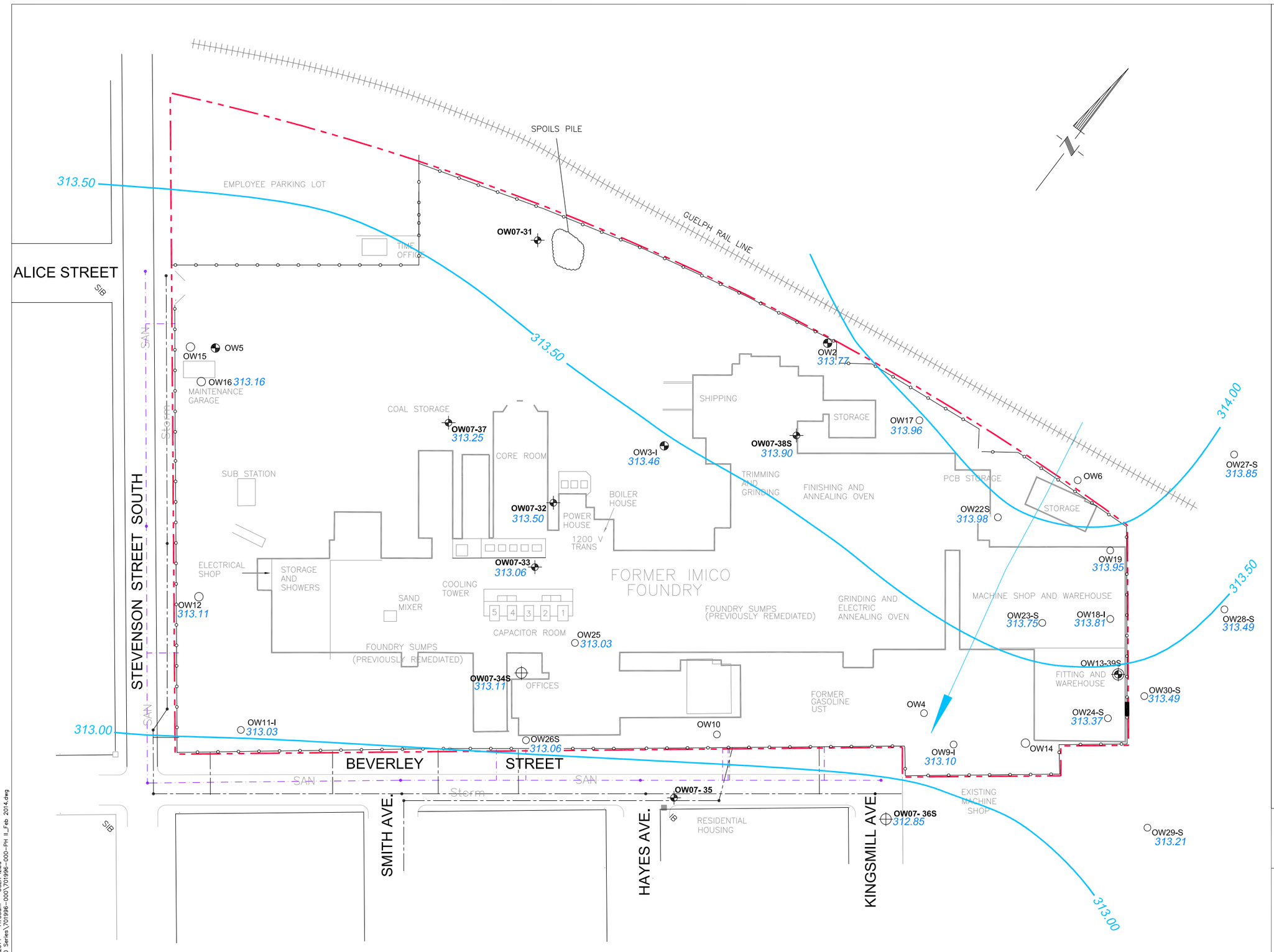

LEGEND:

PROPERTY LINE

MONITORING WELL LOCATIONS - DCS

OW13-39S — SHALLOW MONITORING WELL LOCATION (DCS 2013)

OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)

OW07-36S — SHALLOW MONITORING WELL (2007)

MONITORING WELL LOCATIONS - OTHERS

OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.

OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.

313.03 — GROUNDWATER ELEVATION

GROUNDWATER CONTOUR

INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

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200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

GROUNDWATER FLOW

SHALLOW BEDROCK OCTOBER 2013

FEB. 2014	1:1250	701996-P2-9.2

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ALICE STREET

STEVENSON STREET SOUTH

SPOILS PILE

EMPLOYEE PARKING LOT

TIME OFFICE

GUELPH RAIL LINE

MAINTENANCE GARAGE

COAL STORAGE

SHIPPING

STORAGE

CORE ROOM

SUB STATION

BOILER HOUSE

POWER HOUSE

1200 V TRANS

TRIMMING AND GRINDING

FINISHING AND ANNEALING OVEN

PCB STORAGE

STORAGE

ELECTRICAL SHOP

STORAGE AND SHOWERS

COOLING TOWER

SAND MIXER

FORMER IMICO FOUNDRY

FOUNDRY SUMPS (PREVIOUSLY REMEDIATED)

CAPACITOR ROOM

GRINDING AND ELECTRIC ANNEALING OVEN

MACHINE SHOP AND WAREHOUSE

FOUNDRY SUMPS (PREVIOUSLY REMEDIATED)

OFFICES

FORMER GASOLINE UST

FITTING AND WAREHOUSE

EXISTING MACHINE SHOP

RESIDENTIAL HOUSING

BEVERLEY STREET

SMITH AVE.

HAYES AVE.

KINGSMILL AVE

SAN

Storm

SIB

OW3-II 313.08

OW27D 312.87

OW22D 313.01

OW28D 312.91

OW23D 313.03

OW18-II 313.39

OW07-34D 313.34

OW13-39D

OW30D 313.03

OW11-II 312.95

OW26D 313.01

OW9-II

OW24D

OW13

OW29D 312.94

OW07-36D 313.01

313.25

313.00

LEGEND:

PROPERTY LINE

MONITORING WELL LOCATIONS - DCS

OW13-39D — DEEP MONITORING WELL LOCATION (DCS 2013)

OW07-36D — DEEP MONITORING WELL IN ROCK (2007)

MONITORING WELL LOCATIONS - OTHERS

OW22D — DEEP MONITORING WELL (BY GARTNER LEE) VARIOUS YEARS.

313.03 — GROUNDWATER ELEVATION

GROUNDWATER CONTOUR

INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

* AECOM 2013 GROUNDWATER DATA REFERENCE PROPERTY

DCS AN ARCADIS COMPANY

DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH

200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

GROUNDWATER FLOW

DEEP BEDROCK OCTOBER 2013

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BH07-71	SS-1A 0.05-1.22 m	SS-2 1.22-1.32 m
METALS	<	<

BH07-69	SS-1A 0.08-1.22 m	SS-2 1.22-1.42 m
METALS	<	<

BH07-66	SS-1A 0.05-1.22 m	SS-2 1.22-1.32 m
METALS		
Zinc	<	349

BH07-60	SS-1 0-0.05 m	SS-1B 0.76-1.19 m
METALS		
Lead	<	132
Zinc	<	483

OW07-33	SS-1 0-1.22 m
METALS	
Zinc	720

BH07-58	SS-1A 0.05-0.61 m	SS-2 1.22-1.63 m
METALS	<	<

BH07-70	SS-1A 0.05-1.22 m	SS-2 1.22-1.73 m
METALS		
Zinc	699	1,110

BH07-59	SS-1A 0.05-0.30 m	SS-1B 0.30-0.69 m
METALS	<	<

TP3	TP3-6" 0.10-0.20 m
METALS	
Zinc	470

TP1	TP1-5" 0.08-0.18 m
METALS	
Zinc	360

OW07-32	SS-1 0-1.07 m
METALS	<

BH07-56	SS-1A 0.05-0.91 m	SS-2 1.22-1.67 m
METALS		
Antimony	18.6	<
Cadmium	1.8	<
Copper	283	<
Lead	545	<
Zinc	472	664

TP4	TP4-6" 0.10-0.20 m
METALS	<

BH07-68	SS-1 0-0.05 m	SS-1A 0.05-0.61 m
METALS	<	<

OW07-38	SS-1 0-1.22 m
METALS	
Arsenic	20.5
Cadmium	1.3
Molybdenum	9.3
Zinc	371

BH07-67	SS-1A 0.05-0.91 m	SS-2 1.22-1.37 m
METALS		
Arsenic	23	<
Cadmium	2.1	<
Lead	336	<
Zinc	379	538

BH07-46	SS-1A 0.05-1.22 m	SS-2 1.22-1.68 m
METALS		
Cadmium	<	2.9
Lead	<	148
Zinc	<	1,470

OW07-37	SS-1 0-0.61 m	SS-1A 0.61-1.22 m
METALS	<	<

BH07-51	SS-1 0-0.05 m	SS-2 1.22-2.06 m
METALS		
Cadmium	1.4	<
Lead	131	<
Molybdenum	9.9	<
Nickel	117	<
Zinc	1,220	536

TP5	TP5-4' 1.17-1.27 m
METALS	
Cadmium	4.8
Lead	230
Zinc	2,000

BH07-42	SS-1 0-0.61 m	SS-2 1.22-1.68 m	DUP #14 (SS-2)
METALS			
Cadmium	1.8	<	<
Lead	133	<	<
Zinc	828	368	416

BH07-45	SS-1 0-0.05 m	SS-1A 0.05-1.22 m	SS-2 1.22-1.78 m	DUP #2 (SS-2)
METALS				
Cadmium	4	3.0	4.5	3.6
Lead	138	131	147	121
Zinc	1,520	1,560	1,820	1,480

TP6	TP6-4" 0.05-0.15 m
METALS	
Cadmium	5.1
Lead	150
Zinc	2,000

BH07-43	SS-1 0-0.91 m	SS-2 1.22-1.47 m
METALS		
Arsenic	18.7	<
Lead	822	<
Zinc	6,170	686

BH07-40	SS-1A 0.30-1.22 m	SS-2A 2.13-2.39 m
METALS		
Boron (HWS)	10.5	<
Cadmium	3.4	1.5
Lead	227	<
Zinc	1,580	2,250

BH13-40	SS-1 1.83-2.44 m
METALS	
Zinc	620

BH07-44	SS-1 0-0.61 m	SS-1A 0.61-1.14 m
METALS		
Lead	283	<
Zinc	719	<

BH07-52	SS-1 0-1.22 m	SS-2A 1.83-2.01 m
METALS		
Cadmium	1.7	1.3
Copper	158	<
Lead	289	<
Zinc	1,350	1,470

TP8	TP8-4" 0.05-0.15 m	DUP1 (TP8-4")
METALS		
Cadmium	2.2	1.6
Lead	310	460
Zinc	760	810

OW13-39S	SS-4 2.29-2.52 m
METALS	
Cadmium	1.9
Lead	220
Zinc	2,400

TP9	TP9-1" 0-0.08 m
METALS	
Cadmium	2.3
Lead	270
Zinc	5,600

BH07-53	SS-1 0-0.05 m	SS-2 1.22-1.47 m	Dup#1 (SS-2)
METALS			
Lead	<	391	158

BH07-41	SS-1 0-0.05 m	Dup #4 (SS-1)	SS-2 1.22-2.29 m
METALS			
Cadmium	<	<	1.4
Zinc	<	<	572

BH07-63	SS-1A 0.05-1.22 m	SS-2 1.22-1.88 m
METALS		
Zinc	<	354

BH07-65	SS-1A 0.05-0.61 m	SS-2 1.22-2.03 m
METALS		
Cadmium	1.4	<
Zinc	426	514

BH07-50	SS-1 0.05-1.07 m	SS-2 1.22-1.67 m
METALS		
Zinc	<	1,380

TP11	TP11-6" 0.10-0.20 m	DUP2 (TP11-6")
METALS		
Cadmium	1.9	3.8
Lead	230	470
Zinc	890	2,200

BH07-61	SS-1A 0.05-1.22 m	SS-2 1.22-1.37 m
METALS		
Cadmium	<	2.9
Lead	155	123
Zinc	771	782

TP2	TP2-4' 1.17-1.27 m
METALS	
Zinc	400

BH07-64	SS-1A 0.05-1.22 m	SS-2 1.22-2.29 m
METALS		
Zinc	<	563

BH07-62	SS-1A 0.05-0.61 m	SS-1B 0.61-1.22 m	Dup #6 (SS-1B)
METALS			
Cadmium	<	1.5	1.4
Lead	<	199	200
Zinc	<	479	527

OW07-34	SS-1 0-1.22 m
METALS	
Cadmium	1.3
Lead	274
Zinc	635

BH07-49	SS-1 0.15-0.30 m	SS-2 1.22-1.83 m
METALS		
Cadmium	<	1.5
Zinc	374	899

BH07-57	SS-1A 0.05-1.22 m	Dup #5 (SS-1A)	SS-2 1.22-1.88 m
METALS			
Cadmium	2	2.3	<
Lead	232	243	176
Zinc	679	805	628
Mercury	0.32	<	<

BH07-55	SS-1B 0.91-1.22 m
METALS	<

OW07-35	SS-1 0-1.22 m	SS-2 1.22-2.44 m
METALS		
Cadmium	<	1.6
Lead	<	160
Zinc	<	1,020

BH07-48	SS-1 0.10-1.22 m	SS-2 1.22-1.42 m
METALS		
Cadmium	1.5	<
Zinc	483	669

TP10	TP10-4' 1.17-1.27 m
METALS	
Cadmium	1.6
Lead	160
Zinc	940

BH07-54	SS-1A 0.05-0.61 m	SS-2 1.22-2.39 m
METALS		
Cadmium	1.3	2.3
Lead	150	<
Zinc	500	613

BH07-47	SS-1 0.15-1.22 m	SS-2 1.22-1.80 m
METALS		
Cadmium	1.4	<
Lead	146	<
Zinc	481	853

OW07-36	SS-1 0-0.61 m	SS-1A 0.61-1.22 m
METALS		
Cadmium	<	2
Lead	292	177
Zinc	<	908
EC (mS/cm)	3.02	0.706
SAR (meq/L)	24.3	7.04

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6
METALS		
Antimony	7.5	40
Arsenic	18	18
Boron (Hot Water Extractable)	1.5	2
Cadmium	1.2	1.9
Copper	140	230
Lead	120	120
Molybdenum	6.9	40
Nickel	100	270
Zinc	340	340
Mercury	0.27	3.9
Electrical Conductivity (mSem)	0.7	1.4
Sodium Adsorption Ratio (meq/L)	5	12

LEGEND:

PROPERTY LINE

SAMPLING LOCATIONS - DCS

- OW13-39 — MONITORING WELL LOCATION (DCS 2013)
- TP-1 — TEST PIT LOCATION (DCS 2013)
- BH-13-40 — BOREHOLE LOCATION (DCS 2013)
- OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)
- OW07-36D — DEEP MONITORING WELL IN ROCK (2007)
- BH07-39 — SHALLOW BOREHOLE (2007)

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATON (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

SAMPLE IDENTIFIER
SAMPLE LOCATION
DEPTH INTERVAL

BH07-49	SS-1 0.15-0.30 m	SS-2 1.22-1.83 m
METALS		
Cadmium	<	1.5
Zinc	374	899

EXCEEDS MOE RPI TABLE 6 STANDARD
EXCEEDS MOE ICC and RPI TABLE 6 STANDARD
MEETS MOE RPI and ICC TABLE 6 STANDARD

METAL EXCEEDANCES IN SOILS

SOIL DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

DCS AN ARCADIS COMPANY
DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH
200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY
PHASE TWO ESA

2007 & 2013 SOIL SAMPLING
METAL EXCEEDANCES

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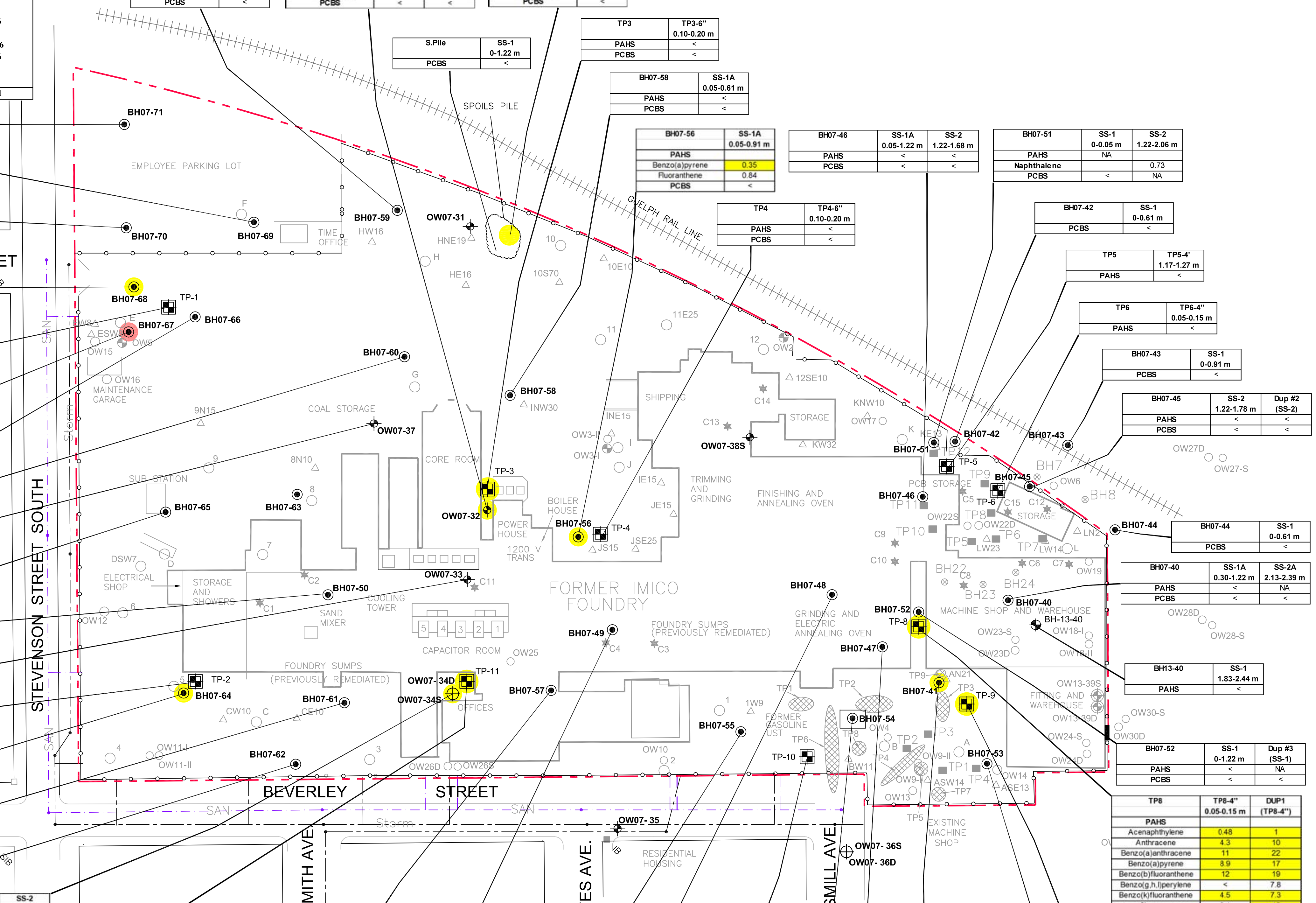
PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6
PAHS		
Acenaphthene	7.9	21
Acenaphthylene	0.15	0.15
Anthracene	0.67	0.67
Benzo(a)anthracene	0.5	0.96
Benzo(a)pyrene	0.3	0.3
Benzo(b)fluoranthene	0.78	0.96
Benzo(g,h,I)perylene	6.6	9.6
Benzo(k)fluoranthene	0.78	0.96
Chrysene	7	9.6
Dibenzo(a,h)anthracene	0.1	0.1
Fluoranthene	0.69	9.6
Fluorene	62	62
Indeno(1,2,3-cd)pyrene	0.38	0.76
Naphthalene	0.6	9.6
Phenanthrene	6.2	12
Pyrene	78	96
PCBS	0.35	1.1



BH07-71	SS-1A 0.05-1.22 m
PAHS	<

BH07-69	SS-1A 0.08-1.22 m
PAHS	<

BH07-70	SS-1A 0.05-1.22 m
PAHS	<
PCBS	<

BH07-68	SS-1 0-0.05 m	SS-1A 0.05-0.61 m
PAHS		<
Dibenzo(a,h)anthracene	0.31	
PCBS	<	<

TP1	TP1-5" 0.08-0.18 m
PAHS	<
PCBS	<

BH07-67	SS-1A 0.05-0.91 m	SS-2 1.22-1.37 m
PCBS	1.5	<

BH07-66	SS-1A 0.05-1.22 m	SS-2 1.22-1.32 m
PAHS	<	NA
PCBS	<	<

BH07-60	SS-1 0-0.05 m
PAHS	<

OW07-37	SS-1 0-0.61 m	SS-1A 0.61-1.22 m
PAHS	<	<

BH07-65	SS-1A 0.05-0.61 m	SS-2 1.22-2.03 m
PAHS	<	NA
PCBS	<	<

BH07-50	SS-1 0.05-1.07 m	SS-2 1.22-1.67 m
PCBS	<	<

OW07-33	SS-1 0-1.22 m
PCBS	<

TP2	TP2-4' 1.17-1.27 m
PAHS	<

BH07-64	SS-1A 0.05-1.22 m
PAHS	
Benzo(a)pyrene	0.44

BH07-61	SS-1A 0.05-1.22 m
PAHS	<
PCBS	<

BH07-62	SS-1B 0.61-1.22 m
PAHS	<
PCBS	<

OW07-34	SS-1 0-1.22 m	DUP #11 (SS-1)	SS-2 1.22-1.57 m
PAHS		NA	NA
Acenaphthene	94		
Anthracene	160		
Benzo(a)anthracene	200		
Benzo(a)pyrene	130		
Benzo(b)fluoranthene	190		
Benzo(g,h,I)perylene	70		
Benzo(k)fluoranthene	66		
Chrysene	180		
Dibenzo(a,h)anthracene	6		
Fluoranthene	660		
Fluorene	150		
Indeno(1,2,3-cd)pyrene	80		
Naphthalene	220		
Phenanthrene	900		
Pyrene	470		
PCBS	<	<	<

BH07-59	SS-1A 0.05-0.30 m
PAHS	<
PCBS	<

OW07-32	SS-1 0-1.07 m	SS-2 1.22-1.65 m
PAHS		NA
Benzo(a)anthracene	0.6	
Benzo(a)pyrene	0.54	
Dibenzo(a,h)anthracene	0.12	
Fluoranthene	0.78	
Indeno(1,2,3-cd)pyrene	0.46	
PCBS	<	<

N.Pile	SS-1 0-1.22 m
PAHS	
Benzo(a)pyrene	0.47
Fluoranthene	0.73
Indeno(1,2,3-cd)pyrene	0.44
PCBS	<

S.Pile	SS-1 0-1.22 m
PCBS	<

TP3	TP3-6" 0.10-0.20 m
PAHS	<
PCBS	<

BH07-58	SS-1A 0.05-0.61 m
PAHS	<
PCBS	<

BH07-56	SS-1A 0.05-0.91 m
PAHS	
Benzo(a)pyrene	0.35
Fluoranthene	0.84
PCBS	<

BH07-46	SS-1A 0.05-1.22 m	SS-2 1.22-1.68 m
PAHS	<	<
PCBS	<	<

BH07-51	SS-1 0-0.05 m	SS-2 1.22-2.06 m
PAHS	NA	
Naphthalene		0.73
PCBS	<	NA

TP4	TP4-6" 0.10-0.20 m
PAHS	<
PCBS	<

BH07-42	SS-1 0-0.61 m
PCBS	<

TP5	TP5-4' 1.17-1.27 m
PAHS	<

TP6	TP6-4" 0.05-0.15 m
PAHS	<

BH07-43	SS-1 0-0.91 m
PCBS	<

BH07-45	SS-2 1.22-1.78 m	Dup #2 (SS-2)
PAHS	<	<
PCBS	<	<

BH07-44	SS-1 0-0.61 m
PCBS	<

BH07-40	SS-1A 0.30-1.22 m	SS-2A 2.13-2.39 m
PAHS	<	NA
PCBS	<	<

BH13-40	SS-1 1.83-2.44 m
PAHS	<

BH07-52	SS-1 0-1.22 m	Dup #3 (SS-1)
PAHS	<	NA
PCBS	<	<

TP8	TP8-4" 0.05-0.15 m	DUP1 (TP8-4")
PAHS		
Acenaphthylene	0.48	1
Anthracene	4.3	10
Benzo(a)anthracene	11	22
Benzo(a)pyrene	8.9	17
Benzo(b)fluoranthene	12	19
Benzo(g,h,I)perylene	<	7.8
Benzo(k)fluoranthene	4.5	7.3
Chrysene	9.1	18
Dibenzo(a,h)anthracene	1.5	2.4
Fluoranthene	28	58
Indeno(1,2,3-cd)pyrene	5.9	8.8
Naphthalene	0.72	1.5
Phenanthrene	17	48
PCBS	0.4	<

TP11	TP11-6" 0.10-0.20 m	DUP2 (TP11-6")
PAHS		
Acenaphthylene	0.16	<
Anthracene	<	0.89
Benzo(a)anthracene	1.5	1.9
Benzo(a)pyrene	1	1.2
Benzo(b)fluoranthene	1.7	1.9
Dibenzo(a,h)anthracene	0.16	0.19
Fluoranthene	3.7	4.9
Indeno(1,2,3-cd)pyrene	0.53	0.58
2-Methylnaphthalene	1.1	<
Naphthalene	1.2	1.1

BH07-57	SS-1A 0.05-1.22 m
PAHS	<
PCBS	<

BH07-49	SS-2 1.22-1.83 m
PAHS	<
PCBS	<

BH07-55	SS-1B 0.91-1.22 m
PAHS	<

BH07-48	SS-1 0.10-1.22 m
PAHS	<
PCBS	<

TP10	TP10-4' 1.17-1.27 m
PAHS	<

BH07-54	SS-2 1.22-2.39 m
PAHS	<

BH07-47	SS-2 1.22-1.80 m
PAHS	<
PCBS	<

BH07-41	SS-1 0-0.05 m
PAHS	
Benzo(a)pyrene	0.53
Benzo(b)fluoranthene	0.9
Fluoranthene	1.6
Indeno(1,2,3-cd)pyrene	0.57
PCBS	<

BH07-53	SS-1 0-0.05 m	Dup #1 (SS-2)
PAHS	<	<

TP9	TP9-1" 0-0.08 m
PAHS	
Benzo(a)anthracene	0.9
Benzo(a)pyrene	0.95
Benzo(b)fluoranthene	1.3
Dibenzo(a,h)anthracene	0.15
Fluoranthene	1.8
Indeno(1,2,3-cd)pyrene	0.68

LEGEND:

PROPERTY LINE

SAMPLING LOCATIONS - DCS

- OW13-39 — MONITORING WELL LOCATION (DCS 2013)
- TP-1 — TEST PIT LOCATION (DCS 2013)
- BH-13-40 — BOREHOLE LOCATION (DCS 2013)
- OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)
- OW07-36D — DEEP MONITORING WELL IN ROCK (2007)
- BH07-39 — SHALLOW BOREHOLE (2007)

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATON (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

SAMPLE LOCATION — SAMPLE IDENTIFIER — DEPTH INTERVAL

BH07-56	SS-1A 0.05-0.91 m
PAHS	
Benzo(a)pyrene	0.35
Fluoranthene	0.84
PCBS	<

EXCEEDS MOE RPI and ICC TABLE 6 STANDARD

EXCEEDS MOE RPI TABLE 6 STANDARD

MEETS MOE RPI and ICC TABLE 6 STANDARD

PAH EXCEEDANCES IN SOILS

PCB EXCEEDANCES IN SOIL

SOIL DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

DCS AN ARCADIS COMPANY

DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH

200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY

PHASE TWO ESA

2007 & 2013 SOIL SAMPLING

PAH and PCB EXCEEDANCES

FEB. 2014	1:1500	701996-P2-9.5

PARAMETERS	MOE RPI STANDARDS Cleanup Table 6	MOE ICC STANDARDS Cleanup Table 6
PHCS		
CCME F3 (>C16-C34)	**300**	**1,700**
VOCS		
Benzene	**0.21**	**0.32**
Tetrachloroethylene	**0.28**	**1.9**
Trichloroethylene	**0.061**	**0.55**

TP1	TP1-5'' 0.08-0.18 m
PHCS	<
VOCS	<

TP3	TP3-6'' 0.10-0.20 m
PHCS	<
VOCS	<

TP4	TP4-6'' 0.10-0.20 m
PHCS	<
VOCS	<

TP5	TP5-4' 1.17-1.27 m
PHCS	<
VOCS	<

TP8	TP8-4'' 0.05-0.15 m	DUP1 (TP8-4'')
PHCS		
CCME F3 (>C16-C34)	520	770
VOCS	<	<

TP6	TP6-4'' 0.05-0.15 m
PHCS	<
VOCS	<

BH13-40	SS1 1.83-2.44 m
PHCS	<
VOCS	
Trichloroethylene	0.08

OW13-39S	SS4 2.29-2.52 m
VOCS	
Trichloroethylene	1

TP2	TP2-4' 1.17-1.27 m
PHCS	<
VOCS	<

TP11	TP11-6'' 0.10-0.20 m	DUP2 (TP11-6'')
PHCS	<	<
VOCS		
Benzene	0.23	0.25
Tetrachloroethylene	1	1.2

TP10	TP10-4' 1.17-1.27 m
PHCS	<
VOCS	<

TP9	TP9-1'' 0-0.08 m
PHCS	<
VOCS	<

LEGEND:

PROPERTY LINE

SAMPLING LOCATIONS - DCS

- OW13-39 — MONITORING WELL LOCATION (DCS 2013)
- TP-1 — TEST PIT LOCATION (DCS 2013)
- BH-13-40 — BOREHOLE LOCATION (DCS 2013)
- OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)
- OW07-36D — DEEP MONITORING WELL IN ROCK (2007)
- BH07-39 — SHALLOW BOREHOLE (2007)

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATON (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

SAMPLE IDENTIFIER
SAMPLE LOCATION
DEPTH INTERVAL
EXCEEDS MOE RPI and ICC TABLE 6 STANDARD
MEETS MOE RPI and ICC TABLE 6 STANDARD
EXCEEDS MOE RPI TABLE 6 STANDARD

VOC EXCEEDANCE IN SOILS

SOIL DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

DCS AN ARCADIS COMPANY
DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH
200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

2013 SOIL SAMPLING
PHC and VOC EXCEEDANCES

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PARAMETERS	MOE STANDARDS Cleanup Table 6
PAHS	
Benzo(a)anthracene	1
Benzo(a)pyrene	0.01
Benzo(b)fluoranthene	0.1
Chrysene	0.1
Fluoranthene	0.41
Phenanthrene	1
Pyrene	4.1
PHCS	
F1 (C6-C10)	420
F2 (C10-C16)	150
F3 (C16-C34)	500
F4 (C34-C50)	500
F4 Gravimetric	500
VOCS	
Benzene	0.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.5
cis-1,2-Dichloroethylene	1.6
trans-1,2-Dichloroethyl	1.6
Tetrachloroethylene	0.5
1,1,1-Trichloroethane	23
1,1,2-Trichloroethane	0.5
Trichloroethylene	0.5
Vinyl Chloride	0.5
Xylene (Total)	72

OW16	24-Oct-13
METALS	<

OW3-II	24-Oct-13
METALS	<
PAH	<

OW3-I	24-Oct-13
METALS	<
PAH	<

OW2	25-Oct-13
METALS	<
PHC	<
VOC	<
PAH	<

OW22	OW22(S) 25-Oct-13	OW22(D) 25-Oct-13
METALS	<	<
PHC		
F2 (C10-C16)	630	<
F3 (C16-C34)	6,000	<
PAH		
Benzo(a)pyrene	0.03	<
PAH RDLs	1	<

OW23	OW23(S) 25-Oct-13	OW23(D) 25-Oct-13
METALS	<	<
PHC		
F2 (C10-C16)	13,000	<
F3 (C16-C34)	580,000	<
F4 (C34-C50)	23,000	<
VOC		
Benzene	<	1.5
cis-1,2-Dichloroethylene	<	27
Trichloroethylene	<	1.7
Vinyl Chloride	<	9.6
VOC RDLs	24	<
PAH		
Chrysene	9	<
Fluoranthene	11	<
Phenanthrene	23	<
Pyrene	16	<
PAH RDLs	12	<

OW27	OW27(S) 25-Oct-13	OW300 (OW27(S))	OW27(D) 25-Oct-13
METALS	<	NA	<
PHC	<	NA	<
VOC			
cis-1,2-Dichloroethylene	7.9	9.0	<
Trichloroethylene	16	16	<
PAH	<	NA	<

OW19	25-Oct-13
METALS	<
PAH	<

OW18-I	25-Oct-13
METALS	<
PHC	<
VOC	
Trichloroethylene	13
PAH	<

OW18-II	25-Oct-13
METALS	<
PHC	<
VOC	
Benzene	2.8
1,1-Dichloroethylene	1.9
cis-1,2-Dichloroethylene	120
trans-1,2-Dichloroethylene	3.1
Trichloroethylene	2.3
Vinyl Chloride	45
VOC RDLs	12
PAH	<

OW28	OW28(S) 25-Oct-13	OW28(D) 25-Oct-13
METALS	<	<
PHC	<	<
VOC		
cis-1,2-Dichloroethylene	2.1	72
Trichloroethylene	87	<
Vinyl Chloride	<	14
VOC RDLs	6	7
PAH	<	<

MW13-39	MW13-39S 06-Jan-14	MW13-39D 06-Jan-14	DUP (MW13-39D)
VOC			
1,1-Dichloroethylene	2.1	4.4	4.4
cis-1,2-Dichloroethylene	100	180	180
trans-1,2-Dichloroethylene	9.1	9.3	9.3
Trichloroethylene	130	560	560
Vinyl Chloride	12	28	28

OW30	OW30(S) 25-Oct-13	OW30(D) 25-Oct-13	OW200 (OW30(D))
METALS	<	<	NA
PHC			
F1 (C6-C10)	NA	820	NA
VOC			
1,1-Dichloroethylene	<	36	33
cis-1,2-Dichloroethylene	210	560	530
trans-1,2-Dichloroethylene	7.1	30	30
Trichloroethylene	780	4,200	3,900
Vinyl Chloride	<	71	67
VOC RDLs	21	26	26
PAH			
Benzo(a)pyrene	0.12	<	NA
Benzo(b)fluoranthene	0.15	<	NA
Chrysene	0.14	<	NA

OW29	OW29(S) 25-Oct-13	OW100 (OW29(S))	OW29(D) 25-Oct-13
METALS	<	NA	<
VOC			
cis-1,2-Dichloroethylene	65	65	57
Trichloroethylene	61	61	900
VOC RDLs	10	10	23

OW07-34D	24-Oct-13
METALS	<
VOC	
VOC RDLs	3
PAH	<

OW26	OW26(S) 24-Oct-13	OW26(D) 24-Oct-13
METALS	<	<
PHC	<	<
VOC		
cis-1,2-Dichloroethylene	<	2.3
VOC RDLs	<	3
PAH	<	<

OW25	24-Oct-13
METALS	<
PHC	<
VOC	
Trichloroethylene	2.1
Vinyl Chloride	0.77
VOC RDLs	3
PAH	<

OW07-36	OW07-36S 24-Oct-13	OW07-36D 24-Oct-13
METALS	<	<
PHC		
F4 Gravimetric	1,600	<
VOC		
Benzene	<	0.57
cis-1,2-Dichloroethylene	2	22
Trichloroethylene	0.67	1.5
Vinyl Chloride	<	2.7
VOC RDLs	3	3

OW9-I	24-Oct-13
METALS	<
PHC	<
VOC	
VOC RDLs	3

OW9-II	24-Oct-13
METALS	<
PHC	<
VOC	
Benzene	3.3
cis-1,2-Dichloroethylene	9.1
Vinyl Chloride	8.9
VOC RDLs	3

OW24	OW24(S) 24-Oct-13	OW24(D) 12-Dec-12
METALS	<	<
VOC		
1,2-Dichloroethane	<	33
1,1-Dichloroethylene	<	600
cis-1,2-Dichloroethylene	4.1	55
1,1,1-Trichloroethane	<	3,900
1,1,2-Trichloroethane	<	45
Trichloroethylene	54	<
VOC RDLs	1	27
PAH	<	<

LEGEND:

PROPERTY LINE

MONITORING WELL LOCATIONS - DCS

OW13-39 — MONITORING WELL LOCATION (DCS 2013)

OW07-31 — SHALLOW MONITORING WELL IN ROCK (2007)

OW07-36D — DEEP MONITORING WELL IN ROCK (2007)

MONITORING WELL LOCATIONS - OTHERS

OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.

OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.

SAMPLE LOCATION

SAMPLE DATE

OW18-II	25-Oct-13
METALS	<
PHC	<
VOC	
Benzene	2.8
1,1-Dichloroethylene	1.9
cis-1,2-Dichloroethylene	120
trans-1,2-Dichloroethylene	3.1
Trichloroethylene	2.3
Vinyl Chloride	45
VOC RDLs	12
PAH	<

EXCEEDS MOE TABLE 6 STANDARD

NUMBER OF PARAMETERS WITH DETECTION LIMITS IN EXCESS OF THE TABLE 6 STANDARDS

MEETS MOE TABLE 6 STANDARD

PAH EXCEEDANCES IN GROUNDWATER

PHC EXCEEDANCES IN GROUNDWATER

VOC EXCEEDANCES IN GROUNDWATER

NOTES:

1. MOST RECENT RESULTS SHOWN FOR EACH WELL.
2. VOC RDL: INDICATES NUMBER OF PARAMETERS WITH DETECTION LIMITS IN EXCESS OF THE TABLE 6 STANDARDS
3. GROUNDWATER DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

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200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

2012 & 2013 GROUNDWATER SAMPLING AND EXCEEDANCES

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BH07-68	SS-1	SS-1A
METALS	<	<
PAHs		
Dibenzo(a,h)anthracene	0.31 ug/g	NA
PCBs	<	<

BH07-67	SS-1A	SS-2A
METALS		
Arsenic	23 ug/g	<
Cadmium	2.1 ug/g	<
Lead	336 ug/g	<
Zinc	379 ug/g	538 ug/g
PAHs	NA	NA
PCBs	1.5 ug/g	<

BH07-66	SS-1A	SS-2A
METALS		
Zinc	<	349 ug/g
PAHs	<	NA
PCBs	<	<

TP1	TP1-5"
METALS	
Zinc	360 ug/g
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<
PCBs	<

OW07-37	SS-1	SS-1A
METALS	<	<
PAHs	<	<
PCBs	NA	NA

TP3	TP3-6"
METALS	
Zinc	470 ug/g
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<
PCBs	<

OW07-32	SS-1	SS-2
METALS	<	NA
PAHs		
Benzo(a)anthracene	0.6 ug/g	NA
Benzo(a)pyrene	0.54 ug/g	NA
Dibenzo(a,h)anthracene	0.12 ug/g	NA
Fluoranthene	0.78 ug/g	NA
Indeno(1,2,3-cd)pyrene	0.46 ug/g	NA
PCBs	<	<

TP4	TP4-6"
METALS	<
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<
PCBs	<

BH07-52	SS-1	DUP3 (SS-1)	SS-2A
METALS			
Cadmium	1.7 ug/g	NA	1.3 ug/g
Copper	158 ug/g	NA	<
Lead	289 ug/g	NA	<
Zinc	1350 ug/g	NA	1470 ug/g
PAHs	<	NA	NA
PCBs	<	<	NA

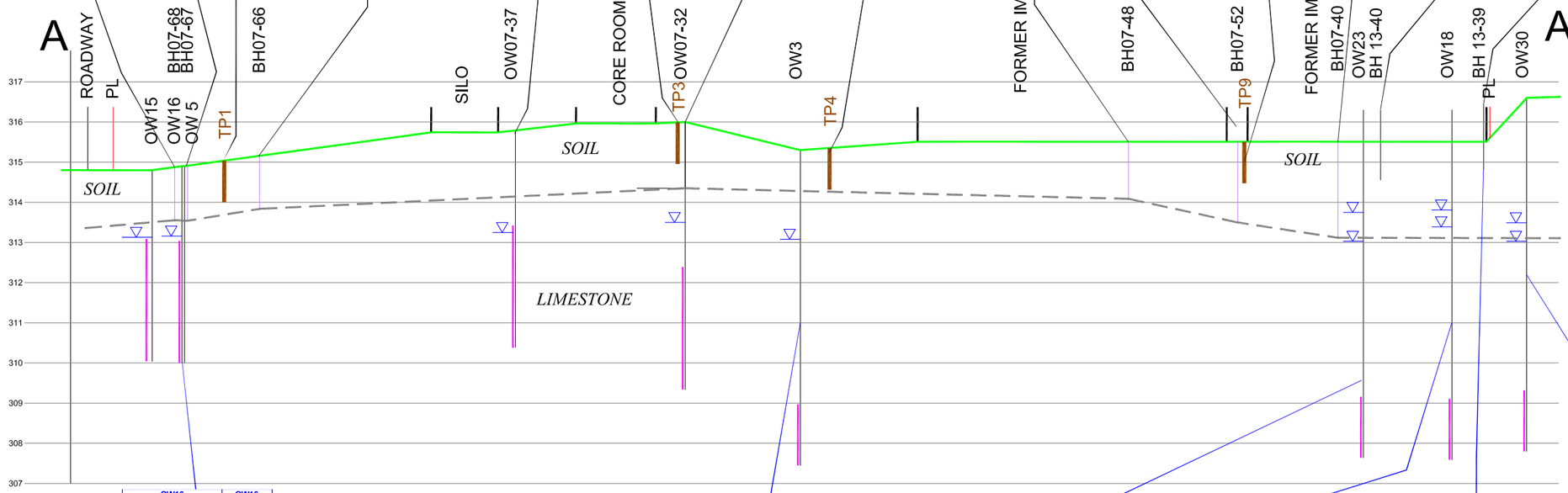
BH07-48	SS-1	SS-2
METALS		
Cadmium	1.5 ug/g	<
Zinc	483 ug/g	669 ug/g
PAHs	<	NA
PCBs	<	NA

TP9	TP9-1"
METALS	
Cadmium	2.3 ug/g
Lead	270 ug/g
Zinc	5600 ug/g
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	
Benzo(a)anthracene	0.9 ug/g
Benzo(a)pyrene	0.95 ug/g
Benzo(b)fluoranthene	1.3 ug/g
Dibenzo(a,h)anthracene	0.15 ug/g
Fluoranthene	1.8 ug/g
Indeno(1,2,3-cd)pyrene	0.68 ug/g
PCBs	NA

BH07-40	SS-1A	SS-2A
METALS		
Boron (HWS)	10.5 ug/g	<
Cadmium	3.4 ug/g	1.5 ug/g
Lead	227 ug/g	<
Zinc	1580 ug/g	2250 ug/g
PAHs	<	NA
PCBs	<	<

OW13-40	OW13-40
METALS	
Zinc	620 ug/g
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<
PCBs	NA

OW13-39	OW13-39(S)
METALS	
Cadmium	1.9 ug/g
Lead	220 ug/g
Zinc	2400 ug/g
VOCs	<
BTEX/F1	NA
PHCs (F2-F4)	NA
PAHs	NA
PCBs	NA



OW16	OW16
METALS	<
VOCs	NA
BTEX/F1	NA
PHCs (F2-F4)	NA
PAHs	NA

OW3-I	OW3-I
METALS	<
VOCs	NA
BTEX/F1	NA
PHCs (F2-F4)	NA
PAHs	<

OW3-II	OW3-II
METALS	<
VOCs	NA
BTEX/F1	NA
PHCs (F2-F4)	NA
PAHs	<

OW23	OW23(S)	OW23(D)
METALS	<	<
VOCs		
cis-1,2-Dichloroethylene	<	27 ug/L
Trichloroethylene	<	1.7 ug/L
Vinyl Chloride	<	9.6 ug/L
BTEX/F1		
Benzene	<	1.5 ug/L
PHCs (F2-F4)		
F2 (C10-C16)	13000 ug/L	<
F3 (C16-C34)	580000 ug/L	<
F4 (C34-C50)	23000 ug/L	<
PAHs		
Chrysene	9 ug/L	<
Fluoranthene	11 ug/L	<
Phenanthrene	23 ug/L	<
Pyrene	16 ug/L	<

OW18-I	OW18-I
METALS	<
VOCs	
Trichloroethylene	13 ug/L
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<

OW18-II	OW18-II
METALS	<
VOCs	
1,1-Dichloroethylene	1.9 ug/L
cis-1,2-Dichloroethylene	120 ug/L
trans-1,2-Dichloroethylene	3.1 ug/L
Trichloroethylene	2.3 ug/L
Vinyl Chloride	45 ug/L
BTEX/F1	
Benzene	2.8 ug/L
PHCs (F2-F4)	<
PAHs	<

MW13-39	MW13-39(S)	MW13-39(D)	DUP (MW13-39(D))
METALS	NA	NA	NA
VOCs			
1,1-Dichloroethylene	2.1 ug/L	4.4 ug/L	4.4 ug/L
cis-1,2-Dichloroethylene	100 ug/L	180 ug/L	180 ug/L
trans-1,2-Dichloroethylene	9.1 ug/L	9.3 ug/L	9.3 ug/L
Trichloroethylene	130 ug/L	560 ug/L	560 ug/L
Vinyl Chloride	12 ug/L	28 ug/L	28 ug/L
BTEX/F1	NA	NA	NA
PHCs (F2-F4)	NA	NA	NA
PAHs	NA	NA	NA

OW30	OW30(S)	OW30(D)
METALS	<	<
VOCs		
1,1-Dichloroethylene	<	36 ug/L
cis-1,2-Dichloroethylene	210 ug/L	560 ug/L
trans-1,2-Dichloroethylene	7.1 ug/L	30 ug/L
Trichloroethylene	780 ug/L	4200 ug/L
Vinyl Chloride	<	71 ug/L
BTEX/F1		
F1 (C6-C10)	<	820 ug/L
PHCs (F2-F4)	<	<
PAHs		
Benzo(a)pyrene	0.12 ug/L	<
Benzo(b/j)fluoranthene	0.15 ug/L	<
Chrysene	0.14 ug/L	<

LEGEND:

OW30 — BOREHOLE/OBSERVATION WELL LOCATION

TEST PIT LOCATION

GROUND SURFACE

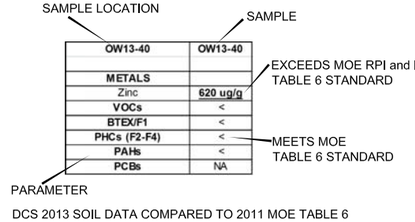
PROPERTY BOUNDARY

BUILDING BOUNDARY

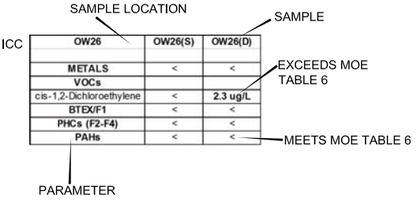
WATER LEVEL

SCREEN

INFERRED BEDROCK SURFACE



DCS 2013 SOIL DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS



2.3 EXCEEDS TABLE 6 POTABLE SITE CONDITION STANDARD

2013 GROUNDWATER DATA COMPARED TO 2011 MOE TABLE 6 POTABLE SITE CONDITION STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

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200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

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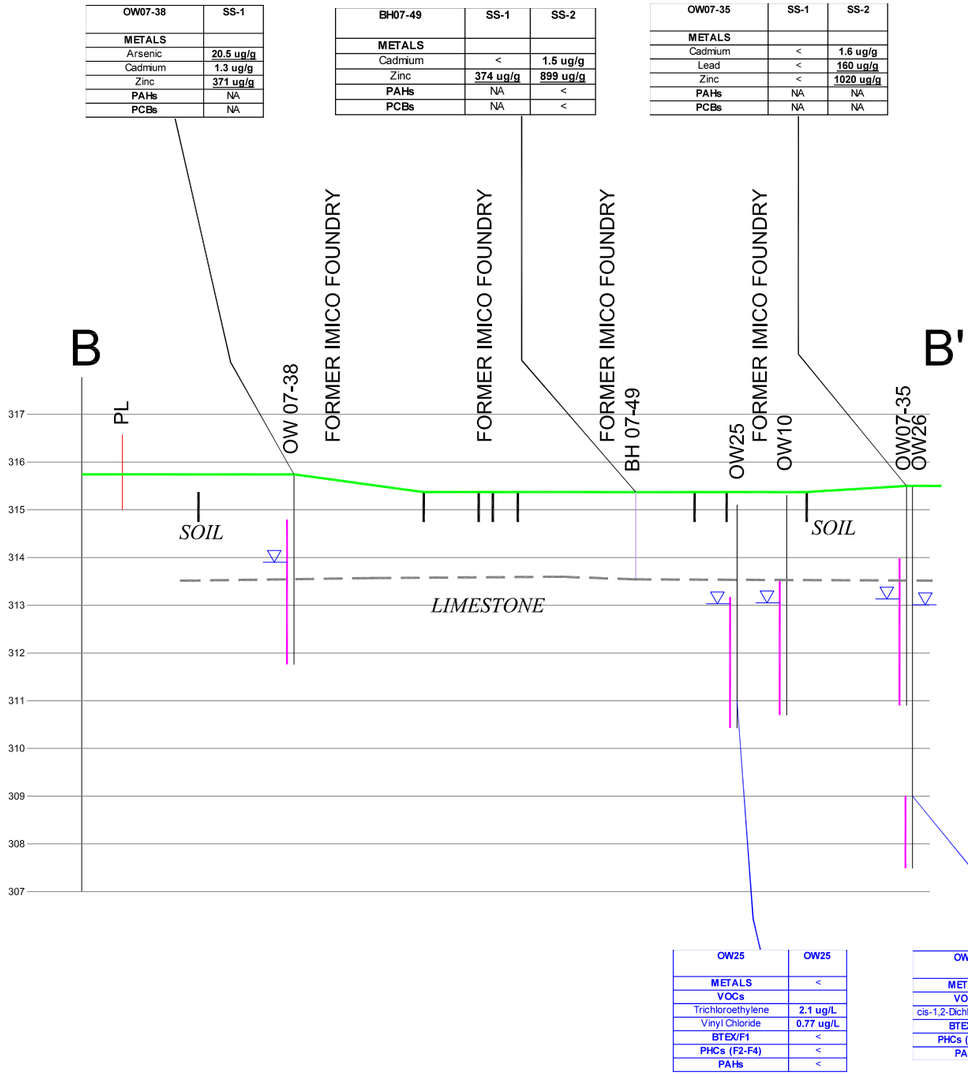


OW07-38	SS-1
METALS	
Arsenic	20.5 ug/g
Cadmium	1.3 ug/g
Zinc	371 ug/g
PAHs	NA
PCBs	NA

BH07-49	SS-1	SS-2
METALS		
Cadmium	<	1.5 ug/g
Zinc	374 ug/g	899 ug/g
PAHs	NA	<
PCBs	NA	<

OW07-35	SS-1	SS-2
METALS		
Cadmium	<	1.6 ug/g
Lead	<	160 ug/g
Zinc	<	1020 ug/g
PAHs	NA	NA
PCBs	NA	NA

OW25	OW25
METALS	<
VOCs	
Trichloroethylene	2.1 ug/L
Vinyl Chloride	0.77 ug/L
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<

OW26	OW26(S)	OW26(D)
METALS	<	<
VOCs		
cis-1,2-Dichloroethylene	<	2.3 ug/L
BTEX/F1	<	<
PHCs (F2-F4)	<	<
PAHs	<	<

LEGEND:

OW30 — BOREHOLE/OBSERVATION WELL LOCATION

TEST PIT LOCATION

GROUND SURFACE

PROPERTY BOUNDARY

BUILDING BOUNDARY

WATER LEVEL

SCREEN

INFERRED BEDROCK SURFACE

SAMPLE LOCATION — SAMPLE

OW13-40	OW13-40
METALS	
Zinc	620 ug/g
VOCs	<
BTEX/F1	<
PHCs (F2-F4)	<
PAHs	<
PCBs	NA

EXCEEDS MOE RPI and ICC TABLE 6 STANDARD

MEETS MOE TABLE 6 STANDARD

PARAMETER

DCS 2013 SOIL DATA COMPARED TO 2011 MOE TABLE 6 STANDARDS

SAMPLE LOCATION — SAMPLE

OW26	OW26(S)	OW26(D)
METALS	<	<
VOCs		
cis-1,2-Dichloroethylene	<	2.3 ug/L
BTEX/F1	<	<
PHCs (F2-F4)	<	<
PAHs	<	<

EXCEEDS MOE TABLE 6

MEETS MOE TABLE 6

PARAMETER

2.3 EXCEEDS TABLE 6 POTABLE SITE CONDITION STANDARD

2013 GROUNDWATER DATA COMPARED TO 2011 MOE TABLE 6 POTABLE SITE CONDITION STANDARDS

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

* PHASE II ENVIRONMENTAL SITE ASSESSMENT, 200 BEVERLEY STREET, GUELPH, DCS. 2007

DCS AN ARCADIS COMPANY

DECOMMISSIONING CONSULTING SERVICES

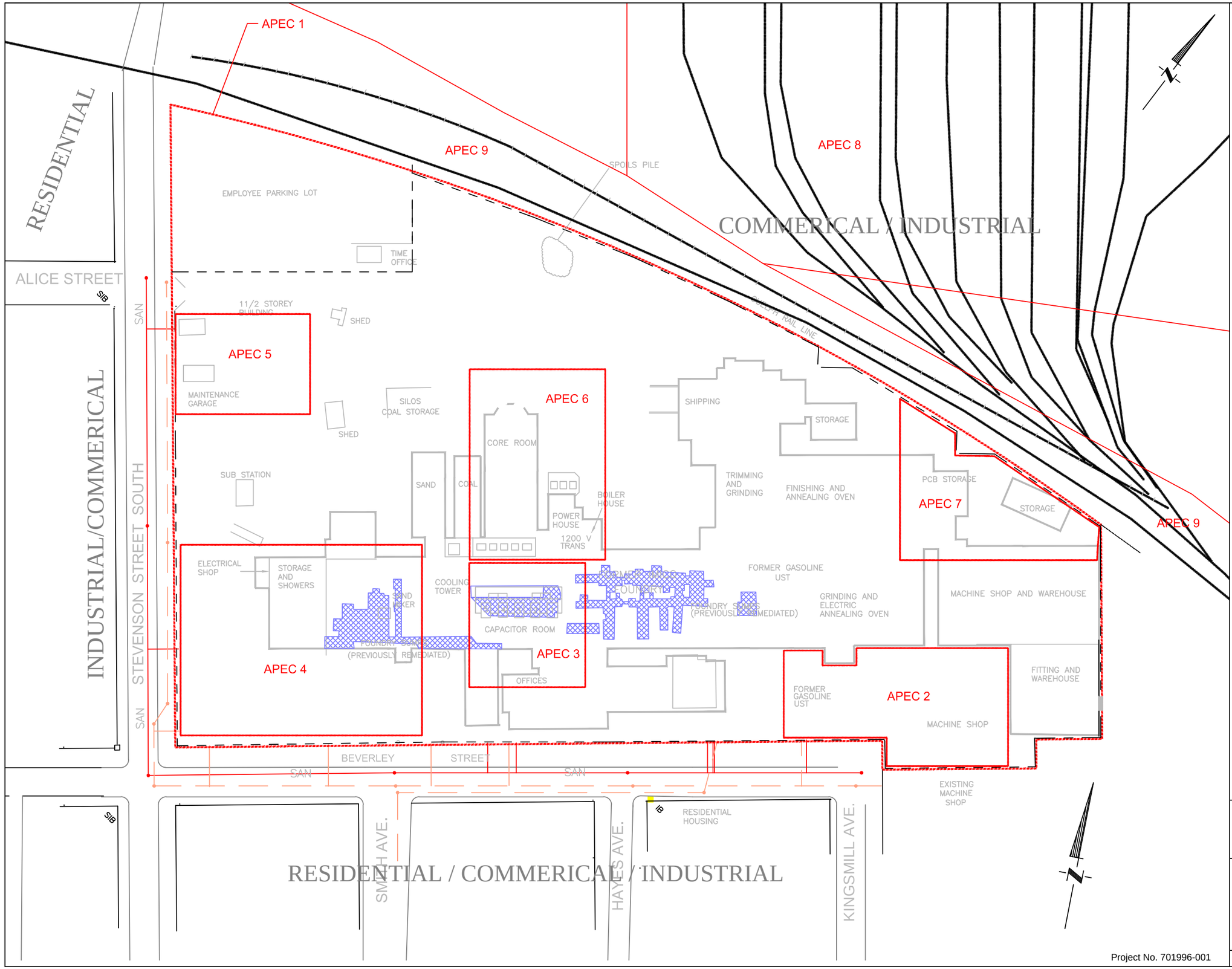
CITY OF GUELPH

200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE TWO ESA

CROSS SECTION B - B'

FEB. 2014	1:1250	701996-P2-9.9



LEGEND:

EXTENT OF FOUNDRY SUMPS

AREAS OF POTENTIAL ENVIRONMENTAL CONCERNS

APEC 1	HISTORIC IMPORTATION OF FILL OF UNKNOWN QUALITY
APEC 2	HISTORIC GASOLINE AND ASSOCIATED PRODUCT STORAGE IN FIXED TANKS, METAL TREATMENT, COATING AND FINISHING.
APEC 3	HISTORIC IRON AND STEEL MANUFACTURING AND PROCESSING, USE AND STORAGE OF PCBs.
APEC 4	HISTORIC IRON AND STEEL MANUFACTURING AND PROCESSING.
APEC 5	HISTORIC GARAGE AND MAINTENANCE AND REPAIRS.
APEC 6	HISTORIC USE AND STORAGE OF PCBs.
APEC 7	HISTORIC IRON AND STEEL MANUFACTURING AND PROCESSING METAL TREATMENT, COATING AND FINISHING, USE AND STORAGE OF PCBs.
APEC 8	CHEMICAL MANUFACTURING, PROCESSING AND BULK STORAGE
APEC 9	RAIL YARD, TRACKS AND SPURS ADJACENT TO THE SITE

REFERENCE:

CITY OF GUELPH, FORMER IMICO FACILITY, DEMOLITION AND WASTE REMOVAL REPORT - BY EARTH TECH, OCTOBER 1999

DCS AN ARCADIS COMPANY
DECOMMISSIONING CONSULTING SERVICES

CITY OF GUELPH
200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY
PHASE TWO ESA

PHASE ONE CONCEPTUAL SITE MODEL

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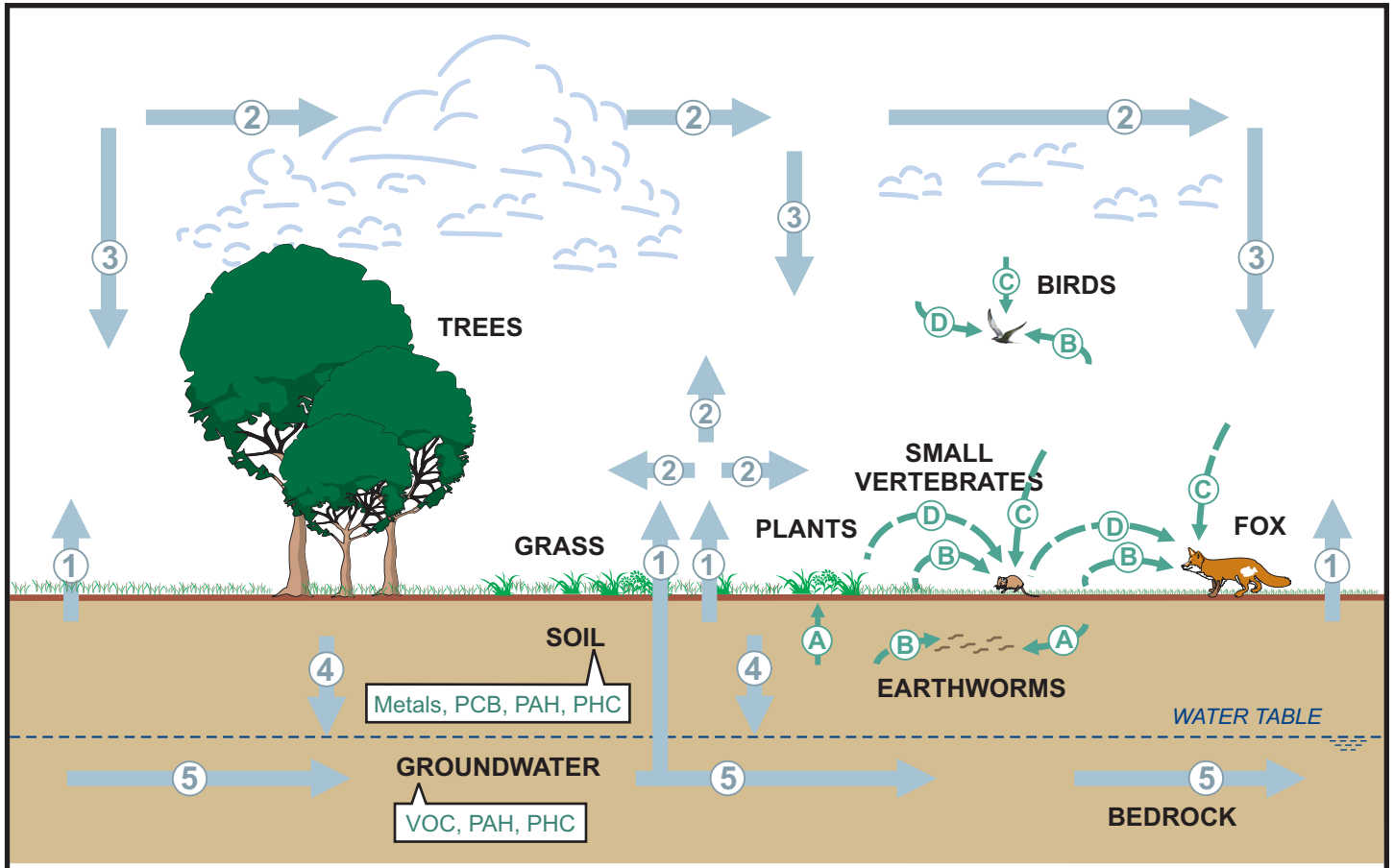
Drawing 701996-P2-9-11

CONCEPTUAL SITE MODEL FOR ECOLOGICAL RECEPTORS



ENVIRONMENTAL FATE PROCESS:

1. DUST RESUSPENSION AND VAPOUR MIGRATION
2. AIR DISPERSION
3. WET AND DRY DEPOSITION
4. SOIL LEACHING TO GROUNDWATER
5. MIGRATION OF GROUNDWATER

PATHWAYS OF EXPOSURE AND RECEPTORS:

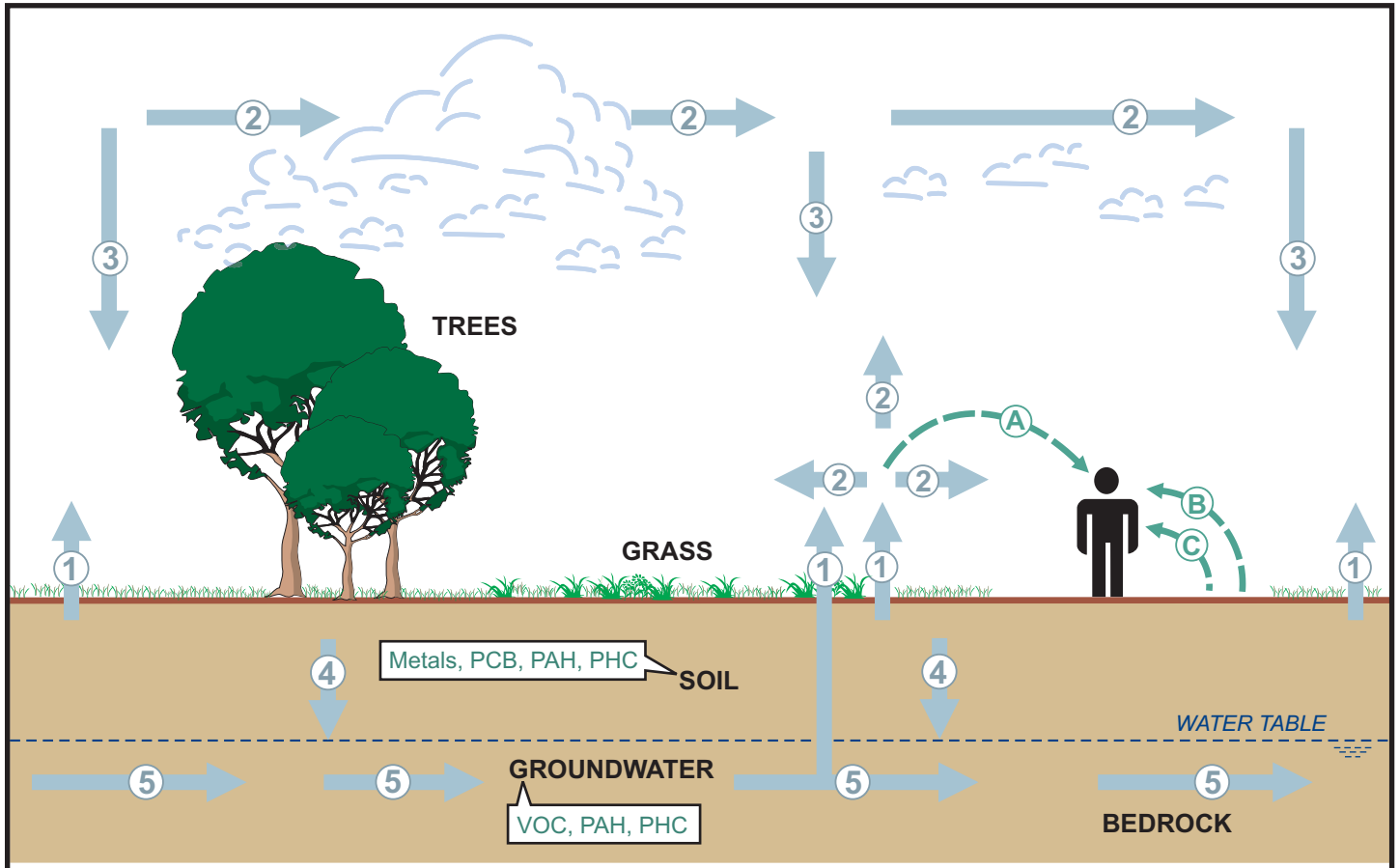
- A UPTAKE FROM SOIL
- B DIRECT CONTACT WITH SOIL
- C INHALATION OF DUST AND VAPOUR
- D INTAKE OF FOOD/SOIL

NOTE:

1. NO POTENTIAL EXPOSURE FOR CONTAMINANTS OR PATHWAYS SHOWN IN RED
2. POTENTIAL EXPOSURE FOR CONTAMINANTS OR PATHWAYS SHOWN IN GREEN

Drawing 701996-P2-9-12

CONCEPTUAL SITE MODEL FOR HUMAN RECEPTORS



ENVIRONMENTAL FATE PROCESS:

1. DUST RESUSPENSION AND VAPOUR MIGRATION
2. AIR DISPERSION
3. WET AND DRY DEPOSITION
4. SOIL LEACHING TO GROUNDWATER
5. MIGRATION OF GROUNDWATER

PATHWAYS OF EXPOSURE AND RECEPTORS:

- A INHALATION OF DUST AND VAPOUR
- B INGESTION OF SOIL
- C DERMAL CONTACT WITH SOIL

NOTE:

1. NO POTENTIAL EXPOSURE FOR CONTAMINANTS OR PATHWAYS SHOWN IN RED
2. POTENTIAL EXPOSURE FOR CONTAMINANTS OR PATHWAYS SHOWN IN GREEN

10.0 USE AND LIMITATIONS OF THIS PHASE TWO ESA REPORT

This report, prepared for the City of Guelph, does not provide certification or warranty, expressed or implied, that the investigation conducted by DCS uncovered all potential contaminants of environmental concern at the site. The work undertaken by DCS was directed to provide information on potential contamination that might have accrued from its historic use. Based on the results of the investigation, DCS found evidence of chemical parameters in concentrations exceeding the evaluation criteria selected for the site. The test data, chemical analyses and conclusions given in the reports, however, are the results of a sampling of the sub-soils and groundwater encountered during the program, and based upon the total number of boreholes and monitoring wells performed, are considered to fairly represent the subsurface conditions within each area tested. It should be noted, however, that any assessment regarding the presence of contamination at the site is based on interpretation of conditions determined at specific locations and depths. This assessment cannot warrant that other pockets of contaminated soils are not located on the site. Chemical parameters were chosen based on potential contamination sources and, therefore, results are limited to those parameters tested.

The material in it reflects DCS' best judgement in light of the information available at the time of preparation, March 2014. Changes to soil and/or groundwater quality in the areas investigated can occur following the date of testing. Any use which a third party makes of the report, or reliance on, or decisions to be based on it, is the responsibility of such third parties.

APPENDIX A

STANDARD PROCEDURES

DCS

APPENDIX A

STANDARD PROCEDURES AND ENVIRONMENTAL REQUIREMENTS[11]

A.1 SUBSURFACE INVESTIGATION PROCEDURES

A.1.1 OVERBURDEN DRILLING AND SAMPLING

Drilling and sampling operations are typically conducted with the use of a mobile power auger equipped to advance holes through overburden using hollow-stem and continuous flight augers; diamond drills using wash-boring techniques; rotary drills using mud or air reverse circulation. For shallow boreholes or sampling indoors Pionjar percussion drill sampling is frequently used. Soil samples are generally recovered on a continuous basis, with the use of a 51 mm diameter, 600 mm or 750 mm long, split-spoon sampler, over the full depth of the boreholes.

In addition, direct push drills have become regularly used for holes of shallow depth. When utilizing the direct push method with a dual tube sampling system, soil samples are retrieved on a continuous basis in 1.2 m lengths in individual, disposable sampling tubes.

No lubricants are used in the make-up of the augers, drill rods or samplers, and appropriate sampling and drilling control procedures are adopted to avoid cross-contamination between the samples and sampling locations.

The split spoon sampling is carried out in conjunction with the Standard Penetration Test used to provide 'N' values for the determination of relative density in cohesionless soils and consistency in cohesive soils. This information is not collected when utilizing direct push drilling techniques or when utilizing a Pionjar drill.

Individual soil samples are examined upon recovery by the field engineer or technician for purposes of describing and recording texture, colour, odour and moisture content. Borehole logs are prepared on the basis of sample and drilling process observations in the field describing the encountered strata and visual or olfactory evidence of subsurface contamination, if present.

Following field logging, samples are placed into labelled, sterile, 500 mP wide-mouth glass jars with polymer interleaf -lined lids for shipment to the DCS laboratory for detailed inspection. Glass 50 mP septum jars, with Teflon-lined caps, are used to collect soil subsamples for volatile organic analysis. The septum jars are required to be completely filled with soil to ensure that no headspace is available to accommodate desorbed organics. Once the soil samples have been recovered and placed into the sterile glass jars, the samples are temporarily stored in cardboard containers, in the field vehicle awaiting shipment to the DCS office for examination. Following

(1) The discussion on environmental requirements is based solely on an engineering interpretation of the current Ontario Ministry of the Environment standards, policies, guidelines and regulations on soil, sediment and groundwater quality issues as they relate to environmental site assessment investigations. The discussion does not represent a legal opinion on these matters.

selection in the office laboratory, the samples are forwarded to a commercial environmental testing laboratory for analysis.

Where high levels of contamination are anticipated or where evidence of high levels of contamination (strong odours, staining, evident presence of wastes or dangerous materials) are noted during drilling, drill cuttings from the boreholes are placed in 16 gauge steel, ring-topped, 205 P drums for storage and off-site disposal. Where no evidence of untoward level of contamination is present, cuttings are used to backfill the boring and are tamped into place prior to reinstatement of any surface covering, such as asphalt or concrete pavements or slabs. Where excess cuttings are generated (i.e., because of monitoring well installations, etc.), surplus clean soil is spread on unpaved ground surfaces in the vicinity of the borehole or placed in clean ring-topped 205 P steel drums and removed for off-site disposal.

A.1.2 TEST PIT EXCAVATION AND SAMPLING

Test pits are excavated using a track-mounted hydraulic excavator or a rubber-tired backhoe. The operator works under the full-time supervision of a DCS field engineer or technician. Excavations are typically carried out in 300 to 600 mm thick lifts. Topsoil and soil free of visible deleterious materials are stockpiled on one side of the excavation. Soil containing visual evidence of foreign material and/or contaminants are stockpiled on the opposite side of the test pit. During backfilling operations, deleterious material is typically placed in the test pit at the level at which it was encountered to limit the possibility of introducing contamination into any previously unaffected strata.

During the excavation of the test pits, visual observations and soil sampling is undertaken. Soil samples are typically recovered from each stratigraphic unit or from intermediate depths exhibiting marked changes in characteristics (colour, odour, physical appearance, or foreign materials). Soil samples are obtained during the excavation of test pits by removing any spoil or debris caused by the excavator or backhoe from the sidewall, and then scraping the wall with a sterile 500 mP glass jar, in an upward direction, for 150 mm or the full thickness of the stratum. The jars are sealed with aluminum foil-lined lids. Glass jars, with Teflon-lined caps, are used to collect soil samples for volatile organic analyses. Samples for soil gas surveys may be stored in plastic Ziploc bags, pending headspace testing in the field.

When possible, sampling tools or implements are not used to collect the soil samples to minimize the potential for cross-contamination of samples. Where it is necessary to use sampling implements such as trowels or knives, because of soil conditions or the presence of debris, appropriate decontamination procedures are followed between each sampling interval.

In locations where the test pits extend below depths of 1.4 m below grade or where the water table is encountered, the above-noted sample recovery protocols must be modified. Construction regulations under the *Occupational Health and Safety Act* limit unsupported trench depths, while potential sloughing from the sides of an excavation below the water table makes sampling of the test pit sidewall under those conditions unsafe. Samples in these conditions are, therefore, recovered from the bucket of the excavator or backhoe. Approximate sampling depth intervals are determined from ground surface using a measuring tape.

Detailed descriptions of the soil texture, colour, odour, moisture and evidence of contamination as well as sampling intervals are recorded for each test pit on the attached logs.

A.1.3 EQUIPMENT DECONTAMINATION

Prior to the start of the drilling program, all augers and centre plugs are cleaned at the shop by the drilling contractor. The lead augers and centre plugs are hand-cleaned between boreholes to remove any residual soil or debris adhering to the down-hole tools, well away from the location of any boreholes, to avoid the possibility of cross-contamination.

All sampling tools used (split-spoons, putty knives, trowels, etc.) are thoroughly cleaned following the recovery of each sample. The samplers are first wiped clean of free soil or any other materials adhering to inner and outer surfaces, and then washed with a wire brush in a solution of water and laboratory-grade phosphate-free detergent (Sparkleen). Detergent residues are removed by rinsing with municipally-treated clean tap water. In the event that persistent organic contaminants or stains adhere to the surface of the sampler, it is sprayed with hexane, a highly volatile solvent followed by a spray of methanol. The final stage of the sampler tool decontamination process comprises a spray with distilled water to eliminate any surficial residues.

A.1.4 SOIL GAS VAPOUR MONITORING

Headspace measurements are taken in the field a set period after recovery of the soil samples with the use of either a photoionization detector (HNu) or explosimeter (GasTech 1238ME) to identify the presence of ionizable volatile organic vapours in the soil. The readings obtained using either meter are obtained by gently inserting the tip of the meter probe through the polymer interleaf cover placed over the mouth of each 500 mP sample jar and aspirating a vapour aliquot for testing. The 50 mP teflon-lined septum jars which contain a split sample of the soil within the 500 mP jar for volatile organic analyses are not disturbed.

Where samples are to be recovered for headspace testing purposes only, the soil sample is placed in a "Ziploc" LDPE bag and allowed to come to room temperature for a period of two hours before testing. The tip of the meter probe is used to puncture the side of the bag to facilitate aspiration of the vapour sample.

The HNu photoionization meter used to read soil gas vapour concentrations is calibrated to a hexane gas standard and all measurements are reported in parts per million by volume. The GasTech meter is equipped with two ranges of measurement, reading concentrations in the parts per million (0 to 500 ppm) range and as a percentage of the lower explosive limit (0 to 100% LEL) also calibrated to hexane. LEL is a measure of the propensity for an atmosphere to detonate or deflagrate with 100% LEL being the minimum concentration of gas, in air, required for ignition.

The monitoring results are noted on the borehole logs for subsequent evaluation purposes. The headspace vapour profile for each borehole or test pit is assessed to identify likely zones of elevated organic contaminants in the soil column and to assist in the selection of samples stored

within 50 mP septum jars for analytical purposes. Soil gas vapour monitoring results are shown on the logs generated for each borehole.

An additional feature of the GasTech monitor allows its use to measure soil gas with or without methane gas elimination. This allows for soil gas measurements to be taken without the influence of methane gas on the readings which may be present in the soil, however, not contributing to the vapour contaminant of concern.

A.1.5 BOREHOLE AND TEST PIT SURVEYS

Borehole and test pit locations are laid out in the field by a two-person field crew, using a chain, stadia measurement or total station instrument, with reference to existing buildings and other permanent structures and features identified on the site plan.

Ground surface elevations at borehole and monitoring well collars are established in the field using an automatic level survey instrument. A closed level loop is carried out to complete the survey. Ground surface elevations are referenced to the elevation of a municipal, geodetic or hydrographic survey benchmark, unless a local datum referenced to a known or assumed elevation is to be used for the survey. Details of the location of the benchmark or local datum used are presented in the report.

A.2 GROUNDWATER MONITORING

A.2.1 WELL INSTALLATION

Monitoring wells are typically completed using 37.5 or 55 mm diameter Schedule 40 PVC Triloc riser pipes with a 1.5 or 3 m long No. 10 slot intake zone (screen). No glues or solvents are used in the construction of the wells to avoid introducing volatiles into the well and, thereby, biasing the analytical results. Silica sand is placed around and to a height of at least 300 mm above the top of the well screen as a gravel pack. The remaining annular is sealed with Holeplug, Benseal or other bentonite seal. A protective steel casing or a ground-level, flush-mounted, steel casing is then grouted in place at the top of the well to protect the installation from damage or vandalism. All elevated casings are locked with 2402 keyed mortice locks. Flush-mounted casing protectors are generally bolted in place. Where wells are to penetrate through low permeability confining strata separating an upper and lower aquifer, a lower seal is set in the confining layer to ensure against the transmission and possible migration of contaminants between aquifers.

In accordance with O.Reg. 903 there is a requirement for a well record to be submitted to the MOE for each monitoring well or group of monitoring wells installed. The well tag and well record is submitted by the subcontract licensed well driller who install the well. Also under this regulation the property owner is required to have unused or abandoned wells properly decommissioned by a licensed well driller prior to abandoning the well. The regulation provides details of well abandonment procedures and requires that a well abandonment record be filed with the MOE.

A.2.2 GROUNDWATER MEASUREMENT

A dedicated WaTerra inertial pump is installed in each well to ensure that samples representative of subsurface water conditions at the location at which the screen is set are recovered without the threat of cross-contamination. Following completion of drilling, the depth from ground surface (borehole collar) to the phreatic surface is measured with the use of a Solinst SOL1 water level indicator or interface meter and recorded on the borehole log. The wells are developed by hand-pumping the WaTerra sampler to ensure that at least three and as many as ten well volumes of water (depending on recovery periods) are removed to reduce the potential effects of contamination introduced through drilling, and to maximize the responsiveness to the surrounding geological materials.

Following development, the phreatic surface is allowed to reinstate itself prior to obtaining final groundwater elevations. Measurements of the water levels are made from all wells within the same time period to ensure that the results are representative of conditions across the entire site. Any unusual weather conditions and modifying features encountered are noted on the log. Field data are reduced with reference to collar elevations and are tabulated with the date of the measurements.

A.2.3 GROUNDWATER SAMPLING

Groundwater samples are recovered from the well through the inertial pump directly into sterile glass or plastic sample jars that have been pretreated with preservatives, where appropriate. Sample jars are obtained directly from the laboratory and are received, stored and, when filled, shipped back to the laboratory for analysis in a sealed insulated cooler box. For analyses of inorganic species, the sample is pumped from the well through a WaTerra Hydropore 0.45 Φm cartridge filter to eliminate suspended solids. Samples destined for organic analyses are obtained unfiltered. In both cases, the samples are retained in a marked sample jar to which a sample label identifying the well number, date of recovery and other pertinent information is affixed. The sample jars are filled to the brim to eliminate headspace air to reduce the possibility of oxidation and degassing. Sample bottles are then stored in the insulated cooler and either protected from freezing during winter weather or cooled with freezer packs to an optimum temperature of less than 8ºC during warm weather pending shipment to the laboratory.

A.2.4 *IN SITU* RESPONSE TESTS

Formation permeability is determined through application of a falling (slug) or rising head test carried out in the monitoring well. Where the screened section is fully contained below the phreatic surface, additional water can be added to the well riser to provide a head to force flow into the soil or rock formation. When the screen intersects the phreatic surface, resulting in exposure of open screen to unsaturated soil above the water table, the monitoring well is pumped down and then allowed to recharge from the surrounding soil. In both cases, the change in water level is measured at set time intervals with a water level indicator and recorded in the field. Where response time is too short to permit manual measurement with the Solinst indicator, a pressure transducer can be used to provide the rate of head change with time to be recorded. Well information recorded at the time of testing includes well radius (r), screened interval length (L), gravel pack radius (R), height of the phreatic surface above an arbitrary datum (H), the

height of the water column in the well at the cessation of pumping or surcharging (H_o) and the height of the water column in the well at each measurement interval *t* (*h*).

A.3 SURFACE WATER SAMPLING

Surface water samples or samples from test pits are recovered with the use of a clean stainless steel, 20 P bucket from which appropriately sized sterile glass or plastic sample jars, pretreated with preservatives, where required, are filled. Samples for metal analysis work are initially filtered through a plate filter or WaTerra Hydropore 0.45 Φm cartridge filter in the field before decanting into a sample jar, unless direct delivery to a laboratory facility at which immediate filtration can be undertaken, is planned. Care is taken to minimize the accumulation of floating debris or other wastes that may be present on the surface of the water body. Alternatively, if rapid access to a laboratory is assured, surface water samples can be recovered directly by carefully immersing open sample bottles, without preservatives, below the surface of the water to ensure that the bottles are filled to the brim to eliminate headspace air and reduce the possibility of oxidation or degassing and that a minimum of disturbance occurs. Protective latex gloves should be worn and the sample bottle should be completely filled and immediately capped to minimize degassing of volatiles and contamination of the sample. Sample bottles are then stored in an insulated cooler and either protected from freezing in the winter or cooled with freezer packs to a temperature of less than 8ºC during warm weather, pending shipment to the laboratory.

A.4 QUALITY ASSURANCE / QUALITY CONTROL

The principal reason for the recovery of soil and groundwater samples in the field is to permit their inspection and analysis to determine whether contaminants or foreign matter is present at levels that constitute a health-, environmental- or construction-related liability, the discharge of which will require remedial or mitigative action. The accuracy with which the analytical results returned from chemical testing at the laboratory reflects the in-place condition is critical to the success of the site characterization program and thus every effort must be taken to ensure that the samples are recovered, handled, stored, shipped to and received at the laboratory in a condition that is representative of the material on site.

A.4.1 SAMPLE PRESERVATION

Preservation of soil samples quality is critical in the case of volatile organic compounds only, where the use of glass, Teflon-lined 50 mP septum jars, filled to the brim to avoid residual headspace into which volatiles can degas, as required. Volatiles samples are kept in a refrigerated condition at an ideal temperature of less than 4ºC and of no more than 10ºC and are delivered to the laboratory as soon after recovery as is practicable and in no case after more than 14 days from the date of recovery. Samples recovered for testing for the presence of inorganic contaminants have no time limit restriction between recovery and testing, if sealed. Where samples are tested for the presence of semi-volatile and non-volatile organics, they are analyzed within 60 days of recovery to ensure that biodegradation does not materially affect the chemical loading in the soil. All sample jars should be maintained in a sealed condition in the dark under refrigerated conditions.

Preservation requirements for groundwater samples are dependent on the contaminant parameters for which the analyses are being conducted. MOE requirements are widely adopted by the industry in Ontario and listed in the MOE document entitled Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act dated March 2004. The sample preservation procedures and holding time limits applied and the container types used are consistent with the requirements of the guidance document.

A.4.2 SAMPLE SEALS

On samples collected for volatile organic analyses, adhesive sample seals are affixed across the lids of all sample jar and bottle containers in such a way as to ensure that the seal must be broken on opening. Seals are placed to provide evidence of tampering with samples while in transit or temporary storage between the time of recovery and delivery to the laboratory.

A.4.3 CHAIN-OF-CUSTODY

Full chain-of-custody procedures are applied from the point at which field staff surrenders responsibility for the samples in the field or, where that individual is responsible for transit from the field location to the office, at their place of work. Chain-of-custody forms, which log the date of transfer and identity of the parties by and to whom the transfer has been made, also record the identity of the samples included in the shipment, the date sampled and sample location, the analyses requested for each sample, the name and address of the laboratory to which the samples are assigned, and any clarifying notes that may be required.

A.4.4 SAMPLE QUALITY MANAGEMENT

Laboratory or field control checks are utilized to ensure that the quality of the analytical data is maintained at an acceptable level. All laboratories to which samples are sent for chemical analysis are CALA-certified and participate in applicable inter-laboratory testing rounds administered by provincial and federal agencies.

Field duplicate samples, where used, are prepared by obtaining a soil or groundwater sample split from preselected sample locations. The splits are provided with fictitious sample identification designations and submitted to the laboratory for analysis to permit a determination of the internal quality control and repeatability of analyses from the selected laboratory to be determined.

Trip blanks comprising deionized water may be prepared by the contracted laboratory to accompany groundwater sample containers to determine whether contamination of the containers or of the samples had occurred during shipment to the field or, following recovery, during storage and shipment from the field to the laboratory. Trip blanks are generally enclosed with sample sets recovered for analysis for the presence of volatile organic compounds.

Equipment blanks may be recovered to establish the efficacy of sampler tool decontamination. Blanks are prepared in the field by pouring analyte-free deionized water over the sampling tool and collecting the resulting runoff in a 40 mP septum jar.

As described under the Laboratory Analysis section, matrix spikes are conducted a minimum of once during each project run by the laboratory. Field duplicate matrix spikes are normally not prepared. Laboratory duplicates are run in the laboratory on ten percent of the samples subject to testing.

Laboratory analysis results and QA/QC program results are carefully scrutinized on receipt to determine whether the results returned are representative. The laboratory customer services representative is contacted for clarification, if any uncertainty associated with the veracity or quality of the results is noted.

A.5 MOE CLEANUP STANDARDS

MOE cleanup standards used to evaluate soil and groundwater contaminant concentrations within the Province of Ontario have evolved over the past 20 years. The criteria established by provincial and federal environmental bodies throughout Canada have been adopted in Ontario. Reference has also been made to European and U.S.A. generic criteria and specific cleanup requirements for large facilities such as oil refinery properties.

Effective 1 October 2004, the Ministry of the Environment (MOE) instituted soil and groundwater chemistry cleanup standards for a broad range (116 parameters) of frequently encountered contaminants. A brief discussion of relevant MOE cleanup standards referenced in this report is presented below.

A.5.1 MOE CLEANUP STANDARDS

Effective 1 October 2004, under O.Reg. 153/04, the MOE invoked the requirements included in the MOE *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, dated March 2004. The Standards, which represent a major revision to the previous guidelines, include:

- introduction of environmental cleanup standards under the regulation rather than the previous suggested cleanup guidelines;
- generic sediment cleanup standards presented in conjunction with soil and groundwater cleanup standards;
- petroleum hydrocarbons are evaluated utilizing criteria developed for the CCME Canada Wide Standards which provides for a differentiation of hydrocarbon into four fractions, termed F1 to F4;
- classification of properties located within 30 m of a permanent water body as potentially sensitive sites;
- stratified cleanup objectives where a less stringent generic soil cleanup criteria is applied to materials more than 1.5 m below the ground surface;

- allowance for the property owner to develop cleanup criteria using human health and environmental risk assessment techniques that would be specific to the site and proposed redevelopment landuse plan;

- a pending requirement to submit a Record of Site Condition (RSC) to the MOE if a property is to undergo a change to a more environmentally sensitive land use, such as from industrial to residential land use.

The standards present site remediation procedures for agricultural, residential/parkland/institutional and industrial/commercial/community land uses. The *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA*, dated 9 March 2004, present the cleanup standards on the following tables.

Table 1	Full depth Background Site Condition Standard
Table 2	Full Depth Generic Site Condition Standards in a Potable Ground Water Condition
Table 3	Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
Table 4	Stratified Site Condition Standards in a Potable Ground Water Condition
Table 5	Stratified Site Condition Standards in a Non-Potable Ground Water Condition
Table 6	Soil Extract and Ground Water Standards to Determine Whether a Property is a "Shallow Soil Property"

The principal inorganic and organic parameters of concern at most industrial sites fall within four general categories. The inorganic parameters, including heavy metals, cyanide and general indicators provide evidence of contamination associated with, among other sources, discharges from old heavy industrial concerns, accumulations from long-term coal, raw material and waste storage and contamination associated with ash, clinker and other residue materials in historical fill. Depending on the historic use of the property, specific analyses may be carried out to determine some or all of the following:

pH	Copper	Selenium
Electrical Conductivity	Lead	Silver
Sodium Adsorption Ratio	Mercury	Zinc
Arsenic	Molybdenum	Antimony
Cadmium	Nickel	Barium
Hexavalent Chromium	Water Soluble Boron	Beryllium
Total Chromium	Free Cyanide	Vanadium
Cobalt		

Analyses may be conducted for the presence of polycyclic aromatic hydrocarbons (PAH) compounds that are associated with the use of diesel and heating fuel oils, heavy oils and

greases, bunker fuels, asphaltic materials and coal and stockpiling of bottom ash and flyash from incinerators, boiler fire boxes and other such equipment, and which include:

Benzo(a)anthracene	Phenanthrene	Fluorene
Benzo(b)fluoranthene	Pyrene	Anthracene
Benzo(a)pyrene	Benzo(k)fluoranthene	Fluoranthene
Dibenzo(a,h)anthracene	Acenaphthylene	Chrysene
Indeno(1,2,3-c,d)pyrene	Acenaphthene	Benzo(g,h,i)perylene
Naphthalene		

Testing may also be conducted for the presence of volatile organic compounds (VOCs) associated with the presence of chlorinated and non-chlorinated industrial and housekeeping solvents and incorporating the monocyclic aromatic hydrocarbon (MAH) compounds reflective of light fraction petroleum products such as gasoline and aviation fuels and which may have been discharged to a site including:

Trichlorofluoromethane	Chloromethane	Bromomethane
Acrylonitrile	Carbon Tetrachloride	Vinyl Chloride
1,1-dichloroethene	1,2-dichloropropene	Chlorobenzene
Dichloroethane	Bromodichloromethane	Ethylbenzene
t-1,2-dichloroethene	Trichloroethene	m&p-xylenes
1,1-dichloroethane	cis-1,2-dichloropropene	Bromoform
Chlorobromomethane	tr-1,3-dichloropropene	Styrene
Chloroform	1,1,2-trichloroethane	1,1,2,2-tetrachloroethane
1,2-dichloroethane	Toluene	1,2-dichlorobenzene
1,1,1-trichloroethane	Chlorodibromomethane	1,3-dichlorobenzene
o-xylene	1,2-dibromomethane	1,4-dichlorobenzene
Benzene	Tetrachloroethene	

General indicator testing for the presence of residual contamination in soil at sites at which petroleum fuel products were used, handled, stored or produced may also be carried out for the presence of petroleum hydrocarbons ranging from F1 fractionation comprising total purgeable hydrocarbons (F1- C6 to C10), cold extractable (F2- >C10 to C16 and F3- >C16 to C34) and hot extractable (F4- >C34) ranges. Petroleum hydrocarbon testing in conjunction with the MAH compounds benzene, toluene, ethylbenzene and m,p+o-xylenes (BTEX) comprises a suite of analyses carried out to evaluate petroleum hydrocarbon product contamination.

An additional 41 halogenated and non-halogenated organic compounds, and inorganic parameters including polychlorinated biphenyls and pesticides and herbicides which are subject to evaluation when indications of their presence may be suggested have also been incorporated into the generic standards.

Site-specific cleanup standards that exceed *default* generic levels included in the tables can be developed for a particular property, for given land uses, receptor characteristics, pathways modifiers and development proposals using human and ecological risk assessment procedures. Registration of an instrument on title and other institutional controls may have to be implemented, in this regard. Where risk assessment modeling is to be carried out, additional

information on soil conditions, including natural moisture content, grain size distribution, porosity and total organic content, is required. Risk assessment-based *effective* cleanup standards developed for a site are considered by the MOE to constitute the approved Standard for that property as long as the landuse and receptor characteristics remains the same and appropriate administrative, engineered and institutional controls remain in place.

A.5.2 PROPOSED MOE EXCESS FILL GUIDELINES

To clarify their position on the need to control the quality of materials moving from excavation sites to fill sites, the MOE issued a document entitled *Draft Criteria for the Management of Inert Fill* in August 1998. This document was issued to solicit comments and has not been finalized or officially adopted. The proposed policy is to comprise a companion document to the June 1996 cleanup guideline to be used to provide guidance on the chemical quality required of excavated materials that are to be used on commercial, industrial, agricultural, residential and ecologically sensitive lands as fill following their removal from the generating site.

On an interim basis, pending release of the MOE's updated policy which is understood to be integrated with the contaminated sites guideline, the Director, Central Region, has advised that soil generated from a construction or cleanup site and intended for use as fill at an off-site location must meet the criteria listed in Table "F" *Ontario Background Soil Concentrations.* Excess materials exhibiting contaminants exceeding that guideline shall be considered waste and shall be subject to disposal at a Part V waste management site in accordance with the requirements of O.Reg. 347, General Waste Management. Excess soil meeting guidelines consistent with the landuse, and relocated or reused on the site from which it was excavated, however, is not subject to O.Reg. 347.

A.5.3 AESTHETIC GUIDELINES

Materials which meet the chemical criteria of the excess fill guidelines may not be acceptable as fill for unrestricted off-site reuse if they are aesthetically impaired. Such materials may be subject to disposal as waste at a waste management site if removed from the generating property.

The guidelines used to evaluate the aesthetics of excavated materials are subjective in nature with soil considered acceptable for off-site reuse on a residential zoned property exhibiting no odours and trace to moderate staining but yielding no visible sheen on water. The inclusion of visible contaminants such as coal, asphalt and other discrete inclusions of contamination or debris including construction rubble, timber, metal, glass, plastic, ceramics, etc., may not be considered permissible for off-site use on residential properties, but depending on the degree of impact, may be suitable for reuse on sites zoned for industrial/commercial landuse. Soil gas headspace concentrations below 30% of LEL at industrial/commercial sites and 15% of LEL at residential sites may be considered to comprise aesthetics issues.

A.6 LABORATORY ANALYSIS

The procedures detailed in the MOE *Protocol for Analytical Methods Used in Assessment of Properties Under Part XV.1 of the Environmental Protection Act*, dated 9 March 2004, constitutes the accepted standards for chemical testing for environmental evaluation purposes in the province (where available). In accordance with this protocol, all appropriate laboratory quality assurance/quality control (QA/QC) procedures, including the use of spikes, replicates and blanks, are incorporated and run a minimum of once per sample set. The QA/QC data are returned with the laboratory reports received. A laboratory register is maintained to provide a permanent record of all samples received and to track the progress of the samples through the laboratory. Bench notebooks, recorder charts and other pertinent materials are archived for future reference purposes, if necessary. Where MOE methods are not available, United States Environmental Protection Agency, American Society for Testing and Materials and other recognized procedures are adopted.

APPENDIX B

BOREHOLE LOGS

DCS

Project: **IMICO - Guelph** Contract No: **701996**

Boring date: **12/12/2013** Supervised by: **M. McCormick**

Borehole Location: **200 Beverly Street, Guelph, Ontario**

Driller: **Aardvark Drilling**

Drilling Method: **CME 55T w/ HSA**

Borehole: **OW13-39(S)**

Monitoring Well: **Installed**

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 300mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation:316.50m											
	316.40 0.10	**TOPSOIL (FILL)** , black, damp, some medium sand, trace roots				SS-1		10 12 17	60		N		
		SAND and GRAVEL (NATIVE) , brown, medium to coarse, some cobbles, trace silt											
1						SS-2		41 19 22	75		N		
						SS-3		29 33/150	75		N		
2													
						SS-4		42 50/75	50		N		VOCs, Metals and Inorganics Analyses
3	313.35 3.15	**LIMESTONE BEDROCK** , light brown, vuggy with some calcite crystals			▽	RC-1			100	62			
4													
						RC-2			93	75			
5													
6	310.41 6.09	**END of BOREHOLE @ 6.09m**											
		Water level at 3.53mbgs (el 312.97) on 6 January 2014.											Groundwater analyzed for VOCs.

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S.Prior**

Date: **11/02/14**

DCS
DECOMMISSIONING CONSULTING SERVICES

Project: **IMICO - Guelph** Contract No: **701996**

Boring date: **11/12/2013** Supervised by: **M. McCormick**

Borehole Location: **200 Beverly Street, Guelph, Ontario**

Driller: **Aardvark Drilling**

Drilling Method: **CME 55T w/ HSA**

Borehole: **OW13-39(D)**

Monitoring Well: **Installed**

Sheet 1 of 2

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 300mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation:316.50m											
	316.40 0.10	**TOPSOIL (FILL)** , black, damp, some medium sand, trace roots				SS-1		3 3 36			N		
		SAND and GRAVEL (NATIVE) , brown, medium to coarse, some cobbles, trace silt											
1						SS-2		35 35 8	0		N		
						SS-3		35 35/75	0		N		
2						SS-4		35/75	0		N		
		- becomes wet @ 2.74m			▽								
3	313.35 3.15	**LIMESTONE BEDROCK** , light brown, vuggy with some calcite crystals				RC-1			100	62			
4													
5						RC-2			98	64			
6													
						RC-3			97	70			

Continued

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S.Prior**

Date: **11/02/14**

DCS
DECOMMISSIONING CONSULTING SERVICES

Project: **IMICO - Guelph** Contract No: **701996**

Boring date: **11/12/2013** Supervised by: **M. McCormick**

Borehole Location: **200 Beverly Street, Guelph, Ontario**

Driller: **Aardvark Drilling**

Drilling Method: **CME 55T w/ HSA**

Borehole: **OW13-39(D)**

Monitoring Well: **Installed**

Sheet 2 of 2

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 300mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
8						RC-4			93	80			
9													
10						RC-5			96	83			
11													
12						RC-6			100	96			
	304.30 12.20	**END of BOREHOLE @ 12.20m** Water level at 3.03mbgs (el 313.47) on 6 January 2014.											Groundwater analyzed for VOCs.
13													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S.Prior**

Date: **11/02/14**

DCS
DECOMMISSIONING CONSULTING SERVICES

Project: **IMICO - Guelph** Contract No: **701996**

Boring date: **12/12/2013** Supervised by: **M. McCormick**

Borehole Location: **200 Beverly Street, Guelph, Ontario**

Driller: **Aardvark Drilling**

Drilling Method: **CME 55T w/ HSA**

Borehole: **BH13-40**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description (Ground Surface Elevation:316.47m)	Symbol	Well Details	Water Level	Sample Type and Number	Condition	Blows/ 300mm	% Recovery	RQD	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
	316.37	**CONCRETE** - 100 mm thick				GS-1					N		
	0.10	**GRAVEL (FILL)** , crushed limestone											
	316.27	**SAND and GRAVEL (NATIVE)** , brown, medium to coarse, some cobbles											
	0.20												
						GS-2					N		
1													
						GS-3					N		
						SS-1					N		VOCs, PAHs, BTEX/ PHC (F1-F4), Metals and Inorganics Analyses.
2													
	314.03												
	2.44	**END of BOREHOLE @ 2.44m**											
		Refusal on inferred bedrock.											
3													
4													
5													
6													

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S.Prior**

Date: **11/02/14**

DCS
DECOMMISSIONING CONSULTING SERVICES

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP1**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.05m								
	314.95	**ASPHALT** - 100 mm thick								
	0.10	**DEBRIS (FILL)** , brick, nails, dark brown staining				TP1-5"		N ⊕		Sample analyzed for PCBs, PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	314.75									
	0.30	**GRAVEL (FILL)** , brown								
	314.44									
	0.61	**COBBLES, SAND and SILT (NATIVE)** , grey				TP1-3'		N ⊕		
1										
	313.45									
	1.60	**END of TESTPIT @ 1.60 m**								
		Refusal on bedrock @ 1.60 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP2**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.27m								
	315.17 / 0.10	**TOPSOIL** , some roots **DEBRIS (FILL)**				TP2-5"		N ⊕		
	314.97 / 0.30	**COBBLES and GRAVEL (FILL)** , brown								
	314.51 / 0.76	**COBBLES (NATIVE)** , grey								
1						TP2-4'		N ⊕		Sample analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	313.59 / 1.68	**END of TESTPIT @ 1.68 m** Refusal on bedrock @ 1.68 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP3**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.68m								
	315.58	**TOPSOIL** , some roots								
	0.10	**DEBRIS (FILL)** , mottled				TP3-6"		N ⊕		Sample analyzed for PCBs, PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	315.07									
	0.61	**COBBLES and SAND (NATIVE)** , brown				TP3-3'		N ⊕		
1										
	313.85									
	1.83	**END of TESTPIT @ 1.83 m**								
		Refusal on bedrock @ 1.83 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP4**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.34m								
	315.24	**TOPSOIL** , some roots								
	0.10	**DEBRIS (FILL)** , red rusty klinker				TP4-6"		N ⊕		Sample analyzed for PCBs, PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	315.04									
	0.30	**COBBLES and SAND (NATIVE)** , grey								
1						TP4-4'		N ⊕		
	313.81									
	1.53	**END of TESTPIT @ 1.53 m**								
		Refusal on bedrock @ 1.53 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP5**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.54m								
		GRAVEL (FILL) , grey limestone				TP5-5''		N ⊕		
1						TP5-4'		N ⊕		Sample analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
		- water encountered @ 1.53 m.								
	313.71 1.83	**END of TESTPIT @ 1.83 m** Refusal on bedrock @ 1.83 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **02/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP6**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Samples: Well Details	Samples: Water Level	Samples: Sample Type and Number	Samples: Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.49m								
		GRAVEL (FILL) , grey limestone				TP6-4"		N ⊕		Sample analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
1						TP6-5'		N ⊕		
	313.66 / 1.83	**END of TESTPIT @ 1.83 m** Refusal on bedrock @ 1.83 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **03/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP8**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.35m								
	315.25	**TOPSOIL** , some roots								
	0.10	**GRAVEL (FILL)** , brown, some brick and cobbles				TP8-4"		N ⊕		Sample and duplicate analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
1						TP8-5'		N ⊕		
	313.52									
	1.83	**END of TESTPIT @ 1.83 m**								
		Refusal on bedrock @ 1.83 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **03/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP9**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Samples: Well Details	Samples: Water Level	Samples: Sample Type and Number	Samples: Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 316.16m								
	316.01 0.15	**TOPSOIL** , some roots								
		COBBLES, SAND and GRAVEL (FILL) , brown				TP9-1'		N ⊕		Sample analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
1						TP9-4'		N ⊕		
	314.63 1.53	**END of TESTPIT @ 1.53 m**								
		Refusal on bedrock @ 1.53 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **03/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP10**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Description	Symbol	Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.85m								
	315.75	**ASPHALT** - 100 mm thick								
	0.10	**SANDY SILT (FILL)** , grey, mottled				TP10-8"		N ⊕		
	315.39									
	0.46	**COBBLES and SAND (NATIVE)** , brown								
1						TP10-4'		N ⊕		Sample analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	314.17									
	1.68	**END of TESTPIT @ 1.68 m**								
		Refusal on bedrock @ 1.68 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

Project: **IMICO - Guelph** Contract No: **701996**

Excavation date: **03/12/2013** Supervised by: **M. McCormick**

Test Pit Location: **IMICO - Guelph**

Contractor: **Fred E. Prior Excavating**

Excavation Method: **Rubber tired backhoe**

Test Pit: **TP11**

Monitoring Well: **n/a**

Sheet 1 of 1

Scale (m)	Elev. (m) / Depth (m)	Stratigraphy: Description	Symbol	Samples: Well Details	Water Level	Sample Type and Number	Conditon	Odour	Headspace TOV ⊕ (ppm) 100 200 300 400 / Headspace TOV □ (%LEL) 20 40 60 80	Remarks and Sample Analyses
		Ground Surface Elevation: 315.60m								
	315.50	**TOPSOIL**								
	315.40 / 0.10	**COBBLES, BRICK and SAND (FILL)** , brown				TP11-6'		N ⊕		Sample and duplicate analyzed for PAHs, PHC (F1-F4), VOCs, Metals and Inorganics.
	315.14 / 0.46	**COBBLES and SAND (NATIVE)** , grey								
1						TP11-5'		N ⊕		
	313.77 / 1.83	**END of TESTPIT @ 1.83 m** Refusal on bedrock @ 1.83 m.								

ODOUR:
N - None
T - Trace
M - Moderate
S - Strong
VS- Very Strong

Prepared by: **D. Arnaud**

Checked by: **S. Prior**

Date: **07/01/14**

DCS
DECOMMISSIONING CONSULTING SERVICES LIMITED

APPENDIX C

LABORATORY CERTIFICATES OF ANALYSIS

DCS

Your Project #: 701996
Site Location: IMICO - GUELPH
Your C.O.C. #: 44468301, 444683-01-01

Attention:Maxwell McCormick

Decommissioning Consulting Services Limited
121 Granton Dr
Unit 11
Richmond Hill, ON
L4B 3N4

Report Date: 2013/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3K9090
Received: 2013/12/03, 15:27

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	12	N/A	2013/12/10	CAM SOP-00301	EPA 8270
1,3-Dichloropropene Sum	12	N/A	2013/12/09	CAM SOP-00226	EPA 8260
Petroleum Hydro. CCME F1 & BTEX in Soil	10	2013/12/04	2013/12/06	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	2	2013/12/04	2013/12/09	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	12	2013/12/06	2013/12/09	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	2	2013/12/10	2013/12/10	CAM SOP-00316	CCME CWS
Acid Extr. Metals (aqua regia) by ICPMS	4	2013/12/06	2013/12/06	CAM SOP-00447	EPA 6020
Acid Extr. Metals (aqua regia) by ICPMS	8	2013/12/06	2013/12/09	CAM SOP-00447	EPA 6020
Moisture	8	N/A	2013/12/06	CAM SOP-00445	R.Carter,1993
Moisture	4	N/A	2013/12/07	CAM SOP-00445	R.Carter,1993
PAH Compounds in Soil by GC/MS (SIM)	12	2013/12/06	2013/12/07	CAM SOP - 00318	EPA 8270
Polychlorinated Biphenyl in Soil	4	2013/12/05	2013/12/05	CAM SOP-00309	SW846 8082
Volatile Organic Compounds in Soil	12	2013/12/05	2013/12/06	CAM SOP-00228	EPA 8260 modified

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 701996
Site Location: IMICO - GUELPH
Your C.O.C. #: 44468301, 444683-01-01

Attention:Maxwell McCormick

Decommissioning Consulting Services Limited
121 Granton Dr
Unit 11
Richmond Hill, ON
L4B 3N4

Report Date: 2013/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3K9090
Received: 2013/12/03, 15:27

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Keshani Vijh, Project Manager
Email: KVijh@maxxam.ca
Phone# (905) 817-5700
==========
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		UD5893	UD5895		UD5896		
Sampling Date		2013/12/02	2013/12/02		2013/12/02		
COC Number		444683-01-01	444683-01-01		444683-01-01		
	Units	TP1-5''	TP3-6''	RDL	TP4-6''	RDL	QC Batch
Metals							
Acid Extractable Aluminum (Al)	ug/g	4900	2600	50	4500	50	3449071
Acid Extractable Antimony (Sb)	ug/g	1.7	0.29	0.20	2.0	0.20	3449071
Acid Extractable Arsenic (As)	ug/g	6.2	3.0	1.0	5.2	1.0	3449071
Acid Extractable Barium (Ba)	ug/g	43	19	0.50	42	0.50	3449071
Acid Extractable Beryllium (Be)	ug/g	0.34	<0.20	0.20	0.24	0.20	3449071
Acid Extractable Bismuth (Bi)	ug/g	<1.0	7.1	1.0	<1.0	1.0	3449071
Acid Extractable Boron (B)	ug/g	15	<5.0	5.0	<5.0	5.0	3449071
Acid Extractable Cadmium (Cd)	ug/g	0.67	0.77	0.10	0.38	0.10	3449071
Acid Extractable Calcium (Ca)	ug/g	78000	110000	50	18000	50	3449071
Acid Extractable Chromium (Cr)	ug/g	11	8.7	1.0	15	1.0	3449071
Acid Extractable Cobalt (Co)	ug/g	4.6	2.6	0.10	2.8	0.10	3449071
Acid Extractable Copper (Cu)	ug/g	24	24	0.50	33	0.50	3449071
Acid Extractable Iron (Fe)	ug/g	25000	9800	50	23000	50	3449071
Acid Extractable Lead (Pb)	ug/g	110	75	1.0	110	1.0	3449071
Acid Extractable Magnesium (Mg)	ug/g	40000	45000	500	8200	50	3449071
Acid Extractable Manganese (Mn)	ug/g	490	370	1.0	660	1.0	3449071
Acid Extractable Molybdenum (Mo)	ug/g	1.0	0.61	0.50	1.5	0.50	3449071
Acid Extractable Nickel (Ni)	ug/g	10	8.2	0.50	12	0.50	3449071
Acid Extractable Phosphorus (P)	ug/g	740	320	50	180	50	3449071
Acid Extractable Potassium (K)	ug/g	420	420	200	320	200	3449071
Acid Extractable Selenium (Se)	ug/g	0.64	<0.50	0.50	<0.50	0.50	3449071
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	<0.20	0.20	3449071
Acid Extractable Sodium (Na)	ug/g	<100	110	100	<100	100	3449071
Acid Extractable Strontium (Sr)	ug/g	56	78	1.0	47	1.0	3449071
Acid Extractable Thallium (Tl)	ug/g	0.087	0.087	0.050	<0.050	0.050	3449071
Acid Extractable Tin (Sn)	ug/g	<5.0	<5.0	5.0	5.8	5.0	3449071
Acid Extractable Uranium (U)	ug/g	0.75	0.40	0.050	0.41	0.050	3449071
Acid Extractable Vanadium (V)	ug/g	22	16	5.0	15	5.0	3449071
Acid Extractable Zinc (Zn)	ug/g	360	470	5.0	190	5.0	3449071
Acid Extractable Mercury (Hg)	ug/g	0.14	<0.050	0.050	<0.050	0.050	3449071

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		UD5898		UD5899		UD5900		
Sampling Date		2013/12/02		2013/12/02		2013/12/02		
COC Number		444683-01-01		444683-01-01		444683-01-01		
	Units	TP6-4''	RDL	TP8-4''	RDL	TP9-1''	RDL	QC Batch
Metals								
Acid Extractable Aluminum (Al)	ug/g	1700	50	12000	50	5300	50	3449497
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	2.6	0.20	4.2	0.20	3449497
Acid Extractable Arsenic (As)	ug/g	1.9	1.0	8.8	1.0	6.0	1.0	3449497
Acid Extractable Barium (Ba)	ug/g	9.4	0.50	150	0.50	36	0.50	3449497
Acid Extractable Beryllium (Be)	ug/g	<0.20	0.20	0.56	0.20	0.29	0.20	3449497
Acid Extractable Bismuth (Bi)	ug/g	<1.0	1.0	6.4	1.0	<1.0	1.0	3449497
Acid Extractable Boron (B)	ug/g	13	5.0	23	5.0	7.7	5.0	3449497
Acid Extractable Cadmium (Cd)	ug/g	5.1	0.10	2.2	0.10	2.3	0.10	3449497
Acid Extractable Calcium (Ca)	ug/g	220000	50	66000	50	40000	50	3449497
Acid Extractable Chromium (Cr)	ug/g	4.2	1.0	40	1.0	14	1.0	3449497
Acid Extractable Cobalt (Co)	ug/g	4.0	0.10	6.6	0.10	4.9	0.10	3449497
Acid Extractable Copper (Cu)	ug/g	11	0.50	70	0.50	41	0.50	3449497
Acid Extractable Iron (Fe)	ug/g	5300	50	34000	50	39000	50	3449497
Acid Extractable Lead (Pb)	ug/g	150	1.0	310	1.0	270	1.0	3449497
Acid Extractable Magnesium (Mg)	ug/g	120000	250	16000	50	20000	50	3449497
Acid Extractable Manganese (Mn)	ug/g	590	1.0	510	1.0	510	1.0	3449497
Acid Extractable Molybdenum (Mo)	ug/g	1.5	0.50	3.4	0.50	1.3	0.50	3449497
Acid Extractable Nickel (Ni)	ug/g	8.4	0.50	36	0.50	13	0.50	3449497
Acid Extractable Phosphorus (P)	ug/g	240	50	450	50	440	50	3449497
Acid Extractable Potassium (K)	ug/g	770	200	2000	200	470	200	3449497
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	<0.50	0.50	<0.50	0.50	3449497
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	<0.20	0.20	<0.20	0.20	3449497
Acid Extractable Sodium (Na)	ug/g	210	100	510	100	<100	100	3449497
Acid Extractable Strontium (Sr)	ug/g	100	1.0	72	1.0	28	1.0	3449497
Acid Extractable Thallium (Tl)	ug/g	0.25	0.050	0.064	0.050	0.20	0.050	3449497
Acid Extractable Tin (Sn)	ug/g	<5.0	5.0	8.1	5.0	9.0	5.0	3449497
Acid Extractable Uranium (U)	ug/g	2.0	0.050	0.58	0.050	0.33	0.050	3449497
Acid Extractable Vanadium (V)	ug/g	8.7	5.0	36	5.0	22	5.0	3449497
Acid Extractable Zinc (Zn)	ug/g	2000	5.0	760	5.0	5600	25	3449497
Acid Extractable Mercury (Hg)	ug/g	0.084	0.050	<0.050	0.050	0.13	0.050	3449497

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		UD5902		UD5903		UD5904		
Sampling Date		2013/12/03		2013/12/03		2013/12/03		
COC Number		444683-01-01		444683-01-01		444683-01-01		
	Units	TP11-6''	QC Batch	DUP1	QC Batch	DUP2	RDL	QC Batch
Metals								
Acid Extractable Aluminum (Al)	ug/g	12000	3449497	11000	3449071	9800	50	3449497
Acid Extractable Antimony (Sb)	ug/g	1.1	3449497	2.6	3449071	2.1	0.20	3449497
Acid Extractable Arsenic (As)	ug/g	7.4	3449497	8.6	3449071	9.0	1.0	3449497
Acid Extractable Barium (Ba)	ug/g	100	3449497	150	3449071	94	0.50	3449497
Acid Extractable Beryllium (Be)	ug/g	0.85	3449497	0.51	3449071	0.62	0.20	3449497
Acid Extractable Bismuth (Bi)	ug/g	36	3449497	8.9	3449071	150	1.0	3449497
Acid Extractable Boron (B)	ug/g	11	3449497	20	3449071	11	5.0	3449497
Acid Extractable Cadmium (Cd)	ug/g	1.9	3449497	1.6	3449071	3.8	0.10	3449497
Acid Extractable Calcium (Ca)	ug/g	35000	3449497	66000	3449071	24000	50	3449497
Acid Extractable Chromium (Cr)	ug/g	19	3449497	33	3449071	39	1.0	3449497
Acid Extractable Cobalt (Co)	ug/g	2.4	3449497	6.0	3449071	3.9	0.10	3449497
Acid Extractable Copper (Cu)	ug/g	43	3449497	73	3449071	62	0.50	3449497
Acid Extractable Iron (Fe)	ug/g	15000	3449497	33000	3449071	25000	50	3449497
Acid Extractable Lead (Pb)	ug/g	230	3449497	460	3449071	470	1.0	3449497
Acid Extractable Magnesium (Mg)	ug/g	17000	3449497	16000	3449071	7500	50	3449497
Acid Extractable Manganese (Mn)	ug/g	440	3449497	520	3449071	740	1.0	3449497
Acid Extractable Molybdenum (Mo)	ug/g	1.6	3449497	2.4	3449071	2.1	0.50	3449497
Acid Extractable Nickel (Ni)	ug/g	11	3449497	35	3449071	19	0.50	3449497
Acid Extractable Phosphorus (P)	ug/g	2100	3449497	410	3449071	2000	50	3449497
Acid Extractable Potassium (K)	ug/g	570	3449497	1700	3449071	740	200	3449497
Acid Extractable Selenium (Se)	ug/g	<0.50	3449497	<0.50	3449071	<0.50	0.50	3449497
Acid Extractable Silver (Ag)	ug/g	0.20	3449497	<0.20	3449071	0.39	0.20	3449497
Acid Extractable Sodium (Na)	ug/g	460	3449497	420	3449071	300	100	3449497
Acid Extractable Strontium (Sr)	ug/g	190	3449497	72	3449071	130	1.0	3449497
Acid Extractable Thallium (Tl)	ug/g	0.062	3449497	0.077	3449071	0.10	0.050	3449497
Acid Extractable Tin (Sn)	ug/g	6.0	3449497	9.6	3449071	7.7	5.0	3449497
Acid Extractable Uranium (U)	ug/g	2.6	3449497	0.53	3449071	1.8	0.050	3449497
Acid Extractable Vanadium (V)	ug/g	18	3449497	34	3449071	27	5.0	3449497
Acid Extractable Zinc (Zn)	ug/g	890	3449497	810	3449071	2200	5.0	3449497
Acid Extractable Mercury (Hg)	ug/g	<0.050	3449497	0.051	3449071	0.097	0.050	3449497

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		UD5906		UD5909		UD5913		
Sampling Date		2013/12/02		2013/12/02		2013/12/03		
COC Number		444683-01-01		444683-01-01		444683-01-01		
	Units	TP2-4'	RDL	TP5-4'	RDL	TP10-4'	RDL	QC Batch
Metals								
Acid Extractable Aluminum (Al)	ug/g	4100	50	2500	50	8300	50	3449497
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	<0.20	0.20	0.46	0.20	3449497
Acid Extractable Arsenic (As)	ug/g	3.7	1.0	2.2	1.0	8.2	1.0	3449497
Acid Extractable Barium (Ba)	ug/g	28	0.50	19	0.50	40	0.50	3449497
Acid Extractable Beryllium (Be)	ug/g	<0.20	0.20	<0.20	0.20	0.47	0.20	3449497
Acid Extractable Bismuth (Bi)	ug/g	<1.0	1.0	<1.0	1.0	<1.0	1.0	3449497
Acid Extractable Boron (B)	ug/g	<5.0	5.0	15	5.0	6.7	5.0	3449497
Acid Extractable Cadmium (Cd)	ug/g	0.53	0.10	4.8	0.10	1.6	0.10	3449497
Acid Extractable Calcium (Ca)	ug/g	89000	50	200000	50	76000	50	3449497
Acid Extractable Chromium (Cr)	ug/g	9.2	1.0	5.7	1.0	13	1.0	3449497
Acid Extractable Cobalt (Co)	ug/g	4.6	0.10	4.6	0.10	7.6	0.10	3449497
Acid Extractable Copper (Cu)	ug/g	30	0.50	12	0.50	25	0.50	3449497
Acid Extractable Iron (Fe)	ug/g	17000	50	6500	50	27000	50	3449497
Acid Extractable Lead (Pb)	ug/g	37	1.0	230	1.0	160	1.0	3449497
Acid Extractable Magnesium (Mg)	ug/g	10000	50	110000	250	35000	50	3449497
Acid Extractable Manganese (Mn)	ug/g	260	1.0	560	1.0	1300	1.0	3449497
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	1.4	0.50	0.66	0.50	3449497
Acid Extractable Nickel (Ni)	ug/g	10	0.50	10	0.50	17	0.50	3449497
Acid Extractable Phosphorus (P)	ug/g	640	50	250	50	830	50	3449497
Acid Extractable Potassium (K)	ug/g	450	200	900	200	610	200	3449497
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	<0.50	0.50	<0.50	0.50	3449497
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	<0.20	0.20	<0.20	0.20	3449497
Acid Extractable Sodium (Na)	ug/g	<100	100	200	100	120	100	3449497
Acid Extractable Strontium (Sr)	ug/g	110	1.0	110	1.0	54	1.0	3449497
Acid Extractable Thallium (Tl)	ug/g	0.094	0.050	0.21	0.050	0.17	0.050	3449497
Acid Extractable Tin (Sn)	ug/g	<5.0	5.0	<5.0	5.0	<5.0	5.0	3449497
Acid Extractable Uranium (U)	ug/g	0.33	0.050	1.9	0.050	0.51	0.050	3449497
Acid Extractable Vanadium (V)	ug/g	26	5.0	10	5.0	29	5.0	3449497
Acid Extractable Zinc (Zn)	ug/g	400	5.0	2000	5.0	940	5.0	3449497
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.090	0.050	<0.050	0.050	3449497

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		UD5899	UD5903		
Sampling Date		2013/12/02	2013/12/03		
COC Number		444683-01-01	444683-01-01		
	Units	**TP8-4''**	**DUP1**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons					
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	510	1100	100	3453092

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PAHS (SOIL)

Maxxam ID		UD5893		UD5895	UD5896	UD5898		
Sampling Date		2013/12/02		2013/12/02	2013/12/02	2013/12/02		
COC Number		444683-01-01		444683-01-01	444683-01-01	444683-01-01		
	Units	TP1-5''	QC Batch	TP3-6''	TP4-6''	TP6-4''	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	0.078	3445730	0.044	0.15	<0.0071	0.0071	3446412
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	<0.0050	3449218	0.0068	0.012	<0.0050	0.0050	3449218
Acenaphthylene	ug/g	<0.0050	3449218	<0.0050	0.0072	<0.0050	0.0050	3449218
Anthracene	ug/g	0.0059	3449218	0.0091	0.028	<0.0050	0.0050	3449218
Benzo(a)anthracene	ug/g	0.043	3449218	0.022	0.11	0.0097	0.0050	3449218
Benzo(a)pyrene	ug/g	0.044	3449218	0.018	0.10	0.0091	0.0050	3449218
Benzo(b/j)fluoranthene	ug/g	0.13	3449218	0.032	0.18	0.012	0.0050	3449218
Benzo(g,h,i)perylene	ug/g	0.070	3449218	0.013	0.064	0.0061	0.0050	3449218
Benzo(k)fluoranthene	ug/g	0.030	3449218	0.0091	0.060	<0.0050	0.0050	3449218
Chrysene	ug/g	0.064	3449218	0.025	0.12	0.014	0.0050	3449218
Dibenz(a,h)anthracene	ug/g	0.013	3449218	<0.0050	0.018	<0.0050	0.0050	3449218
Fluoranthene	ug/g	0.070	3449218	0.061	0.21	0.024	0.0050	3449218
Fluorene	ug/g	<0.0050	3449218	0.0064	0.011	<0.0050	0.0050	3449218
Indeno(1,2,3-cd)pyrene	ug/g	0.058	3449218	0.012	0.067	<0.0050	0.0050	3449218
1-Methylnaphthalene	ug/g	0.040	3449218	0.020	0.074	<0.0050	0.0050	3449218
2-Methylnaphthalene	ug/g	0.038	3449218	0.024	0.080	<0.0050	0.0050	3449218
Naphthalene	ug/g	0.024	3449218	0.047	0.064	<0.0050	0.0050	3449218
Phenanthrene	ug/g	0.049	3449218	0.063	0.18	0.031	0.0050	3449218
Pyrene	ug/g	0.16	3449218	0.048	0.17	0.020	0.0050	3449218
Surrogate Recovery (%)								
D10-Anthracene	%	89	3449218	92	89	94		3449218
D14-Terphenyl (FS)	%	83	3449218	83	81	85		3449218
D8-Acenaphthylene	%	91	3449218	81	81	82		3449218

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PAHS (SOIL)

Maxxam ID		UD5899		UD5900		UD5902		
Sampling Date		2013/12/02		2013/12/02		2013/12/03		
COC Number		444683-01-01		444683-01-01		444683-01-01		
	Units	TP8-4''	RDL	TP9-1''	RDL	TP11-6''	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	0.65	0.028	0.029	0.0071	2.0	0.028	3446412
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	1.5	0.020	0.13	0.0050	0.23	0.020	3449218
Acenaphthylene	ug/g	0.48	0.020	0.095	0.0050	0.16	0.020	3449218
Anthracene	ug/g	4.3	0.020	0.28	0.0050	0.55	0.020	3449218
Benzo(a)anthracene	ug/g	11	0.020	0.90	0.0050	1.5	0.020	3449218
Benzo(a)pyrene	ug/g	8.9	0.020	0.95	0.0050	1.0	0.020	3449218
Benzo(b/j)fluoranthene	ug/g	12	0.020	1.3	0.0050	1.7	0.020	3449218
Benzo(g,h,i)perylene	ug/g	5.5	0.020	0.65	0.0050	0.44	0.020	3449218
Benzo(k)fluoranthene	ug/g	4.5	0.020	0.45	0.0050	0.57	0.020	3449218
Chrysene	ug/g	9.1	0.020	0.77	0.0050	1.3	0.020	3449218
Dibenz(a,h)anthracene	ug/g	1.5	0.020	0.15	0.0050	0.16	0.020	3449218
Fluoranthene	ug/g	28	0.020	1.8	0.0050	3.7	0.020	3449218
Fluorene	ug/g	1.9	0.020	0.082	0.0050	0.27	0.020	3449218
Indeno(1,2,3-cd)pyrene	ug/g	5.9	0.020	0.68	0.0050	0.53	0.020	3449218
1-Methylnaphthalene	ug/g	0.34	0.020	0.014	0.0050	0.92	0.020	3449218
2-Methylnaphthalene	ug/g	0.32	0.020	0.014	0.0050	1.1	0.020	3449218
Naphthalene	ug/g	0.72	0.020	0.015	0.0050	1.2	0.020	3449218
Phenanthrene	ug/g	17	0.020	1.1	0.0050	2.8	0.020	3449218
Pyrene	ug/g	18	0.020	1.5	0.0050	2.9	0.020	3449218
Surrogate Recovery (%)								
D10-Anthracene	%	93		90		81		3449218
D14-Terphenyl (FS)	%	90		82		77		3449218
D8-Acenaphthylene	%	85		81		71		3449218

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PAHS (SOIL)

Maxxam ID		UD5903	UD5904		UD5906	UD5909	UD5913		
Sampling Date		2013/12/03	2013/12/03		2013/12/02	2013/12/02	2013/12/03		
COC Number		444683-01-01	444683-01-01		444683-01-01	444683-01-01	444683-01-01		
	Units	DUP1	DUP2	RDL	TP2-4'	TP5-4'	TP10-4'	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	1.6	1.6	0.014	<0.0071	<0.0071	0.016	0.0071	3446412
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	4.1	0.44	0.010	<0.0050	<0.0050	<0.0050	0.0050	3449218
Acenaphthylene	ug/g	1.0	0.10	0.010	<0.0050	<0.0050	0.023	0.0050	3449218
Anthracene	ug/g	10	0.89	0.010	<0.0050	<0.0050	0.028	0.0050	3449218
Benzo(a)anthracene	ug/g	22	1.9	0.010	<0.0050	0.0073	0.051	0.0050	3449218
Benzo(a)pyrene	ug/g	17	1.2	0.010	<0.0050	0.0053	0.056	0.0050	3449218
Benzo(b/j)fluoranthene	ug/g	19	1.9	0.010	<0.0050	0.0092	0.082	0.0050	3449218
Benzo(g,h,i)perylene	ug/g	7.8	0.45	0.010	<0.0050	<0.0050	0.037	0.0050	3449218
Benzo(k)fluoranthene	ug/g	7.3	0.66	0.010	<0.0050	<0.0050	0.027	0.0050	3449218
Chrysene	ug/g	18	1.7	0.010	<0.0050	0.015	0.041	0.0050	3449218
Dibenz(a,h)anthracene	ug/g	2.4	0.19	0.010	<0.0050	<0.0050	0.0078	0.0050	3449218
Fluoranthene	ug/g	58	4.9	0.010	<0.0050	0.013	0.12	0.0050	3449218
Fluorene	ug/g	5.1	0.55	0.010	<0.0050	<0.0050	0.0093	0.0050	3449218
Indeno(1,2,3-cd)pyrene	ug/g	8.8	0.58	0.010	<0.0050	<0.0050	0.038	0.0050	3449218
1-Methylnaphthalene	ug/g	0.79	0.72	0.010	<0.0050	0.0053	0.0088	0.0050	3449218
2-Methylnaphthalene	ug/g	0.79	0.87	0.010	<0.0050	<0.0050	0.0073	0.0050	3449218
Naphthalene	ug/g	1.5	1.1	0.010	<0.0050	<0.0050	0.0073	0.0050	3449218
Phenanthrene	ug/g	48	4.8	0.010	<0.0050	0.031	0.075	0.0050	3449218
Pyrene	ug/g	44	3.7	0.010	<0.0050	0.012	0.094	0.0050	3449218
Surrogate Recovery (%)									
D10-Anthracene	%	82	83		99	93	92		3449218
D14-Terphenyl (FS)	%	87	81		85	84	84		3449218
D8-Acenaphthylene	%	82	76		82	83	82		3449218

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PCBS (SOIL)

Maxxam ID		UD5893		UD5895	UD5896		UD5903		
Sampling Date		2013/12/02		2013/12/02	2013/12/02		2013/12/03		
COC Number		444683-01-01		444683-01-01	444683-01-01		444683-01-01		
	Units	TP1-5''	RDL	TP3-6''	TP4-6''	RDL	DUP1	RDL	QC Batch
PCBs									
Aroclor 1242	ug/g	<0.020	0.020	<0.010	<0.010	0.010	<0.010	0.010	3447066
Aroclor 1248	ug/g	<0.020	0.020	<0.010	<0.010	0.010	<0.010	0.010	3447066
Aroclor 1254	ug/g	<0.020	0.020	<0.010	<0.010	0.010	0.026	0.010	3447066
Aroclor 1260	ug/g	<0.020	0.020	<0.010	<0.010	0.010	0.039	0.010	3447066
Total PCB	ug/g	<0.020	0.020	<0.010	<0.010	0.010	0.065	0.030	3447066
Surrogate Recovery (%)									
Decachlorobiphenyl	%	104		116	92		90		3447066

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		UD5893		UD5895	UD5896	UD5898	UD5899		
Sampling Date		2013/12/02		2013/12/02	2013/12/02	2013/12/02	2013/12/02		
COC Number		444683-01-01		444683-01-01	444683-01-01	444683-01-01	444683-01-01		
	Units	TP1-5''	RDL	TP3-6''	TP4-6''	TP6-4''	TP8-4''	RDL	QC Batch
BTEX & F1 Hydrocarbons									
F1 (C6-C10)	ug/g	<20	20	<10	<10	<10	<10	10	3446925
F1 (C6-C10) - BTEX	ug/g	<20	20	<10	<10	<10	<10	10	3446925
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	<10	<10	13	25	10	3449065
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	<50	150	88	520	50	3449065
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	<50	<50	<50	250	50	3449065
Reached Baseline at C50	ug/g	Yes		Yes	Yes	Yes	No		3449065
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	102		103	102	103	102		3446925
4-Bromofluorobenzene	%	91		86	92	92	90		3446925
D10-Ethylbenzene	%	75		75	83	74	76		3446925
D4-1,2-Dichloroethane	%	99		100	100	101	100		3446925
o-Terphenyl	%	83		85	86	85	87		3449065

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		UD5900		UD5902		UD5903	UD5904	UD5906		
Sampling Date		2013/12/02		2013/12/03		2013/12/03	2013/12/03	2013/12/02		
COC Number		444683-01-01		444683-01-01		444683-01-01	444683-01-01	444683-01-01		
	Units	TP9-1''	RDL	TP11-6''	RDL	DUP1	DUP2	TP2-4'	RDL	QC Batch
BTEX & F1 Hydrocarbons										
F1 (C6-C10)	ug/g	<10	10	<20	20	<10	<10	<10	10	3446925
F1 (C6-C10) - BTEX	ug/g	<10	10	<20	20	<10	<10	<10	10	3446925
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	29	10	38	60	<10	10	3449065
F3 (C16-C34 Hydrocarbons)	ug/g	290	50	240	50	770	370	<50	50	3449065
F4 (C34-C50 Hydrocarbons)	ug/g	98	50	81	50	360	80	<50	50	3449065
Reached Baseline at C50	ug/g	Yes		Yes		No	Yes	Yes		3449065
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	99		101		101	102	106		3446925
4-Bromofluorobenzene	%	87		94		92	91	92		3446925
D10-Ethylbenzene	%	92		97		78	70	75		3446925
D4-1,2-Dichloroethane	%	97		102		99	101	105		3446925
o-Terphenyl	%	84		84		89	87	84		3449065

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		UD5909	UD5913		
Sampling Date		2013/12/02	2013/12/03		
COC Number		444683-01-01	444683-01-01		
	Units	TP5-4'	TP10-4'	RDL	QC Batch
BTEX & F1 Hydrocarbons					
F1 (C6-C10)	ug/g	<10	<10	10	3446925
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	3446925
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	14	<10	10	3449065
F3 (C16-C34 Hydrocarbons)	ug/g	96	86	50	3449065
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	3449065
Reached Baseline at C50	ug/g	Yes	Yes		3449065
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	104	104		3446925
4-Bromofluorobenzene	%	91	86		3446925
D10-Ethylbenzene	%	77	81		3446925
D4-1,2-Dichloroethane	%	102	102		3446925
o-Terphenyl	%	82	85		3449065

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5893	UD5895	UD5896		UD5898		
Sampling Date		2013/12/02	2013/12/02	2013/12/02		2013/12/02		
COC Number		444683-01-01	444683-01-01	444683-01-01		444683-01-01		
	Units	TP1-5''	TP3-6''	TP4-6''	QC Batch	TP6-4''	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	3446394	<0.050	0.050	3446394
Inorganics								
Moisture	%	32	5.8	9.1	3450081	4.1	1.0	3449066
Volatile Organics								
Acetone (2-Propanone)	ug/g	0.68	<0.50	<0.50	3447035	<0.50	0.50	3447035
Benzene	ug/g	<0.020	<0.020	<0.020	3447035	<0.020	0.020	3447035
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Bromoform	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Bromomethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Chloroform	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	3447035	<0.030	0.030	3447035
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	3447035	<0.040	0.040	3447035
Ethylbenzene	ug/g	<0.020	<0.020	0.025	3447035	<0.020	0.020	3447035
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Hexane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	3447035	<0.50	0.50	3447035
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	3447035	<0.50	0.50	3447035
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Styrene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5893	UD5895	UD5896		UD5898		
Sampling Date		2013/12/02	2013/12/02	2013/12/02		2013/12/02		
COC Number		444683-01-01	444683-01-01	444683-01-01		444683-01-01		
	Units	**TP1-5''**	**TP3-6''**	**TP4-6''**	**QC Batch**	**TP6-4''**	**RDL**	**QC Batch**
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Toluene	ug/g	<0.020	<0.020	0.067	3447035	<0.020	0.020	3447035
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Trichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	3447035	<0.020	0.020	3447035
p+m-Xylene	ug/g	0.060	<0.020	0.061	3447035	<0.020	0.020	3447035
o-Xylene	ug/g	0.047	<0.020	0.060	3447035	<0.020	0.020	3447035
Xylene (Total)	ug/g	0.11	<0.020	0.12	3447035	<0.020	0.020	3447035
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	98	97	97	3447035	97		3447035
D10-o-Xylene	%	123	112	117	3447035	116		3447035
D4-1,2-Dichloroethane	%	93	92	92	3447035	94		3447035
D8-Toluene	%	101	101	101	3447035	118		3447035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5899	UD5900	UD5902		UD5903		
Sampling Date		2013/12/02	2013/12/02	2013/12/03		2013/12/03		
COC Number		444683-01-01	444683-01-01	444683-01-01		444683-01-01		
	Units	TP8-4''	TP9-1''	TP11-6''	QC Batch	DUP1	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	3446394	<0.050	0.050	3446394
Inorganics								
Moisture	%	16	12	34	3449066	16	1.0	3450081
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.50	<0.50	<0.50	3447035	<0.50	0.50	3447035
Benzene	ug/g	<0.020	<0.020	0.23	3447035	<0.020	0.020	3447035
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Bromoform	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Bromomethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Chloroform	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	3447035	<0.030	0.030	3447035
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	3447035	<0.040	0.040	3447035
Ethylbenzene	ug/g	<0.020	<0.020	0.36	3447035	<0.020	0.020	3447035
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Hexane	ug/g	<0.050	<0.050	0.12	3447035	<0.050	0.050	3447035
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	3447035	<0.50	0.50	3447035
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	3447035	<0.50	0.50	3447035
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Styrene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5899	UD5900	UD5902		UD5903		
Sampling Date		2013/12/02	2013/12/02	2013/12/03		2013/12/03		
COC Number		444683-01-01	444683-01-01	444683-01-01		444683-01-01		
	Units	**TP8-4''**	**TP9-1''**	**TP11-6''**	**QC Batch**	**DUP1**	**RDL**	**QC Batch**
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Toluene	ug/g	<0.020	<0.020	1.0	3447035	<0.020	0.020	3447035
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Trichloroethylene	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	3447035	<0.020	0.020	3447035
p+m-Xylene	ug/g	<0.020	<0.020	0.78	3447035	<0.020	0.020	3447035
o-Xylene	ug/g	<0.020	<0.020	0.73	3447035	<0.020	0.020	3447035
Xylene (Total)	ug/g	<0.020	<0.020	1.5	3447035	<0.020	0.020	3447035
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	3447035	<0.050	0.050	3447035
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	97	96	97	3447035	97		3447035
D10-o-Xylene	%	112	115	117	3447035	118		3447035
D4-1,2-Dichloroethane	%	94	94	94	3447035	92		3447035
D8-Toluene	%	100	100	100	3447035	100		3447035

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5904	UD5906	UD5909	UD5913		
Sampling Date		2013/12/03	2013/12/02	2013/12/02	2013/12/03		
COC Number		444683-01-01	444683-01-01	444683-01-01	444683-01-01		
	Units	DUP2	TP2-4'	TP5-4'	TP10-4'	RDL	QC Batch
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3446394
Inorganics							
Moisture	%	21	9.6	5.2	12	1.0	3449066
Volatile Organics							
Acetone (2-Propanone)	ug/g	<0.50	<0.50	<0.50	<0.50	0.50	3447035
Benzene	ug/g	0.25	<0.020	<0.020	<0.020	0.020	3447035
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Bromoform	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Bromomethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Chloroform	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	0.030	3447035
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	3447035
Ethylbenzene	ug/g	0.40	<0.020	<0.020	<0.020	0.020	3447035
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Hexane	ug/g	0.12	<0.050	<0.050	<0.050	0.050	3447035
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	<0.50	0.50	3447035
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	<0.50	0.50	3447035
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Styrene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UD5904	UD5906	UD5909	UD5913		
Sampling Date		2013/12/03	2013/12/02	2013/12/02	2013/12/03		
COC Number		444683-01-01	444683-01-01	444683-01-01	444683-01-01		
	Units	**DUP2**	**TP2-4'**	**TP5-4'**	**TP10-4'**	**RDL**	**QC Batch**
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Toluene	ug/g	1.2	<0.020	<0.020	<0.020	0.020	3447035
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Trichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	3447035
p+m-Xylene	ug/g	0.87	<0.020	<0.020	<0.020	0.020	3447035
o-Xylene	ug/g	0.83	<0.020	<0.020	<0.020	0.020	3447035
Xylene (Total)	ug/g	1.7	<0.020	<0.020	<0.020	0.020	3447035
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	3447035
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	98	97	96	96		3447035
D10-o-Xylene	%	114	115	112	113		3447035
D4-1,2-Dichloroethane	%	94	94	94	95		3447035
D8-Toluene	%	101	99	100	119		3447035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

TEST SUMMARY

Maxxam ID: UD5893
Sample ID: TP1-5''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3445730	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449071	2013/12/06	2013/12/06	Viviana Canzonieri
Moisture	BAL	3450081	N/A	2013/12/07	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3447066	2013/12/05	2013/12/05	Li Peng
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5895
Sample ID: TP3-6''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449071	2013/12/06	2013/12/06	Viviana Canzonieri
Moisture	BAL	3450081	N/A	2013/12/07	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3447066	2013/12/05	2013/12/05	Li Peng
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5896
Sample ID: TP4-6''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449071	2013/12/06	2013/12/06	Viviana Canzonieri
Moisture	BAL	3450081	N/A	2013/12/07	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3447066	2013/12/05	2013/12/05	Li Peng
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

TEST SUMMARY

Maxxam ID: UD5898
Sample ID: TP6-4''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5899
Sample ID: TP8-4''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3453092	2013/12/10	2013/12/10	Madiha Nafees
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5900
Sample ID: TP9-1''
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/09	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5902
Sample ID: TP11-6''
Matrix: Soil

Collected: 2013/12/03
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

TEST SUMMARY

Maxxam ID: UD5902
Sample ID: TP11-6''
Matrix: Soil

Collected: 2013/12/03
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/09	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5903
Sample ID: DUP1
Matrix: Soil

Collected: 2013/12/03
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3453092	2013/12/10	2013/12/10	Madiha Nafees
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449071	2013/12/06	2013/12/06	Viviana Canzonieri
Moisture	BAL	3450081	N/A	2013/12/07	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3447066	2013/12/05	2013/12/05	Li Peng
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5904
Sample ID: DUP2
Matrix: Soil

Collected: 2013/12/03
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5906
Sample ID: TP2-4'
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

TEST SUMMARY

Maxxam ID: UD5906
Sample ID: TP2-4'
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5909
Sample ID: TP5-4'
Matrix: Soil

Collected: 2013/12/02
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

Maxxam ID: UD5913
Sample ID: TP10-4'
Matrix: Soil

Collected: 2013/12/03
Shipped:
Received: 2013/12/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3446412	N/A	2013/12/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	3446394	N/A	2013/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3446925	2013/12/04	2013/12/06	Suzana Popovic
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3449065	2013/12/06	2013/12/09	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3449497	2013/12/06	2013/12/09	Viviana Canzonieri
Moisture	BAL	3449066	N/A	2013/12/06	Thoai Truyen Huynh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3449218	2013/12/06	2013/12/07	Darryl Tiller
Volatile Organic Compounds in Soil	GC/MS	3447035	2013/12/05	2013/12/06	John Wu

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.0°C
Package 2	0.0°C

PAH Analysis: Due to the sample matrix, some samples required dilution. Detection limits were adjusted accordingly.

Sample UD5893-01 : F1/BTEX Analysis: Detection limits were adjusted for moisture content and sample weight.

PCB Analysis: Detection limits were adjusted for high moisture content.

Sample UD5902-01 : PAH Analysis: Detection limits were adjusted for high moisture content.

F1/BTEX Analysis: The BTEX results used for the F1-BTEX calculation were obtained from Headspace-GC analysis.

Sample UD5903-01 : PCB Analysis: Detection Limit was raised due to matrix interferences.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3446925	SPV	Matrix Spike	1,4-Difluorobenzene	2013/12/06		100	%	60 - 140
	SPV	Matrix Spike	4-Bromofluorobenzene	2013/12/06		93	%	60 - 140
			D10-Ethylbenzene	2013/12/06		75	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/06		96	%	60 - 140
			F1 (C6-C10)	2013/12/06		83	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2013/12/06		100	%	60 - 140
			4-Bromofluorobenzene	2013/12/06		95	%	60 - 140
			D10-Ethylbenzene	2013/12/06		75	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/06		97	%	60 - 140
			F1 (C6-C10)	2013/12/06		91	%	80 - 120
		Method Blank	1,4-Difluorobenzene	2013/12/06		99	%	60 - 140
			4-Bromofluorobenzene	2013/12/06		87	%	60 - 140
			D10-Ethylbenzene	2013/12/06		73	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/06		94	%	60 - 140
			F1 (C6-C10)	2013/12/06	<10		ug/g	
			F1 (C6-C10) - BTEX	2013/12/06	<10		ug/g	
		RPD	F1 (C6-C10)	2013/12/06	NC		%	50
			F1 (C6-C10) - BTEX	2013/12/06	NC		%	50
3447035	J_W	Matrix Spike	4-Bromofluorobenzene	2013/12/06		100	%	60 - 140
	J_W	Matrix Spike	D10-o-Xylene	2013/12/06		125	%	60 - 130
			D4-1,2-Dichloroethane	2013/12/06		91	%	60 - 140
			D8-Toluene	2013/12/06		124	%	60 - 140
			Acetone (2-Propanone)	2013/12/06		83	%	60 - 140
			Benzene	2013/12/06		97	%	60 - 140
			Bromodichloromethane	2013/12/06		93	%	60 - 140
			Bromoform	2013/12/06		82	%	60 - 140
			Bromomethane	2013/12/06		91	%	60 - 140
			Carbon Tetrachloride	2013/12/06		108	%	60 - 140
			Chlorobenzene	2013/12/06		100	%	60 - 140
			Chloroform	2013/12/06		95	%	60 - 140
			Dibromochloromethane	2013/12/06		91	%	60 - 140
			1,2-Dichlorobenzene	2013/12/06		99	%	60 - 140
			1,3-Dichlorobenzene	2013/12/06		100	%	60 - 140
			1,4-Dichlorobenzene	2013/12/06		99	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2013/12/06		93	%	60 - 140
			1,1-Dichloroethane	2013/12/06		100	%	60 - 140
			1,2-Dichloroethane	2013/12/06		89	%	60 - 140
			1,1-Dichloroethylene	2013/12/06		112	%	60 - 140
			cis-1,2-Dichloroethylene	2013/12/06		94	%	60 - 140
			trans-1,2-Dichloroethylene	2013/12/06		98	%	60 - 140
			1,2-Dichloropropane	2013/12/06		96	%	60 - 140
			cis-1,3-Dichloropropene	2013/12/06		87	%	60 - 140
			trans-1,3-Dichloropropene	2013/12/06		91	%	60 - 140
			Ethylbenzene	2013/12/06		101	%	60 - 140
			Ethylene Dibromide	2013/12/06		86	%	60 - 140
			Hexane	2013/12/06		103	%	60 - 140
			Methylene Chloride(Dichloromethane)	2013/12/06		93	%	60 - 140
			Methyl Isobutyl Ketone	2013/12/06		77	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2013/12/06		78	%	60 - 140
			Methyl t-butyl ether (MTBE)	2013/12/06		92	%	60 - 140
			Styrene	2013/12/06		99	%	60 - 140
			1,1,1,2-Tetrachloroethane	2013/12/06		98	%	60 - 140
			1,1,2,2-Tetrachloroethane	2013/12/06		85	%	60 - 140
			Tetrachloroethylene	2013/12/06		111	%	60 - 140
			Toluene	2013/12/06		98	%	60 - 140
			1,1,1-Trichloroethane	2013/12/06		102	%	60 - 140
			1,1,2-Trichloroethane	2013/12/06		88	%	60 - 140
			Trichloroethylene	2013/12/06		103	%	60 - 140
			Vinyl Chloride	2013/12/06		88	%	60 - 140
			p+m-Xylene	2013/12/06		100	%	60 - 140
			o-Xylene	2013/12/06		97	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2013/12/06		100	%	60 - 140
		Spiked Blank	4-Bromofluorobenzene	2013/12/06		99	%	60 - 140
			D10-o-Xylene	2013/12/06		98	%	60 - 130

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Client Project #: 701996
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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		Spiked Blank	D4-1,2-Dichloroethane	2013/12/06		96	%	60 - 140
			D8-Toluene	2013/12/06		101	%	60 - 140
			Acetone (2-Propanone)	2013/12/06		94	%	60 - 140
			Benzene	2013/12/06		95	%	60 - 130
			Bromodichloromethane	2013/12/06		94	%	60 - 130
			Bromoform	2013/12/06		87	%	60 - 130
			Bromomethane	2013/12/06		89	%	60 - 140
			Carbon Tetrachloride	2013/12/06		90	%	60 - 130
			Chlorobenzene	2013/12/06		97	%	60 - 130
			Chloroform	2013/12/06		93	%	60 - 130
			Dibromochloromethane	2013/12/06		93	%	60 - 130
			1,2-Dichlorobenzene	2013/12/06		98	%	60 - 130
			1,3-Dichlorobenzene	2013/12/06		97	%	60 - 130
			1,4-Dichlorobenzene	2013/12/06		96	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2013/12/06		89	%	60 - 140
			1,1-Dichloroethane	2013/12/06		97	%	60 - 130
			1,2-Dichloroethane	2013/12/06		92	%	60 - 130
			1,1-Dichloroethylene	2013/12/06		107	%	60 - 130
			cis-1,2-Dichloroethylene	2013/12/06		93	%	60 - 130
			trans-1,2-Dichloroethylene	2013/12/06		94	%	60 - 130
			1,2-Dichloropropane	2013/12/06		96	%	60 - 130
			cis-1,3-Dichloropropene	2013/12/06		87	%	60 - 130
			trans-1,3-Dichloropropene	2013/12/06		90	%	60 - 130
			Ethylbenzene	2013/12/06		94	%	60 - 130
			Ethylene Dibromide	2013/12/06		89	%	60 - 130
			Hexane	2013/12/06		98	%	60 - 130
			Methylene Chloride(Dichloromethane)	2013/12/06		93	%	60 - 130
			Methyl Isobutyl Ketone	2013/12/06		89	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2013/12/06		91	%	60 - 140
			Methyl t-butyl ether (MTBE)	2013/12/06		92	%	60 - 130
			Styrene	2013/12/06		97	%	60 - 130
			1,1,1,2-Tetrachloroethane	2013/12/06		96	%	60 - 130
			1,1,2,2-Tetrachloroethane	2013/12/06		92	%	60 - 130
			Tetrachloroethylene	2013/12/06		103	%	60 - 130
			Toluene	2013/12/06		94	%	60 - 130
			1,1,1-Trichloroethane	2013/12/06		98	%	60 - 130
			1,1,2-Trichloroethane	2013/12/06		91	%	60 - 130
			Trichloroethylene	2013/12/06		99	%	60 - 130
			Vinyl Chloride	2013/12/06		84	%	60 - 130
			p+m-Xylene	2013/12/06		94	%	60 - 130
			o-Xylene	2013/12/06		93	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2013/12/06		95	%	60 - 130
		Method Blank	4-Bromofluorobenzene	2013/12/06		98	%	60 - 140
			D10-o-Xylene	2013/12/06		103	%	60 - 130
			D4-1,2-Dichloroethane	2013/12/06		97	%	60 - 140
			D8-Toluene	2013/12/06		99	%	60 - 140
			Acetone (2-Propanone)	2013/12/06	<0.50		ug/g	
			Benzene	2013/12/06	<0.020		ug/g	
			Bromodichloromethane	2013/12/06	<0.050		ug/g	
			Bromoform	2013/12/06	<0.050		ug/g	
			Bromomethane	2013/12/06	<0.050		ug/g	
			Carbon Tetrachloride	2013/12/06	<0.050		ug/g	
			Chlorobenzene	2013/12/06	<0.050		ug/g	
			Chloroform	2013/12/06	<0.050		ug/g	
			Dibromochloromethane	2013/12/06	<0.050		ug/g	
			1,2-Dichlorobenzene	2013/12/06	<0.050		ug/g	
			1,3-Dichlorobenzene	2013/12/06	<0.050		ug/g	
			1,4-Dichlorobenzene	2013/12/06	<0.050		ug/g	
			Dichlorodifluoromethane (FREON 12)	2013/12/06	<0.050		ug/g	
			1,1-Dichloroethane	2013/12/06	<0.050		ug/g	
			1,2-Dichloroethane	2013/12/06	<0.050		ug/g	
			1,1-Dichloroethylene	2013/12/06	<0.050		ug/g	
			cis-1,2-Dichloroethylene	2013/12/06	<0.050		ug/g	
			trans-1,2-Dichloroethylene	2013/12/06	<0.050		ug/g	

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Client Project #: 701996
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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		Method Blank	1,2-Dichloropropane	2013/12/06	<0.050		ug/g	
			cis-1,3-Dichloropropene	2013/12/06	<0.030		ug/g	
			trans-1,3-Dichloropropene	2013/12/06	<0.040		ug/g	
			Ethylbenzene	2013/12/06	<0.020		ug/g	
			Ethylene Dibromide	2013/12/06	<0.050		ug/g	
			Hexane	2013/12/06	<0.050		ug/g	
			Methylene Chloride(Dichloromethane)	2013/12/06	<0.050		ug/g	
			Methyl Isobutyl Ketone	2013/12/06	<0.50		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2013/12/06	<0.50		ug/g	
			Methyl t-butyl ether (MTBE)	2013/12/06	<0.050		ug/g	
			Styrene	2013/12/06	<0.050		ug/g	
			1,1,1,2-Tetrachloroethane	2013/12/06	<0.050		ug/g	
			1,1,2,2-Tetrachloroethane	2013/12/06	<0.050		ug/g	
			Tetrachloroethylene	2013/12/06	<0.050		ug/g	
			Toluene	2013/12/06	<0.020		ug/g	
			1,1,1-Trichloroethane	2013/12/06	<0.050		ug/g	
			1,1,2-Trichloroethane	2013/12/06	<0.050		ug/g	
			Trichloroethylene	2013/12/06	<0.050		ug/g	
			Vinyl Chloride	2013/12/06	<0.020		ug/g	
			p+m-Xylene	2013/12/06	<0.020		ug/g	
			o-Xylene	2013/12/06	<0.020		ug/g	
			Xylene (Total)	2013/12/06	<0.020		ug/g	
			Trichlorofluoromethane (FREON 11)	2013/12/06	<0.050		ug/g	
		RPD	Acetone (2-Propanone)	2013/12/06	NC		%	50
			Benzene	2013/12/06	NC		%	50
			Bromodichloromethane	2013/12/06	NC		%	50
			Bromoform	2013/12/06	NC		%	50
			Bromomethane	2013/12/06	NC		%	50
			Carbon Tetrachloride	2013/12/06	NC		%	50
			Chlorobenzene	2013/12/06	NC		%	50
			Chloroform	2013/12/06	NC		%	50
			Dibromochloromethane	2013/12/06	NC		%	50
			1,2-Dichlorobenzene	2013/12/06	NC		%	50
			1,3-Dichlorobenzene	2013/12/06	NC		%	50
			1,4-Dichlorobenzene	2013/12/06	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2013/12/06	NC		%	50
			1,1-Dichloroethane	2013/12/06	NC		%	50
			1,2-Dichloroethane	2013/12/06	NC		%	50
			1,1-Dichloroethylene	2013/12/06	NC		%	50
			cis-1,2-Dichloroethylene	2013/12/06	NC		%	50
			trans-1,2-Dichloroethylene	2013/12/06	NC		%	50
			1,2-Dichloropropane	2013/12/06	NC		%	50
			cis-1,3-Dichloropropene	2013/12/06	NC		%	50
			trans-1,3-Dichloropropene	2013/12/06	NC		%	50
			Ethylbenzene	2013/12/06	6.5		%	50
			Ethylene Dibromide	2013/12/06	NC		%	50
			Hexane	2013/12/06	NC		%	50
			Methylene Chloride(Dichloromethane)	2013/12/06	NC		%	50
			Methyl Isobutyl Ketone	2013/12/06	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2013/12/06	NC		%	50
			Methyl t-butyl ether (MTBE)	2013/12/06	NC		%	50
			Styrene	2013/12/06	NC		%	50
			1,1,1,2-Tetrachloroethane	2013/12/06	NC		%	50
			1,1,2,2-Tetrachloroethane	2013/12/06	NC		%	50
			Tetrachloroethylene	2013/12/06	NC		%	50
			Toluene	2013/12/06	NC		%	50
			1,1,1-Trichloroethane	2013/12/06	NC		%	50
			1,1,2-Trichloroethane	2013/12/06	NC		%	50
			Trichloroethylene	2013/12/06	NC		%	50
			Vinyl Chloride	2013/12/06	NC		%	50
			p+m-Xylene	2013/12/06	NC		%	50
			o-Xylene	2013/12/06	NC		%	50
			Xylene (Total)	2013/12/06	NC		%	50
			Trichlorofluoromethane (FREON 11)	2013/12/06	NC		%	50

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3447066	LPG	Matrix Spike	Decachlorobiphenyl	2013/12/05		108	%	60 - 130
	LPG	Matrix Spike	Aroclor 1260	2013/12/05		116	%	60 - 130
			Total PCB	2013/12/05		116	%	60 - 130
		Spiked Blank	Decachlorobiphenyl	2013/12/05		108	%	60 - 130
			Aroclor 1260	2013/12/05		99	%	60 - 130
			Total PCB	2013/12/05		99	%	60 - 130
		Method Blank	Decachlorobiphenyl	2013/12/05		115	%	60 - 130
			Aroclor 1242	2013/12/05	<0.010		ug/g	
			Aroclor 1248	2013/12/05	<0.010		ug/g	
			Aroclor 1254	2013/12/05	<0.010		ug/g	
			Aroclor 1260	2013/12/05	<0.010		ug/g	
			Total PCB	2013/12/05	<0.010		ug/g	
		RPD	Aroclor 1242	2013/12/05	NC		%	50
			Aroclor 1248	2013/12/05	NC		%	50
			Aroclor 1254	2013/12/05	4.5		%	50
			Aroclor 1260	2013/12/05	12.7		%	50
			Total PCB	2013/12/05	7.6		%	50
3449065	DPO	Matrix Spike	o-Terphenyl	2013/12/09		84	%	50 - 130
	DPO	Matrix Spike	F2 (C10-C16 Hydrocarbons)	2013/12/09		101	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2013/12/09		96	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2013/12/09		94	%	50 - 130
		Spiked Blank	o-Terphenyl	2013/12/09		83	%	50 - 130
			F2 (C10-C16 Hydrocarbons)	2013/12/09		99	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2013/12/09		94	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2013/12/09		93	%	80 - 120
		Method Blank	o-Terphenyl	2013/12/09		84	%	50 - 130
			F2 (C10-C16 Hydrocarbons)	2013/12/09	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2013/12/09	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2013/12/09	<50		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2013/12/09	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2013/12/09	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2013/12/09	NC		%	30
3449066	VPA		Moisture	2013/12/06	0		%	20
3449071	VIV	Matrix Spike	Acid Extractable Aluminum (Al)	2013/12/06		NC	%	75 - 125
	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2013/12/06		106	%	75 - 125
			Acid Extractable Arsenic (As)	2013/12/06		101	%	75 - 125
			Acid Extractable Barium (Ba)	2013/12/06		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2013/12/06		107	%	75 - 125
			Acid Extractable Bismuth (Bi)	2013/12/06		101	%	75 - 125
			Acid Extractable Boron (B)	2013/12/06		103	%	75 - 125
			Acid Extractable Cadmium (Cd)	2013/12/06		103	%	75 - 125
			Acid Extractable Calcium (Ca)	2013/12/06		NC	%	75 - 125
			Acid Extractable Chromium (Cr)	2013/12/06		103	%	75 - 125
			Acid Extractable Cobalt (Co)	2013/12/06		102	%	75 - 125
			Acid Extractable Copper (Cu)	2013/12/06		99	%	75 - 125
			Acid Extractable Iron (Fe)	2013/12/06		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2013/12/06		104	%	75 - 125
			Acid Extractable Magnesium (Mg)	2013/12/06		NC	%	75 - 125
			Acid Extractable Manganese (Mn)	2013/12/06		NC	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2013/12/06		107	%	75 - 125
			Acid Extractable Nickel (Ni)	2013/12/06		100	%	75 - 125
			Acid Extractable Phosphorus (P)	2013/12/06		NC	%	75 - 125
			Acid Extractable Potassium (K)	2013/12/06		NC	%	75 - 125
			Acid Extractable Selenium (Se)	2013/12/06		108	%	75 - 125
			Acid Extractable Silver (Ag)	2013/12/06		106	%	75 - 125
			Acid Extractable Sodium (Na)	2013/12/06		101	%	75 - 125
			Acid Extractable Strontium (Sr)	2013/12/06		NC	%	75 - 125
			Acid Extractable Thallium (Tl)	2013/12/06		94	%	75 - 125
			Acid Extractable Tin (Sn)	2013/12/06		102	%	75 - 125
			Acid Extractable Uranium (U)	2013/12/06		97	%	75 - 125
			Acid Extractable Vanadium (V)	2013/12/06		105	%	75 - 125
			Acid Extractable Zinc (Zn)	2013/12/06		100	%	75 - 125
			Acid Extractable Mercury (Hg)	2013/12/06		95	%	75 - 125
		Spiked Blank	Acid Extractable Aluminum (Al)	2013/12/06		106	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		Spiked Blank	Acid Extractable Antimony (Sb)	2013/12/06		105	%	80 - 120
			Acid Extractable Arsenic (As)	2013/12/06		98	%	80 - 120
			Acid Extractable Barium (Ba)	2013/12/06		101	%	80 - 120
			Acid Extractable Beryllium (Be)	2013/12/06		103	%	80 - 120
			Acid Extractable Bismuth (Bi)	2013/12/06		104	%	80 - 120
			Acid Extractable Boron (B)	2013/12/06		95	%	80 - 120
			Acid Extractable Cadmium (Cd)	2013/12/06		100	%	80 - 120
			Acid Extractable Calcium (Ca)	2013/12/06		103	%	80 - 120
			Acid Extractable Chromium (Cr)	2013/12/06		101	%	80 - 120
			Acid Extractable Cobalt (Co)	2013/12/06		102	%	80 - 120
			Acid Extractable Copper (Cu)	2013/12/06		99	%	80 - 120
			Acid Extractable Iron (Fe)	2013/12/06		104	%	80 - 120
			Acid Extractable Lead (Pb)	2013/12/06		106	%	80 - 120
			Acid Extractable Magnesium (Mg)	2013/12/06		101	%	80 - 120
			Acid Extractable Manganese (Mn)	2013/12/06		96	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2013/12/06		100	%	80 - 120
			Acid Extractable Nickel (Ni)	2013/12/06		101	%	80 - 120
			Acid Extractable Phosphorus (P)	2013/12/06		85	%	80 - 120
			Acid Extractable Potassium (K)	2013/12/06		96	%	80 - 120
			Acid Extractable Selenium (Se)	2013/12/06		102	%	80 - 120
			Acid Extractable Silver (Ag)	2013/12/06		103	%	80 - 120
			Acid Extractable Sodium (Na)	2013/12/06		99	%	80 - 120
			Acid Extractable Strontium (Sr)	2013/12/06		100	%	80 - 120
			Acid Extractable Thallium (Tl)	2013/12/06		95	%	80 - 120
			Acid Extractable Tin (Sn)	2013/12/06		101	%	80 - 120
			Acid Extractable Uranium (U)	2013/12/06		98	%	80 - 120
			Acid Extractable Vanadium (V)	2013/12/06		99	%	80 - 120
			Acid Extractable Zinc (Zn)	2013/12/06		102	%	80 - 120
			Acid Extractable Mercury (Hg)	2013/12/06		102	%	80 - 120
		Method Blank	Acid Extractable Aluminum (Al)	2013/12/06	<50		ug/g	
			Acid Extractable Antimony (Sb)	2013/12/06	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2013/12/06	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2013/12/06	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2013/12/06	<0.20		ug/g	
			Acid Extractable Bismuth (Bi)	2013/12/06	<1.0		ug/g	
			Acid Extractable Boron (B)	2013/12/06	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2013/12/06	<0.10		ug/g	
			Acid Extractable Calcium (Ca)	2013/12/06	<50		ug/g	
			Acid Extractable Chromium (Cr)	2013/12/06	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2013/12/06	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2013/12/06	<0.50		ug/g	
			Acid Extractable Iron (Fe)	2013/12/06	<50		ug/g	
			Acid Extractable Lead (Pb)	2013/12/06	<1.0		ug/g	
			Acid Extractable Magnesium (Mg)	2013/12/06	<50		ug/g	
			Acid Extractable Manganese (Mn)	2013/12/06	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2013/12/06	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2013/12/06	<0.50		ug/g	
			Acid Extractable Phosphorus (P)	2013/12/06	<50		ug/g	
			Acid Extractable Potassium (K)	2013/12/06	<200		ug/g	
			Acid Extractable Selenium (Se)	2013/12/06	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2013/12/06	<0.20		ug/g	
			Acid Extractable Sodium (Na)	2013/12/06	<100		ug/g	
			Acid Extractable Strontium (Sr)	2013/12/06	<1.0		ug/g	
			Acid Extractable Thallium (Tl)	2013/12/06	<0.050		ug/g	
			Acid Extractable Tin (Sn)	2013/12/06	<5.0		ug/g	
			Acid Extractable Uranium (U)	2013/12/06	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2013/12/06	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2013/12/06	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2013/12/06	<0.050		ug/g	
		RPD	Acid Extractable Arsenic (As)	2013/12/06	NC		%	30
			Acid Extractable Cadmium (Cd)	2013/12/06	NC		%	30
3449218	DTI	Matrix Spike	D10-Anthracene	2013/12/06		98	%	50 - 130
	DTI	Matrix Spike	D14-Terphenyl (FS)	2013/12/06		86	%	50 - 130
			D8-Acenaphthylene	2013/12/06		80	%	50 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		Matrix Spike	Acenaphthene	2013/12/06		98	%	50 - 130
			Acenaphthylene	2013/12/06		90	%	50 - 130
			Anthracene	2013/12/06		96	%	50 - 130
			Benzo(a)anthracene	2013/12/06		84	%	50 - 130
			Benzo(a)pyrene	2013/12/06		85	%	50 - 130
			Benzo(b/j)fluoranthene	2013/12/06		91	%	50 - 130
			Benzo(g,h,i)perylene	2013/12/06		72	%	50 - 130
			Benzo(k)fluoranthene	2013/12/06		90	%	50 - 130
			Chrysene	2013/12/06		100	%	50 - 130
			Dibenz(a,h)anthracene	2013/12/06		65	%	50 - 130
			Fluoranthene	2013/12/06		95	%	50 - 130
			Fluorene	2013/12/06		92	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2013/12/06		75	%	50 - 130
			1-Methylnaphthalene	2013/12/06		92	%	50 - 130
			2-Methylnaphthalene	2013/12/06		83	%	50 - 130
			Naphthalene	2013/12/06		91	%	50 - 130
			Phenanthrene	2013/12/06		95	%	50 - 130
			Pyrene	2013/12/06		96	%	50 - 130
		Spiked Blank	D10-Anthracene	2013/12/06		90	%	50 - 130
			D14-Terphenyl (FS)	2013/12/06		79	%	50 - 130
			D8-Acenaphthylene	2013/12/06		75	%	50 - 130
			Acenaphthene	2013/12/06		90	%	50 - 130
			Acenaphthylene	2013/12/06		84	%	50 - 130
			Anthracene	2013/12/06		90	%	50 - 130
			Benzo(a)anthracene	2013/12/06		81	%	50 - 130
			Benzo(a)pyrene	2013/12/06		81	%	50 - 130
			Benzo(b/j)fluoranthene	2013/12/06		91	%	50 - 130
			Benzo(g,h,i)perylene	2013/12/06		73	%	50 - 130
			Benzo(k)fluoranthene	2013/12/06		79	%	50 - 130
			Chrysene	2013/12/06		94	%	50 - 130
			Dibenz(a,h)anthracene	2013/12/06		64	%	50 - 130
			Fluoranthene	2013/12/06		89	%	50 - 130
			Fluorene	2013/12/06		85	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2013/12/06		74	%	50 - 130
			1-Methylnaphthalene	2013/12/06		87	%	50 - 130
			2-Methylnaphthalene	2013/12/06		78	%	50 - 130
			Naphthalene	2013/12/06		85	%	50 - 130
			Phenanthrene	2013/12/06		90	%	50 - 130
			Pyrene	2013/12/06		90	%	50 - 130
		Method Blank	D10-Anthracene	2013/12/06		97	%	50 - 130
			D14-Terphenyl (FS)	2013/12/06		81	%	50 - 130
			D8-Acenaphthylene	2013/12/06		77	%	50 - 130
			Acenaphthene	2013/12/06	<0.0050		ug/g	
			Acenaphthylene	2013/12/06	<0.0050		ug/g	
			Anthracene	2013/12/06	<0.0050		ug/g	
			Benzo(a)anthracene	2013/12/06	<0.0050		ug/g	
			Benzo(a)pyrene	2013/12/06	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2013/12/06	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2013/12/06	<0.0050		ug/g	
			Benzo(k)fluoranthene	2013/12/06	<0.0050		ug/g	
			Chrysene	2013/12/06	<0.0050		ug/g	
			Dibenz(a,h)anthracene	2013/12/06	<0.0050		ug/g	
			Fluoranthene	2013/12/06	<0.0050		ug/g	
			Fluorene	2013/12/06	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2013/12/06	<0.0050		ug/g	
			1-Methylnaphthalene	2013/12/06	<0.0050		ug/g	
			2-Methylnaphthalene	2013/12/06	<0.0050		ug/g	
			Naphthalene	2013/12/06	<0.0050		ug/g	
			Phenanthrene	2013/12/06	<0.0050		ug/g	
			Pyrene	2013/12/06	<0.0050		ug/g	
		RPD	Acenaphthene	2013/12/06	NC		%	40
			Acenaphthylene	2013/12/06	NC		%	40
			Anthracene	2013/12/06	NC		%	40
			Benzo(a)anthracene	2013/12/06	NC		%	40

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		RPD	Benzo(a)pyrene	2013/12/06	NC		%	40
			Benzo(b/j)fluoranthene	2013/12/06	NC		%	40
			Benzo(g,h,i)perylene	2013/12/06	NC		%	40
			Benzo(k)fluoranthene	2013/12/06	NC		%	40
			Chrysene	2013/12/06	NC		%	40
			Dibenz(a,h)anthracene	2013/12/06	NC		%	40
			Fluoranthene	2013/12/06	NC		%	40
			Fluorene	2013/12/06	NC		%	40
			Indeno(1,2,3-cd)pyrene	2013/12/06	NC		%	40
			1-Methylnaphthalene	2013/12/06	NC		%	40
			2-Methylnaphthalene	2013/12/06	NC		%	40
			Naphthalene	2013/12/06	NC		%	40
			Phenanthrene	2013/12/06	NC		%	40
			Pyrene	2013/12/06	NC		%	40
3449497	VIV	Matrix Spike	Acid Extractable Aluminum (Al)	2013/12/09		NC	%	75 - 125
	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2013/12/09		104	%	75 - 125
			Acid Extractable Arsenic (As)	2013/12/09		101	%	75 - 125
			Acid Extractable Barium (Ba)	2013/12/09		99	%	75 - 125
			Acid Extractable Beryllium (Be)	2013/12/09		108	%	75 - 125
			Acid Extractable Bismuth (Bi)	2013/12/09		100	%	75 - 125
			Acid Extractable Boron (B)	2013/12/09		102	%	75 - 125
			Acid Extractable Cadmium (Cd)	2013/12/09		101	%	75 - 125
			Acid Extractable Calcium (Ca)	2013/12/09		NC	%	75 - 125
			Acid Extractable Chromium (Cr)	2013/12/09		101	%	75 - 125
			Acid Extractable Cobalt (Co)	2013/12/09		103	%	75 - 125
			Acid Extractable Copper (Cu)	2013/12/09		99	%	75 - 125
			Acid Extractable Iron (Fe)	2013/12/09		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2013/12/09		101	%	75 - 125
			Acid Extractable Magnesium (Mg)	2013/12/09		NC	%	75 - 125
			Acid Extractable Manganese (Mn)	2013/12/09		NC	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2013/12/09		102	%	75 - 125
			Acid Extractable Nickel (Ni)	2013/12/09		101	%	75 - 125
			Acid Extractable Phosphorus (P)	2013/12/09		NC	%	75 - 125
			Acid Extractable Potassium (K)	2013/12/09		105	%	75 - 125
			Acid Extractable Selenium (Se)	2013/12/09		103	%	75 - 125
			Acid Extractable Silver (Ag)	2013/12/09		101	%	75 - 125
			Acid Extractable Sodium (Na)	2013/12/09		106	%	75 - 125
			Acid Extractable Strontium (Sr)	2013/12/09		NC	%	75 - 125
			Acid Extractable Thallium (Tl)	2013/12/09		90	%	75 - 125
			Acid Extractable Tin (Sn)	2013/12/09		100	%	75 - 125
			Acid Extractable Uranium (U)	2013/12/09		102	%	75 - 125
			Acid Extractable Vanadium (V)	2013/12/09		105	%	75 - 125
			Acid Extractable Zinc (Zn)	2013/12/09		103	%	75 - 125
			Acid Extractable Mercury (Hg)	2013/12/09		96	%	75 - 125
		Spiked Blank	Acid Extractable Aluminum (Al)	2013/12/09		108	%	80 - 120
			Acid Extractable Antimony (Sb)	2013/12/09		101	%	80 - 120
			Acid Extractable Arsenic (As)	2013/12/09		97	%	80 - 120
			Acid Extractable Barium (Ba)	2013/12/09		96	%	80 - 120
			Acid Extractable Beryllium (Be)	2013/12/09		102	%	80 - 120
			Acid Extractable Bismuth (Bi)	2013/12/09		99	%	80 - 120
			Acid Extractable Boron (B)	2013/12/09		99	%	80 - 120
			Acid Extractable Cadmium (Cd)	2013/12/09		97	%	80 - 120
			Acid Extractable Calcium (Ca)	2013/12/09		106	%	80 - 120
			Acid Extractable Chromium (Cr)	2013/12/09		99	%	80 - 120
			Acid Extractable Cobalt (Co)	2013/12/09		101	%	80 - 120
			Acid Extractable Copper (Cu)	2013/12/09		99	%	80 - 120
			Acid Extractable Iron (Fe)	2013/12/09		105	%	80 - 120
			Acid Extractable Lead (Pb)	2013/12/09		100	%	80 - 120
			Acid Extractable Magnesium (Mg)	2013/12/09		103	%	80 - 120
			Acid Extractable Manganese (Mn)	2013/12/09		99	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2013/12/09		100	%	80 - 120
			Acid Extractable Nickel (Ni)	2013/12/09		102	%	80 - 120
			Acid Extractable Phosphorus (P)	2013/12/09		117	%	80 - 120
			Acid Extractable Potassium (K)	2013/12/09		99	%	80 - 120

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		Spiked Blank	Acid Extractable Selenium (Se)	2013/12/09		104	%	80 - 120
			Acid Extractable Silver (Ag)	2013/12/09		100	%	80 - 120
			Acid Extractable Sodium (Na)	2013/12/09		100	%	80 - 120
			Acid Extractable Strontium (Sr)	2013/12/09		98	%	80 - 120
			Acid Extractable Thallium (Tl)	2013/12/09		82	%	80 - 120
			Acid Extractable Tin (Sn)	2013/12/09		100	%	80 - 120
			Acid Extractable Uranium (U)	2013/12/09		99	%	80 - 120
			Acid Extractable Vanadium (V)	2013/12/09		99	%	80 - 120
			Acid Extractable Zinc (Zn)	2013/12/09		100	%	80 - 120
			Acid Extractable Mercury (Hg)	2013/12/09		105	%	80 - 120
		Method Blank	Acid Extractable Aluminum (Al)	2013/12/09	<50		ug/g	
			Acid Extractable Antimony (Sb)	2013/12/09	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2013/12/09	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2013/12/09	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2013/12/09	<0.20		ug/g	
			Acid Extractable Bismuth (Bi)	2013/12/09	<1.0		ug/g	
			Acid Extractable Boron (B)	2013/12/09	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2013/12/09	<0.10		ug/g	
			Acid Extractable Calcium (Ca)	2013/12/09	<50		ug/g	
			Acid Extractable Chromium (Cr)	2013/12/09	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2013/12/09	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2013/12/09	0.53, RDL=0.50		ug/g	
			Acid Extractable Iron (Fe)	2013/12/09	<50		ug/g	
			Acid Extractable Lead (Pb)	2013/12/09	<1.0		ug/g	
			Acid Extractable Magnesium (Mg)	2013/12/09	<50		ug/g	
			Acid Extractable Manganese (Mn)	2013/12/09	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2013/12/09	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2013/12/09	<0.50		ug/g	
			Acid Extractable Phosphorus (P)	2013/12/09	<50		ug/g	
			Acid Extractable Potassium (K)	2013/12/09	<200		ug/g	
			Acid Extractable Selenium (Se)	2013/12/09	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2013/12/09	<0.20		ug/g	
			Acid Extractable Sodium (Na)	2013/12/09	<100		ug/g	
			Acid Extractable Strontium (Sr)	2013/12/09	<1.0		ug/g	
			Acid Extractable Thallium (Tl)	2013/12/09	<0.050		ug/g	
			Acid Extractable Tin (Sn)	2013/12/09	<5.0		ug/g	
			Acid Extractable Uranium (U)	2013/12/09	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2013/12/09	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2013/12/09	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2013/12/09	0.052, RDL=0.050		ug/g	
		RPD	Acid Extractable Antimony (Sb)	2013/12/09	NC		%	30
			Acid Extractable Arsenic (As)	2013/12/09	NC		%	30
			Acid Extractable Barium (Ba)	2013/12/09	12.2		%	30
			Acid Extractable Beryllium (Be)	2013/12/09	NC		%	30
			Acid Extractable Boron (B)	2013/12/09	NC		%	30
			Acid Extractable Cadmium (Cd)	2013/12/09	NC		%	30
			Acid Extractable Chromium (Cr)	2013/12/09	NC		%	30
			Acid Extractable Cobalt (Co)	2013/12/09	5.3		%	30
			Acid Extractable Copper (Cu)	2013/12/09	NC		%	30
			Acid Extractable Lead (Pb)	2013/12/09	NC		%	30
			Acid Extractable Molybdenum (Mo)	2013/12/09	NC		%	30
			Acid Extractable Nickel (Ni)	2013/12/09	NC		%	30
			Acid Extractable Selenium (Se)	2013/12/09	NC		%	30
			Acid Extractable Silver (Ag)	2013/12/09	NC		%	30
			Acid Extractable Thallium (Tl)	2013/12/09	NC		%	30
			Acid Extractable Uranium (U)	2013/12/09	NC		%	30
			Acid Extractable Vanadium (V)	2013/12/09	NC		%	30
			Acid Extractable Zinc (Zn)	2013/12/09	NC		%	30
			Acid Extractable Mercury (Hg)	2013/12/09	NC		%	30
3450081	VPA		Moisture	2013/12/07	5.4		%	20
3453092	MN2	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2013/12/10		87	%	65 - 135
	MN2	Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2013/12/10		92	%	65 - 135
		Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2013/12/10	<100		ug/g	

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
		RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2013/12/10	8.8		%	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Maxxam Job #: B3K9090
Report Date: 2013/12/11

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: IMICO - GUELPH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, Scientific Services

M. Riskallah 2013

Medhat Riskallah, Manager, Hydrocarbon Department

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam — CHAIN OF CUSTODY RECORD

Maxxam Analytics International Corporation o/a Maxxam Analytics
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3-Dec-13 15:27
Keshani Vijh
Page 1 of 2

B3K9090
RDV ENV-808

C#444683-01-01

IMMEDIATE RUSH

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#1037 Decommissioning Consulting Services Limit	Company Name:		Quotation #:	B16317
Contact Name:	Accounting	Contact Name:	Maxwell McCormick	P.O. #:	
Address:	121 Granton Dr Unit 11 Richmond Hill ON L4B 3N4	Address:		Project #:	7019986
				Project Name:	Imico - Guelph
Phone:	(905)882-5984 Fax: (905)882-8962	Phone:	(905)882-5984 Fax:	Site #:	
Email:	engineers@dcsltd.ca	Email:	mmccormick@dcsltd.ca	Sampled By:	Max McCormick

ER #:
AGER: Keshani Vijh

Regulation 153 (2011): Table 1, Table 2, Table 3, Table 6 [X]; Res/Park, Ind/Comm, Agri/Other; Medium/Fine [X], Coarse [X]; For RSC

Other Regulations: CCME, Reg. 558 [X], MISA, PWQO, Other; Sanitary Sewer Bylaw, Storm Sewer Bylaw, Municipality

SPECIAL INSTRUCTIONS

Include Criteria on Certificate of Analysis (Y/N)? ___

Note: For MOE regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	VOCs (Soil)	PAHs (Soil)	PHC (Soil)	Metals in Soil by ICPMS	PCBs (Soil)	# of Bottles	Comments
1		TP1 - 5''	Dec2/13		Soil			X	X	X	X	X	8	Do not proceed
2		TP2 - 5''	↓		↓			X	X	X	X		7	with analysis
3		TP3 - 6''						X	X	X	X	X	8	until Confirmation
4		TP4 - 6''						X	X	X	X	X	8	from client
5		TP5 - 5''	↓		↓			X	X	X	X		7	
6		TP6 - 4''	Dec2/13		Soil			X	X	X	X		7	
7		TP7						X	X	X	X			pls remove
8		TP8 - 4''						X	X	X	X		7	
9		TP9 - 1'						X	X	X	X		7	
10		TP10 - 0'						X	X	X	X		7	

REC'D IN WATERLOO

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Max McCormick	13/12/03	3:15	[illegible]	2013-12-03	15:27
			FANA WANG	2013/12/03	17:43

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	3.3 3.3	Present		
	0.0 0.0	Intact		
	1 C9			

2/2/3°c, 2/3/4°c Waybill #246662

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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White: Maxxam Yellow: Client

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:
Company Name: #1037 Decommissioning Consulting Services Limit
Contact Name: Accounting
Address: 121 Granton Dr Unit 11, Richmond Hill ON L4B 3N4
Phone: (905)882-5984 Fax: (905)882-8962
Email: engineers@dcsltd.ca

REPORT INFORMATION (if differs from invoice):
Company Name:
Contact Name: Maxwell McCormick
Address:
Phone: (905)882-5984 Fax:
Email: mmccormick@dcsltd.ca

PROJECT INFORMATION:
Quotation #: B16317
P.O. #:
Project #: 7019986
Project Name: ₱ Imico - Guelph
Site #:
Sampled By: Max McCormick

Laboratory Use Only:
MAXXAM JOB #:
BOTTLE ORDER #: 444683
CHAIN OF CUSTODY #: C#444683-02-01
PROJECT MANAGER: Keshani Vijh

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☒ Coarse
☐ Table 3 ☐ Agri/Other
☒ Table 6 ☐ For RSC

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☒ Reg. 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality
☐ PWQO
☐ Other

SPECIAL INSTRUCTIONS

Include Criteria on Certificate of Analysis (Y/N)? ___

Note: For MOE regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	VOCs (Soil)	PAHs (Soil)	PHC (Soil)	Metals in Soil by ICPMS	PCBs (Soil)	# of Bottles	Comments
1		TP11 - 6"	Dec3/12		Soil			X	X	X	X		7	
2		~~MW13-1D~~						X			X			not included
3		MW13-1S						X			X			not included
4		DUP1	Dec3/12		soil			X	X	X	X	X	8	Do not proceed
5		DUP2	Dec3/12		soil			X	X	X	X		7	with analysis
6														until confirmation
7														from Client
8														
9														
10														REC'D IN WATER

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Max McCormick	13/12/03	3:15	~~Green Shaw~~ LS Shaw / ~~FANG WANG~~	2013-12-03 / 2013/12/03	15:27 / ~~17:43~~ 17:43	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	3.3 / 0.0 / 1.0	Present		
		Intact		✓

White: Maxxam Yellow: Client

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

FW 2013/12/03 2/2/3?, 2/3/4? Waybill # 246662

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CHAIN OF CUSTODY RECORD

Page 3 of 3

INVOICE INFORMATION:
- Company Name: #1037 Decommissioning Consulting Services Limit
- Contact Name: Accounting
- Address: 121 Granton Dr Unit 11, Richmond Hill ON L4B 3N4
- Phone: (905)882-5984 Fax: (905)882-8962
- Email: engineers@dcsltd.ca

REPORT INFORMATION (if differs from invoice):
- Company Name:
- Contact Name: Maxwell McCormick
- Address:
- Phone: (905)882-5984 Fax:
- Email: mmccormick@dcsltd.ca

PROJECT INFORMATION:
- Quotation #: B16317
- P.O. #:
- Project #: 7019986
- Project Name: Imico-Guelph
- Site #:
- Sampled By: Max McCormick

Laboratory Use Only:
- MAXXAM JOB #:
- BOTTLE ORDER #: 445466
- CHAIN OF CUSTODY #: C#445466-01-01
- PROJECT MANAGER: Keshani Vijh

Regulation 153 (2011): Table 1 / Table 2 / Table 3 / [X] Table 6; Res/Park / Ind/Comm / Agri/Other; Medium/Fine / [X] Coarse; For RSC

Other Regulations: CCME / [X] Reg. 558 / MISA / PWQO / Other; Sanitary Sewer Bylaw / Storm Sewer Bylaw; Municipality

SPECIAL INSTRUCTIONS

Include Criteria on Certificate of Analysis (Y/N)?

Note: For MOE regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED: PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

[X] **Regular (Standard) TAT:** *(will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.*

Job Specific Rush TAT (if applies to entire submission) Date Required: Time Required: Rush Confirmation Number: (call lab for #)

ANALYSIS REQUESTED (Please be specific):

#	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	VOC's (soil)	PAH's (Soil)	PHC (soil)	Metals ICPMS	PCB's	# of Bottles	Comments
1		TP1-3'	Dec 2/12		Soil			✓	✓	✓	✓		6	Do not proceed
2		TP2-4'	↓		↓			✓	✓	✓	✓		6	with analysis
3		TP3-3'	↓		↓			↓	↓	↓	↓		↓	until confirmation
4		TP4-4'	↓		↓			↓	↓	↓	↓		↓	from client
5		TP5-4'	↓		↓			↓	↓	↓	↓		↓	
6		TP6-5'	Dec 2/13		Soil			↓	↓	↓	↓		↓	
7		TP8-5'	Dec 3/13		↓			↓	↓	↓	↓		↓	
8		TP9-4'	↓		↓			↓	↓	↓	↓		↓	
9		TP10-4'	↓		↓			✓	✓	✓	✓		6	REC'D IN WATERLOO
10		TP11-5'	Dec 3/13		Soil			✓	✓	✓	✓		6	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
(signature) (Max McCormick)	13/12/03		(signature)	2013-12-03	15:27	
			FANG WANG	2013/12/03	17:43	

Laboratory Use Only: Time Sensitive; Temperature (°C) on Receipt: 3,3,3 / 0,0,0; Custody Seal: Present / Intact — Yes / No ✓; rcq

2/2/3°C, 2/3/4°C Waybill# 246662

White: Maxxam Yellow: Client

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Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: 701996
Site Location: ZOO BEVERLEY
Your C.O.C. #: 20748

Attention:Maxwell McCormick

Decommissioning Consulting Services Limited
121 Granton Dr
Unit 11
Richmond Hill, ON
L4B 3N4

Report Date: 2013/12/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3L5721
Received: 2013/12/12, 15:30

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	1	N/A	2013/12/19	CAM SOP-00301	EPA 8270
1,3-Dichloropropene Sum	2	N/A	2013/12/19	CAM SOP-00226	EPA 8260
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2013/12/16	2013/12/19	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	1	2013/12/16	2013/12/17	CAM SOP-00316	CCME CWS
Acid Extr. Metals (aqua regia) by ICPMS	2	2013/12/17	2013/12/18	CAM SOP-00447	EPA 6020
Moisture	2	N/A	2013/12/17	CAM SOP-00445	R.Carter,1993
PAH Compounds in Soil by GC/MS (SIM)	1	2013/12/16	2013/12/17	CAM SOP - 00318	EPA 8270
Volatile Organic Compounds in Soil	2	2013/12/17	2013/12/18	CAM SOP-00226	EPA 8260 modified

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 701996
Site Location: ZOO BEVERLEY
Your C.O.C. #: 20748

Attention:Maxwell McCormick

Decommissioning Consulting Services Limited
121 Granton Dr
Unit 11
Richmond Hill, ON
L4B 3N4

Report Date: 2013/12/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3L5721
Received: 2013/12/12, 15:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Keshani Vijh, Project Manager
Email: KVijh@maxxam.ca
Phone# (905) 817-5700
==========
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

O'REG 153 ICPMS METALS (SOIL)

Maxxam ID		UG9416	UG9417		
Sampling Date		2013/12/12	2013/12/12		
COC Number		20748	20748		
	Units	OW13-39S	BH13-40	RDL	QC Batch
Metals					
Acid Extractable Antimony (Sb)	ug/g	0.98	<0.20	0.20	3460924
Acid Extractable Arsenic (As)	ug/g	4.9	4.9	1.0	3460924
Acid Extractable Barium (Ba)	ug/g	190	11	0.50	3460924
Acid Extractable Beryllium (Be)	ug/g	<0.20	<0.20	0.20	3460924
Acid Extractable Boron (B)	ug/g	8.7	<5.0	5.0	3460924
Acid Extractable Cadmium (Cd)	ug/g	1.9	0.65	0.10	3460924
Acid Extractable Chromium (Cr)	ug/g	9.0	5.9	1.0	3460924
Acid Extractable Cobalt (Co)	ug/g	3.6	4.1	0.10	3460924
Acid Extractable Copper (Cu)	ug/g	29	16	0.50	3460924
Acid Extractable Lead (Pb)	ug/g	220	30	1.0	3460924
Acid Extractable Molybdenum (Mo)	ug/g	0.79	<0.50	0.50	3460924
Acid Extractable Nickel (Ni)	ug/g	11	10	0.50	3460924
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	3460924
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	3460924
Acid Extractable Thallium (Tl)	ug/g	0.13	0.087	0.050	3460924
Acid Extractable Uranium (U)	ug/g	0.50	0.64	0.050	3460924
Acid Extractable Vanadium (V)	ug/g	11	8.9	5.0	3460924
Acid Extractable Zinc (Zn)	ug/g	2400	620	5.0	3460924

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

O'REG 153 PAHS (SOIL)

Maxxam ID		UG9417		
Sampling Date		2013/12/12		
COC Number		20748		
	Units	BH13-40	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	3458527
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	3459822
Acenaphthylene	ug/g	<0.0050	0.0050	3459822
Anthracene	ug/g	<0.0050	0.0050	3459822
Benzo(a)anthracene	ug/g	0.0051	0.0050	3459822
Benzo(a)pyrene	ug/g	<0.0050	0.0050	3459822
Benzo(b/j)fluoranthene	ug/g	0.0056	0.0050	3459822
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	3459822
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	3459822
Chrysene	ug/g	0.0066	0.0050	3459822
Dibenz(a,h)anthracene	ug/g	<0.0050	0.0050	3459822
Fluoranthene	ug/g	0.012	0.0050	3459822
Fluorene	ug/g	<0.0050	0.0050	3459822
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	3459822
1-Methylnaphthalene	ug/g	<0.0050	0.0050	3459822
2-Methylnaphthalene	ug/g	<0.0050	0.0050	3459822
Naphthalene	ug/g	<0.0050	0.0050	3459822
Phenanthrene	ug/g	0.010	0.0050	3459822
Pyrene	ug/g	0.011	0.0050	3459822
Surrogate Recovery (%)				
D10-Anthracene	%	88		3459822
D14-Terphenyl (FS)	%	101		3459822
D8-Acenaphthylene	%	83		3459822

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		UG9417	UG9417		
Sampling Date		2013/12/12	2013/12/12		
COC Number		20748	20748		
	Units	BH13-40	BH13-40 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons					
F1 (C6-C10)	ug/g	<10	<10	10	3462359
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	3462359
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	<10		10	3459802
F3 (C16-C34 Hydrocarbons)	ug/g	<50		50	3459802
F4 (C34-C50 Hydrocarbons)	ug/g	<50		50	3459802
Reached Baseline at C50	ug/g	Yes			3459802
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	97	97		3462359
4-Bromofluorobenzene	%	94	94		3462359
D10-Ethylbenzene	%	93	101		3462359
D4-1,2-Dichloroethane	%	94	96		3462359
o-Terphenyl	%	88			3459802

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UG9416	UG9416	UG9417		
Sampling Date		2013/12/12	2013/12/12	2013/12/12		
COC Number		20748	20748	20748		
	Units	OW13-39S	OW13-39S Lab-Dup	BH13-40	RDL	QC Batch
Inorganics						
Moisture	%	3.3		9.0	1.0	3460966
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	<0.050		<0.050	0.050	3458528
Volatile Organics						
Acetone (2-Propanone)	ug/g	<0.50	<0.50	<0.50	0.50	3460091
Benzene	ug/g	<0.020	<0.020	<0.020	0.020	3460091
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Bromoform	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Bromomethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Chloroform	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	0.030	3460091
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	0.040	3460091
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	0.020	3460091
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Hexane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	0.50	3460091
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	0.50	3460091
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Styrene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

O'REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		UG9416	UG9416	UG9417		
Sampling Date		2013/12/12	2013/12/12	2013/12/12		
COC Number		20748	20748	20748		
	Units	**OW13-39S**	**OW13-39S Lab-Dup**	**BH13-40**	**RDL**	**QC Batch**
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Toluene	ug/g	<0.020	<0.020	<0.020	0.020	3460091
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Trichloroethylene	ug/g	1.0	1.0	0.080	0.050	3460091
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	0.020	3460091
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	3460091
o-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	3460091
Xylene (Total)	ug/g	<0.020	<0.020	<0.020	0.020	3460091
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	0.050	3460091
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	103	103	104		3460091
D10-o-Xylene	%	100	102	103		3460091
D4-1,2-Dichloroethane	%	96	96	96		3460091
D8-Toluene	%	96	96	96		3460091

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Client Project #: 701996
Site Location: ZOO BEVERLEY

TEST SUMMARY

Maxxam ID: UG9416
Sample ID: OW13-39S
Matrix: Soil

Collected: 2013/12/12
Shipped:
Received: 2013/12/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	3458528	N/A	2013/12/19	Automated Statchk
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3460924	2013/12/17	2013/12/18	Viviana Canzonieri
Moisture	BAL	3460966	N/A	2013/12/17	Valentina Kaftani
Volatile Organic Compounds in Soil	P&T/MS	3460091	2013/12/17	2013/12/18	Xueming Jiang

Maxxam ID: UG9416 Dup
Sample ID: OW13-39S
Matrix: Soil

Collected: 2013/12/12
Shipped:
Received: 2013/12/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Soil	P&T/MS	3460091	2013/12/17	2013/12/18	Xueming Jiang

Maxxam ID: UG9417
Sample ID: BH13-40
Matrix: Soil

Collected: 2013/12/12
Shipped:
Received: 2013/12/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	3458527	N/A	2013/12/19	Automated Statchk
1,3-Dichloropropene Sum	CALC	3458528	N/A	2013/12/19	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3462359	2013/12/16	2013/12/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3459802	2013/12/16	2013/12/17	Jeevaraj Jeevaratrnam
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3460924	2013/12/17	2013/12/18	Viviana Canzonieri
Moisture	BAL	3460966	N/A	2013/12/17	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3459822	2013/12/16	2013/12/17	Darryl Tiller
Volatile Organic Compounds in Soil	P&T/MS	3460091	2013/12/17	2013/12/18	Xueming Jiang

Maxxam ID: UG9417 Dup
Sample ID: BH13-40
Matrix: Soil

Collected: 2013/12/12
Shipped:
Received: 2013/12/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3462359	2013/12/18	2013/12/19	Georgeta Rusu

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Decommissioning Consulting Services Limited
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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	0.7°C

Results relate only to the items tested.

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Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3459802	JJE	Matrix Spike	o-Terphenyl	2013/12/17		89	%	50 - 130
			F2 (C10-C16 Hydrocarbons)	2013/12/17		90	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2013/12/17		94	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2013/12/17		95	%	50 - 130
3459802	JJE	Spiked Blank	o-Terphenyl	2013/12/17		88	%	50 - 130
			F2 (C10-C16 Hydrocarbons)	2013/12/17		89	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2013/12/17		91	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2013/12/17		93	%	80 - 120
3459802	JJE	Method Blank	o-Terphenyl	2013/12/17		89	%	50 - 130
			F2 (C10-C16 Hydrocarbons)	2013/12/17	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2013/12/17	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2013/12/17	<50		ug/g	
3459802	JJE	RPD	F2 (C10-C16 Hydrocarbons)	2013/12/17	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2013/12/17	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2013/12/17	NC		%	30
3459822	DTI	Matrix Spike	D10-Anthracene	2013/12/17		88	%	50 - 130
			D14-Terphenyl (FS)	2013/12/17		100	%	50 - 130
			D8-Acenaphthylene	2013/12/17		84	%	50 - 130
			Acenaphthene	2013/12/17		89	%	50 - 130
			Acenaphthylene	2013/12/17		91	%	50 - 130
			Anthracene	2013/12/17		92	%	50 - 130
			Benzo(a)anthracene	2013/12/17		94	%	50 - 130
			Benzo(a)pyrene	2013/12/17		91	%	50 - 130
			Benzo(b/j)fluoranthene	2013/12/17		83	%	50 - 130
			Benzo(g,h,i)perylene	2013/12/17		95	%	50 - 130
			Benzo(k)fluoranthene	2013/12/17		85	%	50 - 130
			Chrysene	2013/12/17		93	%	50 - 130
			Dibenz(a,h)anthracene	2013/12/17		94	%	50 - 130
			Fluoranthene	2013/12/17		98	%	50 - 130
			Fluorene	2013/12/17		94	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2013/12/17		96	%	50 - 130
			1-Methylnaphthalene	2013/12/17		86	%	50 - 130
			2-Methylnaphthalene	2013/12/17		83	%	50 - 130
			Naphthalene	2013/12/17		83	%	50 - 130
			Phenanthrene	2013/12/17		90	%	50 - 130
			Pyrene	2013/12/17		98	%	50 - 130
3459822	DTI	Spiked Blank	D10-Anthracene	2013/12/16		90	%	50 - 130
			D14-Terphenyl (FS)	2013/12/16		102	%	50 - 130
			D8-Acenaphthylene	2013/12/16		87	%	50 - 130
			Acenaphthene	2013/12/16		92	%	50 - 130
			Acenaphthylene	2013/12/16		93	%	50 - 130
			Anthracene	2013/12/16		93	%	50 - 130
			Benzo(a)anthracene	2013/12/16		98	%	50 - 130
			Benzo(a)pyrene	2013/12/16		94	%	50 - 130
			Benzo(b/j)fluoranthene	2013/12/16		86	%	50 - 130
			Benzo(g,h,i)perylene	2013/12/16		98	%	50 - 130
			Benzo(k)fluoranthene	2013/12/16		91	%	50 - 130
			Chrysene	2013/12/16		96	%	50 - 130
			Dibenz(a,h)anthracene	2013/12/16		97	%	50 - 130
			Fluoranthene	2013/12/16		100	%	50 - 130
			Fluorene	2013/12/16		98	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2013/12/16		99	%	50 - 130
			1-Methylnaphthalene	2013/12/16		90	%	50 - 130
			2-Methylnaphthalene	2013/12/16		88	%	50 - 130
			Naphthalene	2013/12/16		90	%	50 - 130
			Phenanthrene	2013/12/16		92	%	50 - 130
			Pyrene	2013/12/16		99	%	50 - 130
3459822	DTI	Method Blank	D10-Anthracene	2013/12/16		89	%	50 - 130
			D14-Terphenyl (FS)	2013/12/16		100	%	50 - 130
			D8-Acenaphthylene	2013/12/16		86	%	50 - 130
			Acenaphthene	2013/12/16	<0.0050		ug/g	
			Acenaphthylene	2013/12/16	<0.0050		ug/g	
			Anthracene	2013/12/16	<0.0050		ug/g	
			Benzo(a)anthracene	2013/12/16	<0.0050		ug/g	

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Maxxam Job #: B3L5721
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Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Benzo(a)pyrene	2013/12/16	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2013/12/16	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2013/12/16	<0.0050		ug/g	
			Benzo(k)fluoranthene	2013/12/16	<0.0050		ug/g	
			Chrysene	2013/12/16	<0.0050		ug/g	
			Dibenz(a,h)anthracene	2013/12/16	<0.0050		ug/g	
			Fluoranthene	2013/12/16	<0.0050		ug/g	
			Fluorene	2013/12/16	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2013/12/16	<0.0050		ug/g	
			1-Methylnaphthalene	2013/12/16	<0.0050		ug/g	
			2-Methylnaphthalene	2013/12/16	<0.0050		ug/g	
			Naphthalene	2013/12/16	<0.0050		ug/g	
			Phenanthrene	2013/12/16	<0.0050		ug/g	
			Pyrene	2013/12/16	<0.0050		ug/g	
3459822	DTI	RPD	Acenaphthene	2013/12/16	NC		%	40
			Acenaphthylene	2013/12/16	NC		%	40
			Anthracene	2013/12/16	NC		%	40
			Benzo(a)anthracene	2013/12/16	NC		%	40
			Benzo(a)pyrene	2013/12/16	NC		%	40
			Benzo(b/j)fluoranthene	2013/12/16	NC		%	40
			Benzo(g,h,i)perylene	2013/12/16	NC		%	40
			Benzo(k)fluoranthene	2013/12/16	NC		%	40
			Chrysene	2013/12/16	NC		%	40
			Dibenz(a,h)anthracene	2013/12/16	NC		%	40
			Fluoranthene	2013/12/16	NC		%	40
			Fluorene	2013/12/16	NC		%	40
			Indeno(1,2,3-cd)pyrene	2013/12/16	NC		%	40
			1-Methylnaphthalene	2013/12/16	NC		%	40
			2-Methylnaphthalene	2013/12/16	NC		%	40
			Naphthalene	2013/12/16	NC		%	40
			Phenanthrene	2013/12/16	NC		%	40
			Pyrene	2013/12/16	NC		%	40
3460091	XJI	Matrix Spike [UG9416-04]	4-Bromofluorobenzene	2013/12/18		105	%	60 - 140
			D10-o-Xylene	2013/12/18		99	%	60 - 130
			D4-1,2-Dichloroethane	2013/12/18		92	%	60 - 140
			D8-Toluene	2013/12/18		98	%	60 - 140
			Acetone (2-Propanone)	2013/12/18		80	%	60 - 140
			Benzene	2013/12/18		91	%	60 - 140
			Bromodichloromethane	2013/12/18		99	%	60 - 140
			Bromoform	2013/12/18		109	%	60 - 140
			Bromomethane	2013/12/18		79	%	60 - 140
			Carbon Tetrachloride	2013/12/18		100	%	60 - 140
			Chlorobenzene	2013/12/18		101	%	60 - 140
			Chloroform	2013/12/18		92	%	60 - 140
			Dibromochloromethane	2013/12/18		106	%	60 - 140
			1,2-Dichlorobenzene	2013/12/18		105	%	60 - 140
			1,3-Dichlorobenzene	2013/12/18		104	%	60 - 140
			1,4-Dichlorobenzene	2013/12/18		102	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2013/12/18		72	%	60 - 140
			1,1-Dichloroethane	2013/12/18		90	%	60 - 140
			1,2-Dichloroethane	2013/12/18		90	%	60 - 140
			1,1-Dichloroethylene	2013/12/18		96	%	60 - 140
			cis-1,2-Dichloroethylene	2013/12/18		93	%	60 - 140
			trans-1,2-Dichloroethylene	2013/12/18		96	%	60 - 140
			1,2-Dichloropropane	2013/12/18		90	%	60 - 140
			cis-1,3-Dichloropropene	2013/12/18		94	%	60 - 140
			trans-1,3-Dichloropropene	2013/12/18		100	%	60 - 140
			Ethylbenzene	2013/12/18		97	%	60 - 140
			Ethylene Dibromide	2013/12/18		98	%	60 - 140
			Hexane	2013/12/18		90	%	60 - 140
			Methylene Chloride(Dichloromethane)	2013/12/18		87	%	60 - 140
			Methyl Isobutyl Ketone	2013/12/18		91	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2013/12/18		82	%	60 - 140
			Methyl t-butyl ether (MTBE)	2013/12/18		87	%	60 - 140

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Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Styrene	2013/12/18		105	%	60 - 140
			1,1,1,2-Tetrachloroethane	2013/12/18		102	%	60 - 140
			1,1,2,2-Tetrachloroethane	2013/12/18		101	%	60 - 140
			Tetrachloroethylene	2013/12/18		108	%	60 - 140
			Toluene	2013/12/18		93	%	60 - 140
			1,1,1-Trichloroethane	2013/12/18		97	%	60 - 140
			1,1,2-Trichloroethane	2013/12/18		95	%	60 - 140
			Trichloroethylene	2013/12/18		100	%	60 - 140
			Vinyl Chloride	2013/12/18		65	%	60 - 140
			p+m-Xylene	2013/12/18		102	%	60 - 140
			o-Xylene	2013/12/18		98	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2013/12/18		89	%	60 - 140
3460091	XJI	Spiked Blank	4-Bromofluorobenzene	2013/12/18		106	%	60 - 140
			D10-o-Xylene	2013/12/18		99	%	60 - 130
			D4-1,2-Dichloroethane	2013/12/18		98	%	60 - 140
			D8-Toluene	2013/12/18		96	%	60 - 140
			Acetone (2-Propanone)	2013/12/18		86	%	60 - 140
			Benzene	2013/12/18		91	%	60 - 130
			Bromodichloromethane	2013/12/18		101	%	60 - 130
			Bromoform	2013/12/18		113	%	60 - 130
			Bromomethane	2013/12/18		80	%	60 - 140
			Carbon Tetrachloride	2013/12/18		98	%	60 - 130
			Chlorobenzene	2013/12/18		100	%	60 - 130
			Chloroform	2013/12/18		93	%	60 - 130
			Dibromochloromethane	2013/12/18		109	%	60 - 130
			1,2-Dichlorobenzene	2013/12/18		105	%	60 - 130
			1,3-Dichlorobenzene	2013/12/18		102	%	60 - 130
			1,4-Dichlorobenzene	2013/12/18		101	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2013/12/18		74	%	60 - 140
			1,1-Dichloroethane	2013/12/18		91	%	60 - 130
			1,2-Dichloroethane	2013/12/18		94	%	60 - 130
			1,1-Dichloroethylene	2013/12/18		96	%	60 - 130
			cis-1,2-Dichloroethylene	2013/12/18		94	%	60 - 130
			trans-1,2-Dichloroethylene	2013/12/18		94	%	60 - 130
			1,2-Dichloropropane	2013/12/18		94	%	60 - 130
			cis-1,3-Dichloropropene	2013/12/18		96	%	60 - 130
			trans-1,3-Dichloropropene	2013/12/18		102	%	60 - 130
			Ethylbenzene	2013/12/18		95	%	60 - 130
			Ethylene Dibromide	2013/12/18		101	%	60 - 130
			Hexane	2013/12/18		86	%	60 - 130
			Methylene Chloride(Dichloromethane)	2013/12/18		89	%	60 - 130
			Methyl Isobutyl Ketone	2013/12/18		97	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2013/12/18		88	%	60 - 140
			Methyl t-butyl ether (MTBE)	2013/12/18		93	%	60 - 130
			Styrene	2013/12/18		106	%	60 - 130
			1,1,1,2-Tetrachloroethane	2013/12/18		104	%	60 - 130
			1,1,2,2-Tetrachloroethane	2013/12/18		106	%	60 - 130
			Tetrachloroethylene	2013/12/18		103	%	60 - 130
			Toluene	2013/12/18		91	%	60 - 130
			1,1,1-Trichloroethane	2013/12/18		95	%	60 - 130
			1,1,2-Trichloroethane	2013/12/18		99	%	60 - 130
			Trichloroethylene	2013/12/18		100	%	60 - 130
			Vinyl Chloride	2013/12/18		65	%	60 - 130
			p+m-Xylene	2013/12/18		98	%	60 - 130
			o-Xylene	2013/12/18		95	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2013/12/18		88	%	60 - 130
3460091	XJI	Method Blank	4-Bromofluorobenzene	2013/12/18		103	%	60 - 140
			D10-o-Xylene	2013/12/18		99	%	60 - 130
			D4-1,2-Dichloroethane	2013/12/18		98	%	60 - 140
			D8-Toluene	2013/12/18		97	%	60 - 140
			Acetone (2-Propanone)	2013/12/18	<0.50		ug/g	
			Benzene	2013/12/18	<0.020		ug/g	
			Bromodichloromethane	2013/12/18	<0.050		ug/g	
			Bromoform	2013/12/18	<0.050		ug/g	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Bromomethane	2013/12/18	<0.050		ug/g	
			Carbon Tetrachloride	2013/12/18	<0.050		ug/g	
			Chlorobenzene	2013/12/18	<0.050		ug/g	
			Chloroform	2013/12/18	<0.050		ug/g	
			Dibromochloromethane	2013/12/18	<0.050		ug/g	
			1,2-Dichlorobenzene	2013/12/18	<0.050		ug/g	
			1,3-Dichlorobenzene	2013/12/18	<0.050		ug/g	
			1,4-Dichlorobenzene	2013/12/18	<0.050		ug/g	
			Dichlorodifluoromethane (FREON 12)	2013/12/18	<0.050		ug/g	
			1,1-Dichloroethane	2013/12/18	<0.050		ug/g	
			1,2-Dichloroethane	2013/12/18	<0.050		ug/g	
			1,1-Dichloroethylene	2013/12/18	<0.050		ug/g	
			cis-1,2-Dichloroethylene	2013/12/18	<0.050		ug/g	
			trans-1,2-Dichloroethylene	2013/12/18	<0.050		ug/g	
			1,2-Dichloropropane	2013/12/18	<0.050		ug/g	
			cis-1,3-Dichloropropene	2013/12/18	<0.030		ug/g	
			trans-1,3-Dichloropropene	2013/12/18	<0.040		ug/g	
			Ethylbenzene	2013/12/18	<0.020		ug/g	
			Ethylene Dibromide	2013/12/18	<0.050		ug/g	
			Hexane	2013/12/18	<0.050		ug/g	
			Methylene Chloride(Dichloromethane)	2013/12/18	<0.050		ug/g	
			Methyl Isobutyl Ketone	2013/12/18	<0.50		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2013/12/18	<0.50		ug/g	
			Methyl t-butyl ether (MTBE)	2013/12/18	<0.050		ug/g	
			Styrene	2013/12/18	<0.050		ug/g	
			1,1,1,2-Tetrachloroethane	2013/12/18	<0.050		ug/g	
			1,1,2,2-Tetrachloroethane	2013/12/18	<0.050		ug/g	
			Tetrachloroethylene	2013/12/18	<0.050		ug/g	
			Toluene	2013/12/18	<0.020		ug/g	
			1,1,1-Trichloroethane	2013/12/18	<0.050		ug/g	
			1,1,2-Trichloroethane	2013/12/18	<0.050		ug/g	
			Trichloroethylene	2013/12/18	<0.050		ug/g	
			Vinyl Chloride	2013/12/18	<0.020		ug/g	
			p+m-Xylene	2013/12/18	<0.020		ug/g	
			o-Xylene	2013/12/18	<0.020		ug/g	
			Xylene (Total)	2013/12/18	<0.020		ug/g	
			Trichlorofluoromethane (FREON 11)	2013/12/18	<0.050		ug/g	
3460091	XJI	RPD [UG9416-04]	Acetone (2-Propanone)	2013/12/18	NC		%	50
			Benzene	2013/12/18	NC		%	50
			Bromodichloromethane	2013/12/18	NC		%	50
			Bromoform	2013/12/18	NC		%	50
			Bromomethane	2013/12/18	NC		%	50
			Carbon Tetrachloride	2013/12/18	NC		%	50
			Chlorobenzene	2013/12/18	NC		%	50
			Chloroform	2013/12/18	NC		%	50
			Dibromochloromethane	2013/12/18	NC		%	50
			1,2-Dichlorobenzene	2013/12/18	NC		%	50
			1,3-Dichlorobenzene	2013/12/18	NC		%	50
			1,4-Dichlorobenzene	2013/12/18	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2013/12/18	NC		%	50
			1,1-Dichloroethane	2013/12/18	NC		%	50
			1,2-Dichloroethane	2013/12/18	NC		%	50
			1,1-Dichloroethylene	2013/12/18	NC		%	50
			cis-1,2-Dichloroethylene	2013/12/18	NC		%	50
			trans-1,2-Dichloroethylene	2013/12/18	NC		%	50
			1,2-Dichloropropane	2013/12/18	NC		%	50
			cis-1,3-Dichloropropene	2013/12/18	NC		%	50
			trans-1,3-Dichloropropene	2013/12/18	NC		%	50
			Ethylbenzene	2013/12/18	NC		%	50
			Ethylene Dibromide	2013/12/18	NC		%	50
			Hexane	2013/12/18	NC		%	50
			Methylene Chloride(Dichloromethane)	2013/12/18	NC		%	50
			Methyl Isobutyl Ketone	2013/12/18	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2013/12/18	NC		%	50

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Maxxam Job #: B3L5721
Report Date: 2013/12/19

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Methyl t-butyl ether (MTBE)	2013/12/18	NC		%	50
			Styrene	2013/12/18	NC		%	50
			1,1,1,2-Tetrachloroethane	2013/12/18	NC		%	50
			1,1,2,2-Tetrachloroethane	2013/12/18	NC		%	50
			Tetrachloroethylene	2013/12/18	NC		%	50
			Toluene	2013/12/18	NC		%	50
			1,1,1-Trichloroethane	2013/12/18	NC		%	50
			1,1,2-Trichloroethane	2013/12/18	NC		%	50
			Trichloroethylene	2013/12/18	1.2		%	50
			Vinyl Chloride	2013/12/18	NC		%	50
			p+m-Xylene	2013/12/18	NC		%	50
			o-Xylene	2013/12/18	NC		%	50
			Xylene (Total)	2013/12/18	NC		%	50
			Trichlorofluoromethane (FREON 11)	2013/12/18	NC		%	50
3460924	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2013/12/18		100	%	75 - 125
			Acid Extractable Arsenic (As)	2013/12/18		106	%	75 - 125
			Acid Extractable Barium (Ba)	2013/12/18		100	%	75 - 125
			Acid Extractable Beryllium (Be)	2013/12/18		105	%	75 - 125
			Acid Extractable Boron (B)	2013/12/18		96	%	75 - 125
			Acid Extractable Cadmium (Cd)	2013/12/18		104	%	75 - 125
			Acid Extractable Chromium (Cr)	2013/12/18		NC (1)	%	75 - 125
			Acid Extractable Cobalt (Co)	2013/12/18		109	%	75 - 125
			Acid Extractable Copper (Cu)	2013/12/18		NC (1)	%	75 - 125
			Acid Extractable Lead (Pb)	2013/12/18		104	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2013/12/18		104	%	75 - 125
			Acid Extractable Nickel (Ni)	2013/12/18		NC (1)	%	75 - 125
			Acid Extractable Selenium (Se)	2013/12/18		104	%	75 - 125
			Acid Extractable Silver (Ag)	2013/12/18		105	%	75 - 125
			Acid Extractable Thallium (Tl)	2013/12/18		97	%	75 - 125
			Acid Extractable Uranium (U)	2013/12/18		104	%	75 - 125
			Acid Extractable Vanadium (V)	2013/12/18		NC (1)	%	75 - 125
			Acid Extractable Zinc (Zn)	2013/12/18		NC (1)	%	75 - 125
3460924	VIV	Spiked Blank	Acid Extractable Antimony (Sb)	2013/12/18		107	%	80 - 120
			Acid Extractable Arsenic (As)	2013/12/18		102	%	80 - 120
			Acid Extractable Barium (Ba)	2013/12/18		98	%	80 - 120
			Acid Extractable Beryllium (Be)	2013/12/18		99	%	80 - 120
			Acid Extractable Boron (B)	2013/12/18		94	%	80 - 120
			Acid Extractable Cadmium (Cd)	2013/12/18		103	%	80 - 120
			Acid Extractable Chromium (Cr)	2013/12/18		105	%	80 - 120
			Acid Extractable Cobalt (Co)	2013/12/18		107	%	80 - 120
			Acid Extractable Copper (Cu)	2013/12/18		105	%	80 - 120
			Acid Extractable Lead (Pb)	2013/12/18		106	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2013/12/18		103	%	80 - 120
			Acid Extractable Nickel (Ni)	2013/12/18		106	%	80 - 120
			Acid Extractable Selenium (Se)	2013/12/18		105	%	80 - 120
			Acid Extractable Silver (Ag)	2013/12/18		105	%	80 - 120
			Acid Extractable Thallium (Tl)	2013/12/18		102	%	80 - 120
			Acid Extractable Uranium (U)	2013/12/18		104	%	80 - 120
			Acid Extractable Vanadium (V)	2013/12/18		104	%	80 - 120
			Acid Extractable Zinc (Zn)	2013/12/18		105	%	80 - 120
3460924	VIV	Method Blank	Acid Extractable Antimony (Sb)	2013/12/18	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2013/12/18	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2013/12/18	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2013/12/18	<0.20		ug/g	
			Acid Extractable Boron (B)	2013/12/18	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2013/12/18	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2013/12/18	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2013/12/18	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2013/12/18	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2013/12/18	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2013/12/18	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2013/12/18	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2013/12/18	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2013/12/18	<0.20		ug/g	

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Client Project #: 701996
Site Location: ZOO BEVERLEY

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Acid Extractable Thallium (Tl)	2013/12/18	<0.050		ug/g	
			Acid Extractable Uranium (U)	2013/12/18	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2013/12/18	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2013/12/18	<5.0		ug/g	
3460924	VIV	RPD	Acid Extractable Antimony (Sb)	2013/12/18	NC		%	30
			Acid Extractable Arsenic (As)	2013/12/18	0.2		%	30
			Acid Extractable Barium (Ba)	2013/12/18	0.02		%	30
			Acid Extractable Beryllium (Be)	2013/12/18	NC		%	30
			Acid Extractable Boron (B)	2013/12/18	NC		%	30
			Acid Extractable Cadmium (Cd)	2013/12/18	NC		%	30
			Acid Extractable Chromium (Cr)	2013/12/18	3.2		%	30
			Acid Extractable Cobalt (Co)	2013/12/18	1.2		%	30
			Acid Extractable Copper (Cu)	2013/12/18	0.6		%	30
			Acid Extractable Lead (Pb)	2013/12/18	NC		%	30
			Acid Extractable Molybdenum (Mo)	2013/12/18	NC		%	30
			Acid Extractable Nickel (Ni)	2013/12/18	2.4		%	30
			Acid Extractable Selenium (Se)	2013/12/18	NC		%	30
			Acid Extractable Silver (Ag)	2013/12/18	NC		%	30
			Acid Extractable Thallium (Tl)	2013/12/18	NC		%	30
			Acid Extractable Uranium (U)	2013/12/18	3.0		%	30
			Acid Extractable Vanadium (V)	2013/12/18	2.6		%	30
			Acid Extractable Zinc (Zn)	2013/12/18	3.0		%	30
3460966	VPA	RPD	Moisture	2013/12/17	3.8		%	20
3462359	GRU	Matrix Spike [UG9417-04]	1,4-Difluorobenzene	2013/12/19		98	%	60 - 140
			4-Bromofluorobenzene	2013/12/19		105	%	60 - 140
			D10-Ethylbenzene	2013/12/19		90	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/19		96	%	60 - 140
			F1 (C6-C10)	2013/12/19		62	%	60 - 140
3462359	GRU	Spiked Blank	1,4-Difluorobenzene	2013/12/18		96	%	60 - 140
			4-Bromofluorobenzene	2013/12/18		100	%	60 - 140
			D10-Ethylbenzene	2013/12/18		92	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/18		105	%	60 - 140
			F1 (C6-C10)	2013/12/18		84	%	80 - 120
3462359	GRU	Method Blank	1,4-Difluorobenzene	2013/12/18		99	%	60 - 140
			4-Bromofluorobenzene	2013/12/18		89	%	60 - 140
			D10-Ethylbenzene	2013/12/18		96	%	60 - 140
			D4-1,2-Dichloroethane	2013/12/18		106	%	60 - 140
			F1 (C6-C10)	2013/12/18	<10		ug/g	
			F1 (C6-C10) - BTEX	2013/12/18	<10		ug/g	
3462359	GRU	RPD [UG9417-04]	F1 (C6-C10)	2013/12/19	NC		%	50
			F1 (C6-C10) - BTEX	2013/12/19	NC		%	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

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Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLEY

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, Scientific Services

Suzana Popovic

Suzana Popovic, Supervisor, Hydrocarbons

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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IMMEDIATE TEST

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Phone: 905-817-5700 Fax: 905-817-5779 Toll

12-Dec-13 15:30
Keshani Vijh
B3L5721
FW ENV-622

CHAIN OF CUSTODY RECORD

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INVOICE INFORMATION	REPORT	PROJECT INFORMATION	MAXXAM JOB NUMBER
Company Name: DCS	Company Name:	Quotation #:	
Contact Name: Max McCormick	Contact Name:	P.O. #:	CHAIN OF CUSTODY #
Address: 21 Granton Dr Richmond Hill	Address:	Project #: 701996	00
Phone: 905 802-5984 Fax:	Phone: Fax:	Site Location: 200 Beverley	
Email: MmccormickOcsltd.ca	Email:	Site #:	
		Sampled By: Max McCormick	

Note: For MOE Regulated Drinking Water samples, please use the Drinking Water CofC.

Regulation 153 (2011)			Other Regulations	
Table 1	Res/Park	Med/Fine	CCME	Sanitary Sewer Bylaw
Table 2	X Ind/Comm	X Coarse	Reg. 558	Storm Sewer Bylaw
Table 3	Agri/Other	For RSC	MISA	Municipality:
X Table 6		Yes	PWQO	
		No	Other (specify):	

Include Criteria on Certificate of Analysis (Y/N)?

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

ANALYSIS REQUESTED (Please be specific)

	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil, etc.)	MOE Regulated Drinking Water? (Y / N)	Metals Field Filtered? (Y / N)	VOCs (Soil)	PAHs	PHC	Metals by ICPMS	# of Cont.	COMMENTS / TAT COMMENTS
1	OW13-39D	Dec12/13	3:25	Soil			✓			✓	4	
2	BH13-**40	"	"	Soil			✓	✓	✓	✓	7	
3												
4												
5												
6												
7												
8												
9												
10												

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT: X
(5-7 working days for most tests)

Rush TAT:
Samples must be received by 3pm to guarantee your TAT
Rush Confirmation #: PN
☐ 1 day ☐ 2 days ☐ 3 days
Date Req'd:

TATs for certain tests are > 5 days. Please contact your Project Manager for details.

REC'D IN WATERLOO

*RELINQUISHED BY (Signature/Print)	Date (YYYY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date (YYYY/MM/DD)	Time:
[signature]	2013/12/12	3:25	[signature] APURAV PATEL	2013/12/12	15:30
			[signature] RAVEE SAMARA	2013/12/12	17:57

#JARS USED AND NOT SUBMITTED

Laboratory Use Only

Custody Seal	Yes	No	Temperature (°C) on Receipt
Present		✓	0° 1° 1°
Intact		✓	

*MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

0/3/2°C

ON ice WR# 246682

DC-1004 (06/12) - ENV. ENG. Maxxam Analytics International Corporation o/a Maxxam Analytics White: Maxxam Yellow: Mail Pink: Client

Your Project #: 701996
Site Location: ZOO BEVERLY
Your C.O.C. #: 28773

Attention:Maxwell McCormick

Decommissioning Consulting Services Limited
121 Granton Dr
Unit 11
Richmond Hill, ON
L4B 3N4

Report Date: 2014/01/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B401570
Received: 2014/01/06, 15:52

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	4	N/A	2014/01/09	CAM SOP-00226	EPA 8260
Volatile Organic Compounds in Water	4	N/A	2014/01/08	CAM SOP 00228	EPA 8260 modified

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Keshani Vijh, Project Manager
Email: KVijh@maxxam.ca
Phone# (905) 817-5700

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Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

O'REG 153 VOLATILE ORGANICS (WATER)

Maxxam ID		UL6815		UL6816	UL6816	UL6817		UL6818		
Sampling Date		2014/01/06		2014/01/06	2014/01/06	2014/01/06		2014/01/06		
COC Number		28773		28773	28773	28773		28773		
	Units	MW13-39S	RDL	DUP	DUP Lab-Dup	MW13-39D	RDL	TRIP BLANK	RDL	QC Batch
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	<0.50		<0.50	0.50	<0.50	0.50	3474162
Volatile Organics										
Acetone (2-Propanone)	ug/L	<10	10	<25	<25	<25	25	<10	10	3474788
Benzene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Bromodichloromethane	ug/L	<0.50	0.50	<1.3	<1.3	<1.3	1.3	<0.50	0.50	3474788
Bromoform	ug/L	<1.0	1.0	<2.5	<2.5	<2.5	2.5	<1.0	1.0	3474788
Bromomethane	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
Carbon Tetrachloride	ug/L	<0.20	0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.20	3474788
Chlorobenzene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Chloroform	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Dibromochloromethane	ug/L	<0.50	0.50	<1.3	<1.3	<1.3	1.3	<0.50	0.50	3474788
1,2-Dichlorobenzene	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
1,3-Dichlorobenzene	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
1,4-Dichlorobenzene	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	<2.5	<2.5	<2.5	2.5	<1.0	1.0	3474788
1,1-Dichloroethane	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
1,2-Dichloroethane	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
1,1-Dichloroethylene	ug/L	2.1	0.20	4.4	4.5	4.4	0.50	<0.20	0.20	3474788
cis-1,2-Dichloroethylene	ug/L	100	0.50	180	180	180	1.3	<0.50	0.50	3474788
trans-1,2-Dichloroethylene	ug/L	9.1	0.50	9.3	9.6	9.3	1.3	<0.50	0.50	3474788
1,2-Dichloropropane	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	<0.30	<0.30	<0.30	0.30	<0.30	0.30	3474788
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	<0.40	<0.40	<0.40	0.40	<0.40	0.40	3474788
Ethylbenzene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Ethylene Dibromide	ug/L	<0.20	0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.20	3474788
Hexane	ug/L	<1.0	1.0	<2.5	<2.5	<2.5	2.5	<1.0	1.0	3474788
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	<5.0	<5.0	<5.0	5.0	<2.0	2.0	3474788
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	<13	<13	<13	13	<5.0	5.0	3474788
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	<25	<25	<25	25	<10	10	3474788
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	<1.3	<1.3	<1.3	1.3	<0.50	0.50	3474788
Styrene	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

O'REG 153 VOLATILE ORGANICS (WATER)

Maxxam ID		UL6815		UL6816	UL6816	UL6817		UL6818		
Sampling Date		2014/01/06		2014/01/06	2014/01/06	2014/01/06		2014/01/06		
COC Number		28773		28773	28773	28773		28773		
	Units	MW13-39S	RDL	DUP	DUP Lab-Dup	MW13-39D	RDL	TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Toluene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
1,1,1-Trichloroethane	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
1,1,2-Trichloroethane	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	3474788
Trichloroethylene	ug/L	130	0.20	560	570	560	0.50	<0.20	0.20	3474788
Vinyl Chloride	ug/L	12	0.20	28	28	28	0.50	<0.20	0.20	3474788
p+m-Xylene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
o-Xylene	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Xylene (Total)	ug/L	<0.20	0.20	<0.50	<0.50	<0.50	0.50	<0.20	0.20	3474788
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	<1.3	<1.3	<1.3	1.3	<0.50	0.50	3474788
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	98		100	100	99		99		3474788
D4-1,2-Dichloroethane	%	102		103	101	101		101		3474788
D8-Toluene	%	99		97	97	97		98		3474788

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

TEST SUMMARY

Maxxam ID: UL6815
Sample ID: MW13-39S
Matrix: Water

Collected: 2014/01/06
Shipped:
Received: 2014/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	3474162	N/A	2014/01/09	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	3474788	N/A	2014/01/08	Jagruti Tailor

Maxxam ID: UL6816
Sample ID: DUP
Matrix: Water

Collected: 2014/01/06
Shipped:
Received: 2014/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	3474162	N/A	2014/01/09	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	3474788	N/A	2014/01/08	Jagruti Tailor

Maxxam ID: UL6816 Dup
Sample ID: DUP
Matrix: Water

Collected: 2014/01/06
Shipped:
Received: 2014/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Water	GC/MS	3474788	N/A	2014/01/08	Jagruti Tailor

Maxxam ID: UL6817
Sample ID: MW13-39D
Matrix: Water

Collected: 2014/01/06
Shipped:
Received: 2014/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	3474162	N/A	2014/01/09	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	3474788	N/A	2014/01/08	Jagruti Tailor

Maxxam ID: UL6818
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2014/01/06
Shipped:
Received: 2014/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	3474162	N/A	2014/01/09	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	3474788	N/A	2014/01/08	Jagruti Tailor

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C

VOC Analysis: Due to high concentrations of target analytes, some samples required dilution. Detection limits were adjusted accordingly. In order to meet required regulatory criteria or to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Results relate only to the items tested.

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Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3474788	JTA	Matrix Spike [UL6815-01]	4-Bromofluorobenzene	2014/01/08		100	%	70 - 130
			D4-1,2-Dichloroethane	2014/01/08		101	%	70 - 130
			D8-Toluene	2014/01/08		100	%	70 - 130
			Acetone (2-Propanone)	2014/01/08		102	%	60 - 140
			Benzene	2014/01/08		92	%	70 - 130
			Bromodichloromethane	2014/01/08		96	%	70 - 130
			Bromoform	2014/01/08		94	%	70 - 130
			Bromomethane	2014/01/08		93	%	60 - 140
			Carbon Tetrachloride	2014/01/08		95	%	70 - 130
			Chlorobenzene	2014/01/08		97	%	70 - 130
			Chloroform	2014/01/08		94	%	70 - 130
			Dibromochloromethane	2014/01/08		97	%	70 - 130
			1,2-Dichlorobenzene	2014/01/08		97	%	70 - 130
			1,3-Dichlorobenzene	2014/01/08		94	%	70 - 130
			1,4-Dichlorobenzene	2014/01/08		93	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2014/01/08		82	%	60 - 140
			1,1-Dichloroethane	2014/01/08		97	%	70 - 130
			1,2-Dichloroethane	2014/01/08		98	%	70 - 130
			1,1-Dichloroethylene	2014/01/08		102	%	70 - 130
			cis-1,2-Dichloroethylene	2014/01/08		NC	%	70 - 130
			trans-1,2-Dichloroethylene	2014/01/08		92	%	70 - 130
			1,2-Dichloropropane	2014/01/08		99	%	70 - 130
			cis-1,3-Dichloropropene	2014/01/08		94	%	70 - 130
			trans-1,3-Dichloropropene	2014/01/08		105	%	70 - 130
			Ethylbenzene	2014/01/08		93	%	70 - 130
			Ethylene Dibromide	2014/01/08		98	%	70 - 130
			Hexane	2014/01/08		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2014/01/08		105	%	70 - 130
			Methyl Isobutyl Ketone	2014/01/08		98	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2014/01/08		96	%	60 - 140
			Methyl t-butyl ether (MTBE)	2014/01/08		93	%	70 - 130
			Styrene	2014/01/08		97	%	70 - 130
			1,1,1,2-Tetrachloroethane	2014/01/08		95	%	70 - 130
			1,1,2,2-Tetrachloroethane	2014/01/08		99	%	70 - 130
			Tetrachloroethylene	2014/01/08		101	%	70 - 130
			Toluene	2014/01/08		91	%	70 - 130
			1,1,1-Trichloroethane	2014/01/08		95	%	70 - 130
			1,1,2-Trichloroethane	2014/01/08		97	%	70 - 130
			Trichloroethylene	2014/01/08		NC	%	70 - 130
			Vinyl Chloride	2014/01/08		81	%	70 - 130
			p+m-Xylene	2014/01/08		90	%	70 - 130
			o-Xylene	2014/01/08		89	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2014/01/08		92	%	70 - 130
3474788	JTA	Spiked Blank	4-Bromofluorobenzene	2014/01/08		100	%	70 - 130
			D4-1,2-Dichloroethane	2014/01/08		102	%	70 - 130
			D8-Toluene	2014/01/08		100	%	70 - 130
			Acetone (2-Propanone)	2014/01/08		113	%	60 - 140
			Benzene	2014/01/08		90	%	70 - 130
			Bromodichloromethane	2014/01/08		95	%	70 - 130
			Bromoform	2014/01/08		94	%	70 - 130
			Bromomethane	2014/01/08		92	%	60 - 140
			Carbon Tetrachloride	2014/01/08		94	%	70 - 130
			Chlorobenzene	2014/01/08		95	%	70 - 130
			Chloroform	2014/01/08		92	%	70 - 130
			Dibromochloromethane	2014/01/08		96	%	70 - 130
			1,2-Dichlorobenzene	2014/01/08		95	%	70 - 130
			1,3-Dichlorobenzene	2014/01/08		93	%	70 - 130
			1,4-Dichlorobenzene	2014/01/08		92	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2014/01/08		84	%	60 - 140
			1,1-Dichloroethane	2014/01/08		96	%	70 - 130
			1,2-Dichloroethane	2014/01/08		97	%	70 - 130
			1,1-Dichloroethylene	2014/01/08		101	%	70 - 130

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Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			cis-1,2-Dichloroethylene	2014/01/08		92	%	70 - 130
			trans-1,2-Dichloroethylene	2014/01/08		92	%	70 - 130
			1,2-Dichloropropane	2014/01/08		97	%	70 - 130
			cis-1,3-Dichloropropene	2014/01/08		93	%	70 - 130
			trans-1,3-Dichloropropene	2014/01/08		104	%	70 - 130
			Ethylbenzene	2014/01/08		91	%	70 - 130
			Ethylene Dibromide	2014/01/08		97	%	70 - 130
			Hexane	2014/01/08		97	%	70 - 130
			Methylene Chloride(Dichloromethane)	2014/01/08		104	%	70 - 130
			Methyl Isobutyl Ketone	2014/01/08		102	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2014/01/08		103	%	60 - 140
			Methyl t-butyl ether (MTBE)	2014/01/08		92	%	70 - 130
			Styrene	2014/01/08		96	%	70 - 130
			1,1,1,2-Tetrachloroethane	2014/01/08		93	%	70 - 130
			1,1,2,2-Tetrachloroethane	2014/01/08		99	%	70 - 130
			Tetrachloroethylene	2014/01/08		98	%	70 - 130
			Toluene	2014/01/08		89	%	70 - 130
			1,1,1-Trichloroethane	2014/01/08		94	%	70 - 130
			1,1,2-Trichloroethane	2014/01/08		95	%	70 - 130
			Trichloroethylene	2014/01/08		95	%	70 - 130
			Vinyl Chloride	2014/01/08		81	%	70 - 130
			p+m-Xylene	2014/01/08		87	%	70 - 130
			o-Xylene	2014/01/08		87	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2014/01/08		90	%	70 - 130
3474788	JTA	Method Blank	4-Bromofluorobenzene	2014/01/08		99	%	70 - 130
			D4-1,2-Dichloroethane	2014/01/08		102	%	70 - 130
			D8-Toluene	2014/01/08		97	%	70 - 130
			Acetone (2-Propanone)	2014/01/08	<10		ug/L	
			Benzene	2014/01/08	<0.20		ug/L	
			Bromodichloromethane	2014/01/08	<0.50		ug/L	
			Bromoform	2014/01/08	<1.0		ug/L	
			Bromomethane	2014/01/08	<0.50		ug/L	
			Carbon Tetrachloride	2014/01/08	<0.20		ug/L	
			Chlorobenzene	2014/01/08	<0.20		ug/L	
			Chloroform	2014/01/08	<0.20		ug/L	
			Dibromochloromethane	2014/01/08	<0.50		ug/L	
			1,2-Dichlorobenzene	2014/01/08	<0.50		ug/L	
			1,3-Dichlorobenzene	2014/01/08	<0.50		ug/L	
			1,4-Dichlorobenzene	2014/01/08	<0.50		ug/L	
			Dichlorodifluoromethane (FREON 12)	2014/01/08	<1.0		ug/L	
			1,1-Dichloroethane	2014/01/08	<0.20		ug/L	
			1,2-Dichloroethane	2014/01/08	<0.50		ug/L	
			1,1-Dichloroethylene	2014/01/08	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2014/01/08	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2014/01/08	<0.50		ug/L	
			1,2-Dichloropropane	2014/01/08	<0.20		ug/L	
			cis-1,3-Dichloropropene	2014/01/08	<0.30		ug/L	
			trans-1,3-Dichloropropene	2014/01/08	<0.40		ug/L	
			Ethylbenzene	2014/01/08	<0.20		ug/L	
			Ethylene Dibromide	2014/01/08	<0.20		ug/L	
			Hexane	2014/01/08	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2014/01/08	<2.0		ug/L	
			Methyl Isobutyl Ketone	2014/01/08	<5.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2014/01/08	<10		ug/L	
			Methyl t-butyl ether (MTBE)	2014/01/08	<0.50		ug/L	
			Styrene	2014/01/08	<0.50		ug/L	
			1,1,1,2-Tetrachloroethane	2014/01/08	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2014/01/08	<0.50		ug/L	
			Tetrachloroethylene	2014/01/08	<0.20		ug/L	
			Toluene	2014/01/08	<0.20		ug/L	
			1,1,1-Trichloroethane	2014/01/08	<0.20		ug/L	
			1,1,2-Trichloroethane	2014/01/08	<0.50		ug/L	

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Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Trichloroethylene	2014/01/08	<0.20		ug/L	
			Vinyl Chloride	2014/01/08	<0.20		ug/L	
			p+m-Xylene	2014/01/08	<0.20		ug/L	
			o-Xylene	2014/01/08	<0.20		ug/L	
			Xylene (Total)	2014/01/08	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2014/01/08	<0.50		ug/L	
3474788	JTA	RPD [UL6816-01]	Acetone (2-Propanone)	2014/01/08	NC		%	30
			Benzene	2014/01/08	NC		%	30
			Bromodichloromethane	2014/01/08	NC		%	30
			Bromoform	2014/01/08	NC		%	30
			Bromomethane	2014/01/08	NC		%	30
			Carbon Tetrachloride	2014/01/08	NC		%	30
			Chlorobenzene	2014/01/08	NC		%	30
			Chloroform	2014/01/08	NC		%	30
			Dibromochloromethane	2014/01/08	NC		%	30
			1,2-Dichlorobenzene	2014/01/08	NC		%	30
			1,3-Dichlorobenzene	2014/01/08	NC		%	30
			1,4-Dichlorobenzene	2014/01/08	NC		%	30
			Dichlorodifluoromethane (FREON 12)	2014/01/08	NC		%	30
			1,1-Dichloroethane	2014/01/08	NC		%	30
			1,2-Dichloroethane	2014/01/08	NC		%	30
			1,1-Dichloroethylene	2014/01/08	1.2		%	30
			cis-1,2-Dichloroethylene	2014/01/08	3.1		%	30
			trans-1,2-Dichloroethylene	2014/01/08	2.8		%	30
			1,2-Dichloropropane	2014/01/08	NC		%	30
			cis-1,3-Dichloropropene	2014/01/08	NC		%	30
			trans-1,3-Dichloropropene	2014/01/08	NC		%	30
			Ethylbenzene	2014/01/08	NC		%	30
			Ethylene Dibromide	2014/01/08	NC		%	30
			Hexane	2014/01/08	NC		%	30
			Methylene Chloride(Dichloromethane)	2014/01/08	NC		%	30
			Methyl Isobutyl Ketone	2014/01/08	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2014/01/08	NC		%	30
			Methyl t-butyl ether (MTBE)	2014/01/08	NC		%	30
			Styrene	2014/01/08	NC		%	30
			1,1,1,2-Tetrachloroethane	2014/01/08	NC		%	30
			1,1,2,2-Tetrachloroethane	2014/01/08	NC		%	30
			Tetrachloroethylene	2014/01/08	NC		%	30
			Toluene	2014/01/08	NC		%	30
			1,1,1-Trichloroethane	2014/01/08	NC		%	30
			1,1,2-Trichloroethane	2014/01/08	NC		%	30
			Trichloroethylene	2014/01/08	3.0		%	30
			Vinyl Chloride	2014/01/08	0.2		%	30
			p+m-Xylene	2014/01/08	NC		%	30
			o-Xylene	2014/01/08	NC		%	30
			Xylene (Total)	2014/01/08	NC		%	30
			Trichlorofluoromethane (FREON 11)	2014/01/08	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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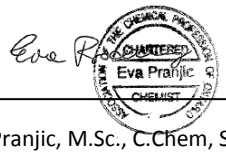
Maxxam Job #: B401570
Report Date: 2014/01/10

Decommissioning Consulting Services Limited
Client Project #: 701996
Site Location: ZOO BEVERLY
Sampler Initials: MM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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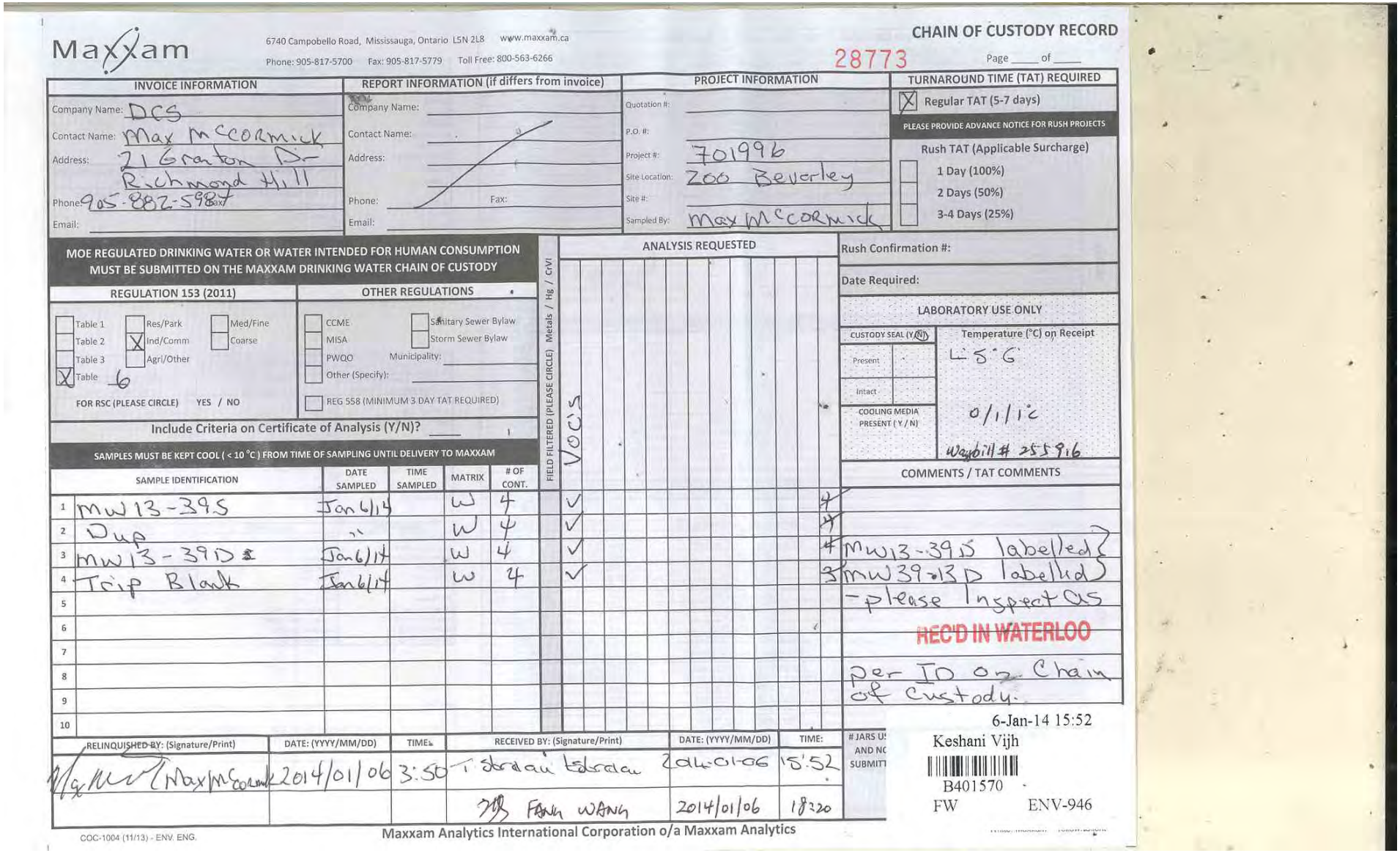

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Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD

28773 Page ____ of ____

INVOICE INFORMATION	REPORT INFORMATION (if differs from invoice)	PROJECT INFORMATION	TURNAROUND TIME (TAT) REQUIRED
Company Name: DCS	Company Name:	Quotation #:	[X] Regular TAT (5-7 days)
Contact Name: Max McCormick	Contact Name:	P.O. #:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 21 Granton Dr. Richmond Hill	Address:	Project #: 701996	Rush TAT (Applicable Surcharge)
Phone: 905-882-5987	Phone: Fax:	Site Location: Zoo Beverley	[ ] 1 Day (100%)
Email:	Email:	Site #:	[ ] 2 Days (50%)
		Sampled By: Max McCormick	[ ] 3-4 Days (25%)

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

REGULATION 153 (2011)	OTHER REGULATIONS
[ ] Table 1 [ ] Res/Park [ ] Med/Fine	[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] Table 2 [X] Ind/Comm [ ] Coarse	[ ] MISA [ ] Storm Sewer Bylaw
[ ] Table 3 [ ] Agri/Other	[ ] PWQO Municipality:
[X] Table 6	[ ] Other (Specify):
FOR RSC (PLEASE CIRCLE) YES / NO	[ ] REG 558 (MINIMUM 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis (Y/N)? ____

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED

FIELD FILTERED (PLEASE CIRCLE) Metals / Hg / CrVI

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX	# OF CONT.	VOC's	
1	MW13-39S	Jan 6/14		W	4	✓	4
2	Dup	"		W	4	✓	4
3	MW13-39D	Jan 6/14		W	4	✓	4
4	Trip Blank	Jan 6/14		W	4	✓	3
5							
6							
7							
8							
9							
10							

Rush Confirmation #:

Date Required:

LABORATORY USE ONLY

CUSTODY SEAL (Y/N) Present Intact

Temperature (°C) on Receipt: 1.5 °C 0/1/1 °C

COOLING MEDIA PRESENT (Y / N)

Waybill # 255916

COMMENTS / TAT COMMENTS

MW13-39S labelled
MW39-13D labelled
-please inspect COS

REC'D IN WATERLOO

Per ID on Chain of Custody.

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME:	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME:	# JARS USED AND NOT SUBMITTED
Max McCormick	2014/01/06	3:50	T. Sedrak Sedrak	2014-01-06	15:52	
			FANN WANG	2014/01/06	18:20	

6-Jan-14 15:52
Keshani Vijh
B401570
FW ENV-946

COC-1004 (11/13) - ENV. ENG.

Maxxam Analytics International Corporation o/a Maxxam Analytics

APPENDIX D

HISTORIC VOC AND PHC DATA

DCS

Parameter	BH07-68 SS-1	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	1800	-	400(800)	1700(2500)
F4	3400	-	2800(5600	3300(6600)

Parameter	S. Pile SS-1	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	1900	-	400(800)	1700(2500)

Parameter	BH07-48 SS-2	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	450	-	400(800)	1700(2500)

Parameter	BH07-52 SS-1	BH07-52 SS-2A	T1 (NA)	T2 (RPI)	T2 (ICC)
F2	38	-	-	33(40)	33(40)
F3	2400	1400	-	400(800)	1700(2500)

Parameter	BH07-46 SS-2	T1 (NA)	T2 (RPI)	T2 (ICC)
F2	3600	-	33(40)	33(40)
F3	6200	-	400(800)	1700(2500)

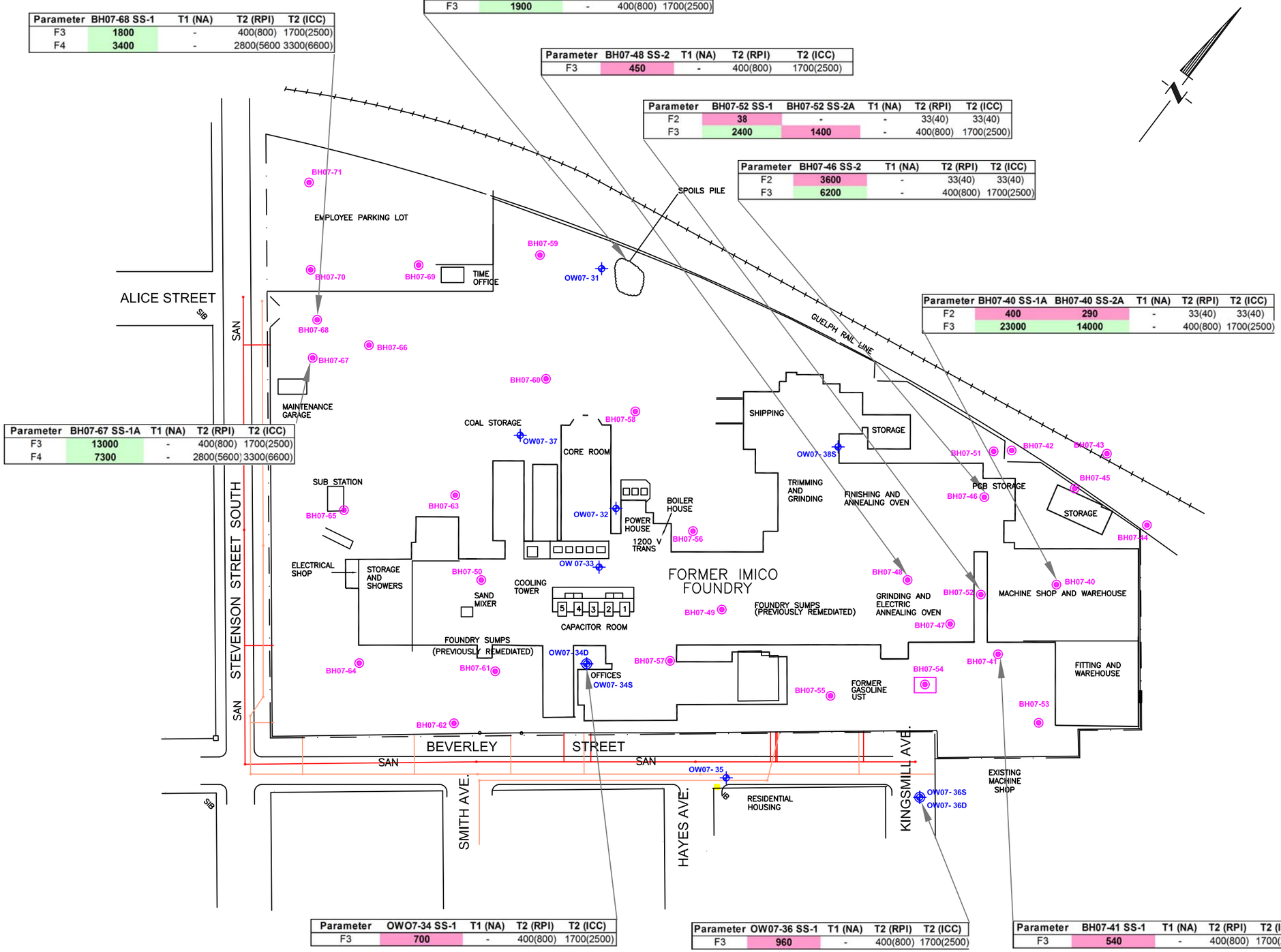
Parameter	BH07-40 SS-1A	BH07-40 SS-2A	T1 (NA)	T2 (RPI)	T2 (ICC)
F2	400	290	-	33(40)	33(40)
F3	23000	14000	-	400(800)	1700(2500)

Parameter	BH07-67 SS-1A	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	13000	-	400(800)	1700(2500)
F4	7300	-	2800(5600	3300(6600)

Parameter	OW07-34 SS-1	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	700	-	400(800)	1700(2500)

Parameter	OW07-36 SS-1	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	960	-	400(800)	1700(2500)

Parameter	BH07-41 SS-1	T1 (NA)	T2 (RPI)	T2 (ICC)
F3	540	-	400(800)	1700(2500)



LEGEND:

SAMPLING LOCATIONS - DCS

- OW 07-36S — SHALLOW MONITORING WELL IN ROCK
- OW07- 36D — DEEP MONITORING WELL IN ROCK
- BH07-39 — SHALLOW BOREHOLE

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATON (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

- - EXCEEDS PROPOSED TABLE 1 STANDARDS
- - EXCEEDS PROPOSED TABLE 2, RESIDENTIAL/ PARKLAND/INSTITUTIONAL STANDARDS
- - EXCEEDS PROPOSED TABLE 2 INDUSTRIAL/ COMMERCIAL/COMMUNITY STANDARDS

T1 (NA) - TABLE 1 - NON AGRICULTURAL LAND USE STANDARDS

T2 (RPI) - TABLE 2 -RESIDENTIAL/PARKLAND/ INSTITUTIONAL STANDARDS

T2 (ICC) - TABLE 2 - INDUSTRIAL/COMMERCIAL/ COMMUNITY STANDARDS

NOTE:

TABLE 1 AND 2 STANDARDS SHOWN FROM MOE DOCUMENT DATED MARCH 28, 2007

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

DECOMMISSIONING CONSULTING SERVICES LIMITED

CITY OF GUELPH
200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY
PHASE II ESA
PHC EXCEEDANCES -
2007 INVESTIGATION (SOIL)
(MOE PROPOSED STANDARDS)

DEC. 2007	1:1500	701996-D.1

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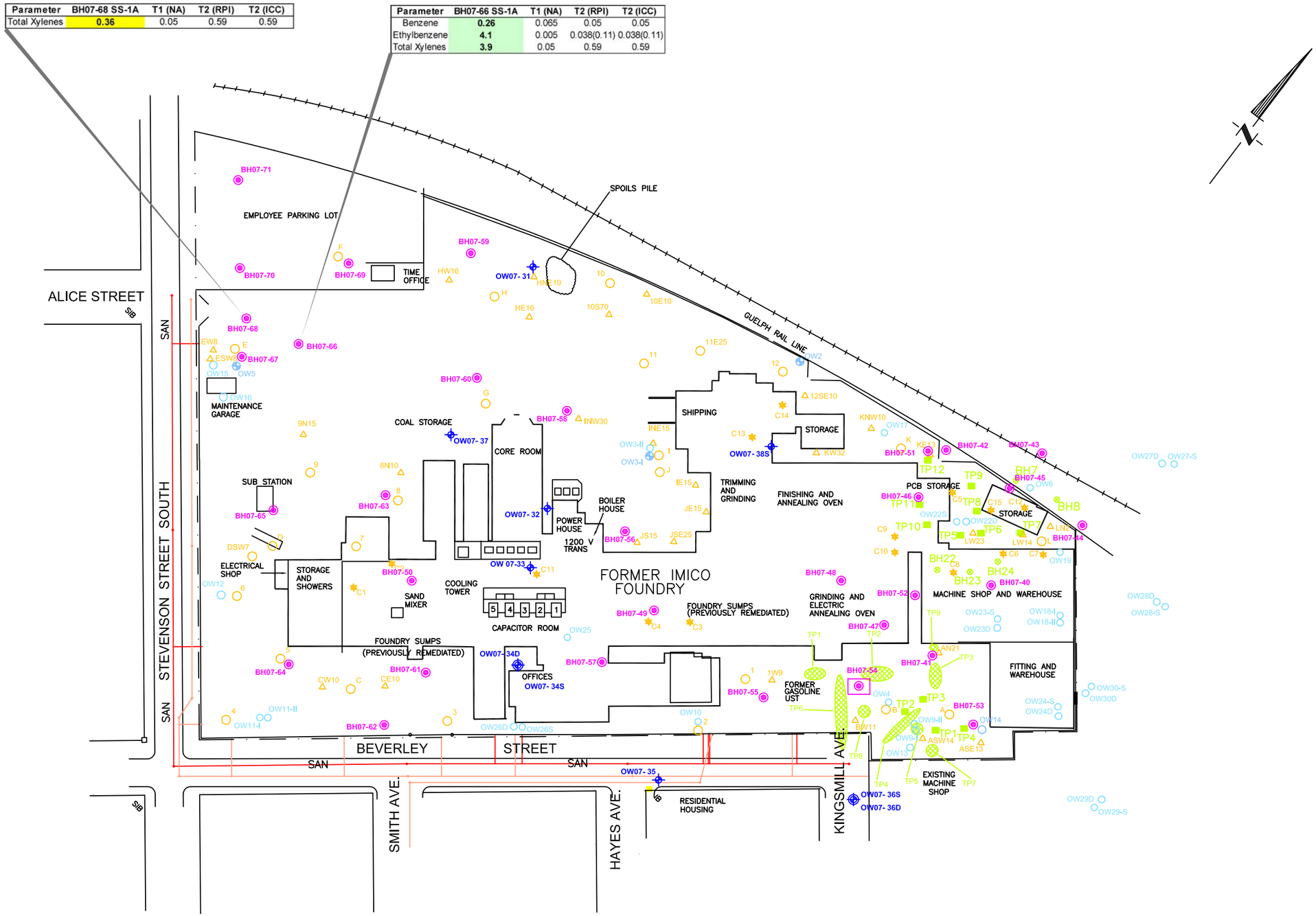
Parameter	BH07-68 SS-1A	T1 (NA)	T2 (RPI)	T2 (ICC)
Total Xylenes	**0.36**	0.05	0.59	0.59

Parameter	BH07-66 SS-1A	T1 (NA)	T2 (RPI)	T2 (ICC)
Benzene	**0.26**	0.065	0.05	0.05
Ethylbenzene	**4.1**	0.005	0.038(0.11)	0.038(0.11)
Total Xylenes	**3.9**	0.05	0.59	0.59



LEGEND:

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- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

- - EXCEEDS PROPOSED TABLE 1 STANDARDS
- - EXCEEDS PROPOSED TABLE 2, RESIDENTIAL/ PARKLAND/INSTITUTIONAL STANDARDS
- - EXCEEDS PROPOSED TABLE 2 INDUSTRIAL/ COMMERCIAL/COMMUNITY STANDARDS

T1 (NA) - TABLE 1 - NON AGRICULTURAL LAND USE STANDARDS

T2 (RPI) - TABLE 2 -RESIDENTIAL/PARKLAND/ INSTITUTIONAL STANDARDS

T2 (ICC) - TABLE 2 - INDUSTRIAL/COMMERCIAL/ COMMUNITY STANDARDS

NOTE:

TABLE 1 AND 2 STANDARDS SHOWN FROM MOE DOCUMENT DATED MARCH 28, 2007

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* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

DCS

DECOMMISSIONING CONSULTING SERVICES LIMITED

CITY OF GUELPH

200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY PHASE II ESA

VOC EXCEEDANCES (SOIL)
(MOE PROPOSED STANDARDS)

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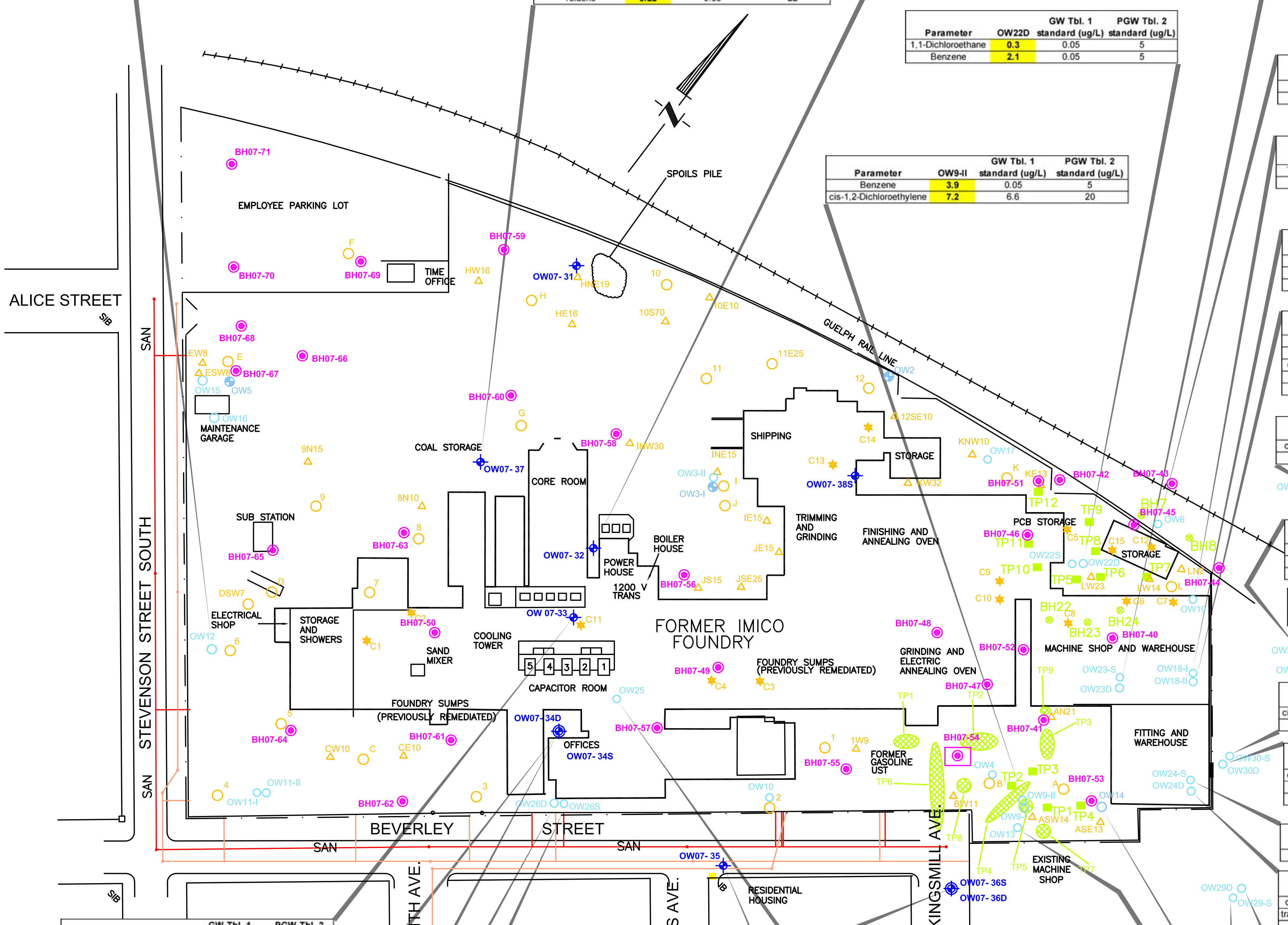

Parameter	OW12	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	0.4	0.05	5
1,1,1-Trichloroethane	6.6	0.05	200

Parameter	OW07-37	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	1.2	0.05	5
1,1,1-Trichloroethane	4.1	0.05	200
Ethylbenzene	0.11	0.05	2.4
Toluene	0.22	0.05	22

Parameter	OW07-32	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	2.4	0.05	5
1,1,1-Trichloroethane	4.9	0.05	200
Trichloroethylene	1	0.05	5

Parameter	OW22D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	0.3	0.05	5
Benzene	2.1	0.05	5

Parameter	OW9-II	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Benzene	3.9	0.05	5
cis-1,2-Dichloroethylene	7.2	6.6	20

Parameter	OW23D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Benzene	2.4	0.05	5
cis-1,2-Dichloroethylene	21	6.6	20
Trichloroethylene	2.2	0.05	5
Vinyl Chloride	5	0.05	2

Parameter	OW6	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Benzene	0.1	0.05	5
Trichloroethylene	2.6	0.05	5

Parameter	OW19	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Tetrachloroethylene	0.3	0.05	9.1
Trichloroethylene	0.2	0.05	5

Parameter	OW18-I	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1,1-Trichloroethane	0.2	0.05	200
Tetrachloroethylene	0.2	0.05	9.1
Trichloroethylene	21	0.05	5

Parameter	OW18-II	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethylene	1.5	0.05	14
Benzene	3.3	0.05	5
cis-1,2-Dichloroethylene	100	6.6	20
Trichloroethylene	3.3	0.05	5
Vinyl Chloride	48	0.05	2

Parameter	OW27S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	6.9	6.6	20
Trichloroethylene	18	0.05	5

Parameter	OW28D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	32	6.6	20
Trichloroethylene	0.6	0.05	5
Vinyl Chloride	6.5	0.05	2

Parameter	OW28S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Trichloroethylene	26	0.05	5

Parameter	OW30S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	23	6.6	20
Trichloroethylene	530	0.05	5

Parameter	OW30D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	610	6.6	20
Trichloroethylene	500	0.05	5
Vinyl Chloride	110	0.05	2

Parameter	OW24S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Trichloroethylene	86	0.05	5

Parameter	OW24D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	420	6.6	20
trans-1,2-Dichloroethylene	34	6.6	20
Trichloroethylene	2800	0.05	5
Vinyl Chloride	46	0.05	2

Parameter	OW29S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	12	6.6	20
Trichloroethylene	100	0.05	5

Parameter	OW29D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
cis-1,2-Dichloroethylene	51	6.6	20
Trichloroethylene	1000	0.05	5

Parameter	OW14	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Trichloroethylene	0.3	0.05	5

Parameter	OW13	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Trichloroethylene	1.1	0.05	5

Parameter	OWO7-35	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	1.2	0.05	5
1,1,1-Trichloroethane	2.3	0.05	200
Chloroform	0.24	0.1	25

Parameter	OW25	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1,1-Trichloroethane	0.5	0.05	200
Trichloroethylene	3	0.05	5

Parameter	OWO7-36S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Bromodichloromethane	0.33	0.2	16
Chloroform	0.52	0.1	25

Parameter	OW26S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	3	0.05	5
1,1,1-Trichloroethane	2.4	0.05	200

Parameter	OW26D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	4.9	0.05	5
1,1-Dichloroethylene	0.1	0.05	14
1,1,1-Trichloroethane	0.3	0.05	200
Benzene	0.1	0.05	5
Trichloroethylene	0.4	0.05	5

Parameter	OWO7-33	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	5.3	0.05	5
1,1,1-Trichloroethane	8	0.05	200
Trichloroethylene	0.56	0.05	5

Parameter	OWO7-34D	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
1,1-Dichloroethane	9.5	0.05	5
1,1,1-Trichloroethane	4.5	0.05	200
Trichloroethylene	0.97	0.05	5

Parameter	OWO7-34S	GW Tbl. 1 standard (ug/L)	PGW Tbl. 2 standard (ug/L)
Benzene	0.33	0.05	5
Ethylbenzene	0.23	0.05	2.4
Toluene	1.1	0.05	22
Trichloroethylene	0.52	0.05	5

LEGEND:

SAMPLING LOCATIONS - DCS

- OW 07-36S — SHALLOW MONITORING WELL IN ROCK
- OW07- 36D — DEEP MONITORING WELL IN ROCK
- BH07-39 — SHALLOW BOREHOLE

SAMPLING LOCATIONS - OTHERS

- L — TEST PIT LOCATION (BY PROCTOR & REDFERN),1990.
- 10S70 — TEST PIT LOCATION (ADDITIONAL BY PROCTOR & REDFERN),1990.
- C10 — COREHOLE LOCATION (BY PROCTOR & REDFERN),1990.
- OW3-I — MONITORING WELL (BY PROCTOR & REDFERN), 1990.
- OW6 — MONITORING WELL (BY GARTNER LEE), VARIOUS YEARS.
- TP9 — TEST PIT (BY GARTNER LEE), 2000.
- TP10 — TEST PIT (BY GARTNER LEE), 1999.
- BH7 — BOREHOLE LOCATION (BY GARTNER LEE), VARIOUS YEARS.

- EXCEEDS PROPOSED TABLE 1 STANDARDS
- EXCEEDS PROPOSED TABLE 2 STANDARDS

GW - T1 - TABLE 1 - GROUND WATER

PGW - T2 - TABLE 2 - POTABLE GROUND WATER

NOTE:

TABLE 1 AND 2 STANDARDS SHOWN FROM MOE DOCUMENT DATED MARCH 28, 2007

REFERENCE:

* ENVIRONMENTAL INVESTIGATION, INTERNATIONAL MALLEABLE IRON COMPANY, 200 BEVERLEY STREET, CITY OF GUELPH - BY PROCTOR AND REDFERN LIMITED, JUNE 1991.

* SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, FORMER IMICO SITE - BY GARTNER LEE LIMITED, MARCH 1999.

* INTRUSIVE (TEST PIT) INVESTIGATION, FORMER IMICO FOUNDRY SITE - BY GARTNER LEE LIMITED, JULY 2000.

* INTERIM GROUNDWATER MONITORING REPORT, FORMER IMICO SITE, SUMMER 2006 GROUNDWATER MONITORING EVENTS - BY GARTNER LEE LIMITED, OCTOBER 2006.

DCS

DECOMMISSIONING CONSULTING SERVICES LIMITED

CITY OF GUELPH

200 BEVERLEY STREET, CITY OF GUELPH

FORMER IMICO FACILITY

PHASE II ESA

2007 VOC EXCEEDANCES (GROUND WATER)

(MOE PROPOSED STANDARDS)

DEC. 2007	1:1500	701996-D.3

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APPENDIX E

QUALIFICATIONS OF ASSESSORS

DCS

Richard W. Browne, M.A.Sc., P.Eng.

SENIOR VICE PRESIDENT

EDUCATION

M.A.Sc., Geo-Environmental Engineering, University of Waterloo, 1988
B.Sc., Geological Engineering, Queen's University, Kingston, 1978

PROFESSIONAL AFFILIATIONS

Professional Engineers of Ontario
Canadian Geotechnical Society
Canadian Dam Association

EXPERIENCE

1993-Present - ARCADIS SENES Canada Inc. (Decommissioning Consulting Services)

1993 – 2002 General Manager, Engineering Services
2002 – Present Senior Vice President

Mr. Browne is the Senior Vice President at DCS and has a background in environmental and geotechnical engineering. He is a Qualified Person under Ontario's O.Reg. 153/04 for both Phase I and II Environmental Site Assessments. He has been involved in a wide range of projects including subsurface contamination investigations; environmental liability assessments; development, design and supervision of site remediation programs as well as the geotechnical and foundation engineering components of site remediation and property redevelopment projects. He has been the project manager for numerous environmental programs including the following:

Mr. Browne is currently the project director for a 3 to 5 year Vendor of Record agreement with Infrastructure Ontario to provide environmental and geotechnical engineering services to the real estate and public infrastructure development arm of the Province of Ontario. In this capacity he has been involved with numerous Phase I and II ESA programs as well as Category B EAs throughout northeastern Ontario. The largest program completed to date has been the Phase I ESA of 77 Ontera telecommunication facilities located between North Bay and James Bay. Phase I ESA assessments of 7 railway yard properties owned by Ontario Northland Railway has also been carried out. Mr. Browne has played a key role in the setup of the required programs, co-ordination of the work, review of reports and discussion of remediation options etc. with senior IO staff.

Recently Mr. Browne has carried out reviews of hydro electric dam improvement and replacement projects located in the Northwest Territories. For both projects Mr. Browne participated in the public hearings and reviewed technical specifications and submissions prepared by Power Corporation and their consultants

Project director for two three-year contracts with the Toronto Transit Commission (TTC) to provide geotechnical and geoenvironmental engineering services for modifications and upgrades of the Toronto subway and bus system. Developed investigation work plans, completed environmental and geotechnical report and recommendations reviews and carried out project management, as required. The more than 100 projects included new bus and light rail transit routes, investigations for new entrances to existing subway stations, assessment and remediation of hydrocarbon impact plumes and many other assignments.

Completed environmental investigation of the former Morningside Landfill open lands in preparation for development of the Pan Am Aquatics Centre site. Carried out a detailed Phase I ESA followed by completion of more than 100 borehole and tests on City of Toronto and University of Toronto Scarborough lands. Determined buried municipal waste volumes, earthworks quantities and the estimated cost to fully remediate the site by excavation and off site disposal. Assessed soil and groundwater conditions for the purposes of determining founding elevation of barrier wall to stop methane gas migration from the adjacent landfill mound to remain on site.

Project director for the environmental investigation and risk assessment for the parkland and residential redevelopment of the West Don Lands former industrial area in downtown Toronto. The program carried out for the Ontario Realty Corporation involves completion of more than 150 boreholes and development of detailed risk management strategies for this brownfield site meeting City of Toronto and MOE requirements.

Project Director for geotechnical investigation for Toronto Hydro at the Ashbridges Bay Treatment plant for foundation system to support a seven unit methane gas electrical cogeneration plant. Site was underlain by compressible peat and fill layers with subsurface methane gas under pressure. Provided foundation design recommendations and obtained Ministry of Labour approval for health and safety plan to be followed during pile foundation installation through methane bearing strata.

Retained by the City of Toronto to carry out environmental peer reviews of site investigation and remediation reports prepared by other consultants to support applications to redevelop industrial properties. Completed peer reviews of over 70 properties over more than 10 years.

Completed geotechnical investigation at the Hydro One Richview Transformer Station in Toronto, Ontario. Prepared geotechnical recommendations to resolve differential

settlement of switchgear equipment supported by shallow foundations at locations throughout the station.

Completed detailed environmental investigations of University of Toronto lands surrounding a former municipal landfill site in the Scarborough area of Toronto, Ontario. Completed assessment of soil and groundwater impacts, as well as, potential concerns associated with landfill gas migration and generation. Presented geotechnical and environmental concerns and solutions at public meetings and to City officials. Work was completed to obtain approvals for redevelopment of land within potential zone of influence of the landfill.

Provided senior engineering review and co-ordination to the investigation of 17 Phase II ESA's of Hydro One distribution station sites throughout southern Ontario. This included review of work plans, final site investigation reports and proposed site remediation plans, specifications and risk analyses.

Project Director for the Phase II ESA of a property located in the Municipality of Port Hope. The property which is bound to the north by the Oak Ridges Moraine and to the south by a provincially significant wetland is considered a sensitive site. The assessment involved the completion of over 30 boreholes and test pits to investigate potential contamination to soil and groundwater from former activities undertaken on the property. Potential areas of concern included UST and AST locations, the septic beds, the maintenance garage and a dump site on the embankments of a watercourse crossing the property. Oversaw the completion of the work program, prepared a detailed report outlining the findings of the investigation program and provided recommendations for remedial work activities.

Project director for the investigation and remediation of a former gravel pit infilled with miscellaneous fill in Scarborough, Ontario for Centennial College. The program involved assessment of potential impacts of methane gas and leachate from two nearby landfills. Completed technical specifications and supervised remediation of site. Completed detailed geotechnical investigation for proposed 5 storey community college campus. Prepared slope stability analyses for construction of building within Highland Creek Valley. Oversaw geotechnical inspection work for construction of building foundations, retaining walls and required sub-slab drainage system.

Completed Phase I and Phase II ESA's of a series of properties to be acquired by Rogers AT & T throughout Southern Ontario. Co-ordinated cleanup of a designated sensitive site to background contaminant levels.

Co-ordinated the environmental investigation and preparation of ecological and human health risk assessments for two former bulk oil storage industrial sites in the Toronto waterfront area for TEDCO. One site was proposed for commercial usage, while the second was proposed to be a wildlife corridor green space.

Project Manager for completion of an environmental assessment of the proposed Technodome site at former CFB Toronto, Downsview, property. The program involved subsurface investigation of a large number of former aboveground and underground storage tank locations as well as former ammunition storage areas.

Completed an environmental investigation into the possible upgradient sources of volatile organic compound (VOC) contamination within the groundwater underlying a Toronto industrial plant. Presented case to MOE for classification as an area wide concern.

Prepared environmental engineering requirements for the capping of arsenic-impacted soil at three electrical distribution sites. The program included preparation of environmental work plans, construction drawings for capping and drainage systems, and preparation of technical specifications.

Co-ordinated the subsurface investigation of a hydrocarbon-contaminated MNR works yard adjacent to a river in Northern Ontario. Prepared a remediation work plan and tender documentation for cleanup of the site. Oversaw remediation of the site and ongoing groundwater monitoring to assess any impact on water quality.

Co-ordinated the geotechnical investigation of a proposed residential development site along the crest of the Humber River Valley in Bolton, Ontario. Completed stability analyses of the 20 to 30 m high valley slope and prepared an engineering report to support the proposed development at an Ontario Municipal Board hearing.

Project Manager for the investigation and partial remediation of a major heating fuel oil tank loss, of in excess of 100,000 ℓ, at a Toronto apartment complex immediately adjacent to the Don River Valley. Co-ordinated emergency installation of product recovery well and interceptor trenches to recover loss product migrating through the sandy overburden. Supervised the monitoring of the product recovery system and the installation of a groundwater treatment system. Represented firm in arbitration hearings which resolved dispute with major oil firm and property owner.

Co-ordinated the environmental investigation of a 14 ha property in the historic industrial area of Kingston, Ontario. Investigated the extent of primarily heavy metal contamination associated with past operations of a tannery and lead smelter on the site. Assessed environmental liabilities and remediation costs associated with redevelopment of the

property. Prepared to give environmental testimony in court; however, issue was resolved.

1978-1993 - Geocon Inc. (SNC Lavalin), Toronto, Ontario

General Manager - 1991-1993
Senior Project Engineer - 1978-1991
Carried out geotechnical investigations, analyses and report preparation for industrial properties, dam sites, mine tailings areas, marine installations, highway route alignments and pulp and paper mills at locations across Canada as well as in Honduras.

Geotechnical/environmental investigation for major expansion of the Humber Sewage Treatment Plant. Provided recommendations for off-site disposal of contaminated soil and groundwater.

Project Manager for the geotechnical investigation of a proposed oil storage tank farm to be constructed on soft marine sediments in Hamilton Harbour. The program included detailed settlement analyses and slope indicator and pneumatic piezometer monitoring of the stability of the structure during water testing and filling of the tanks.

Geotechnical investigations and construction supervision for the Sky Dome facilities, including caisson installation and spread footings on shale.

Supervised pile load test program and installation of 944 steel tube piles for settlement-sensitive paper machine at Abitibi Price mill in northern Ontario.

Stephen R. Prior, P. Eng., QP_{ESA}

SENIOR PROJECT MANAGER

EDUCATION

B.Sc. Earth Sciences, University of Waterloo, 1980

TRAINING

1993 40 hour OSHA training Course
1995 8 hour OSHA refresher training
2000 Hydro One Grounding and Bonding Course
2006 Confined Space Entry

EXPERIENCE

2006-Present - ARCADIS SENES Canada Inc. (Decommissioning Consulting Services)

Mr. Prior is a senior project manager for DCS and has over 30 years' experience is site assessments and environmental investigations.

- Completed a large number of Peer Reviews of Phase One, Phase Two and Records of Site Conditions for the City of Toronto and the City of Vaughan. These reviews were completed to ensure that lands being transferred to the City were not impacted and would therefore present no environmental liability.
- Provided peer review services for the MOE for Risk Assessments that had been completed by other consultants. The peer review process examined the Property Information, Site Plan and Geological Interpretation portion (Section 3) of the Risk Assessment to ensure correct interpretation of the site conditions was used and to ensure that all items addressed met the criteria provided under O. Reg. 153/04.
- Oversaw the completion of the field program for a Phase One and Phase Two ESA for the proposed Pan Am Stadium and Velodrome in the West Harbour area of the City of Hamilton. The field program was designed to establish site conditions in preparation for the completion of a Risk Assessment using the standards established in O. Reg. 153/04.
- Completed a number of Phase I and Phase II ESAs for the potential development of power generating stations. The potential site and potential transmission lines routes were examined. Potential sites included former industrial areas that had been impacted by VOCs. A review of the effectiveness of a former air sparging system was completed.
- Completed numerous Phase I and Phase II ESAs throughout southern Ontario for Public Works and Government Services Canada. These included overseeing the field programs and preparation of reports. The projects were generally completed using the applicable federal guidelines to establish liabilities and also to the Site Conditions Standards under O. Reg. 153/04
- Project manager for a Phase II Environmental Site Assessment on a property owned by the City of Guelph. It was necessary to develop a program based on historic chemical data and site uses to develop a field program that would maximize the information acquired. The end goal was to assess the potential future land uses and determine estimated costs for clean-up.
- Developed specifications and remedial procedures for lands that had been formerly used as a skeet range. The impacted soil contained lead from the shot and benzo(a)pyrene from the tar used as a binder in the clay pigeons.
- Developed and implemented a Phase One and Phase Two Environmental Site Assessment for a surplus property located in Northern Ontario. Previous land uses had included boat manufacturing, pesticide blending and storage and fuel oil/gasoline storage. In addition, an assessment of gasoline in a monitoring well sealed in the bedrock was required. Based on the geology and construction of the monitoring well it was postulated that the gasoline had been introduced into the well as opposed to gasoline contamination site wide.
- Project manager for the assessment of harbour lands to be transferred to the local government. The development of a Phase I and Phase II ESA was required to develop a database that would allow for the completion of a Risk Assessment. This work program was completed using the applicable federal guidelines to establish liabilities. The results were also compared to the MOE Site Conditions Standards as provided under O. Reg. 153/04.
- Developed and implemented a program to examine a number of sites within a Canadian Forces Base. Environmental concerns included Mustard Gas storage areas and potential petroleum hydrocarbon impacts.
- Oversaw the development and implantation of a Phase II Environmental Site Assessment for a former industrial property in Toronto. The program was designed based on previously completed studies to maximize the information obtained.
- Completed a hydrogeologic investigation into a property located with the Oak Ridges Moraine in preparation for obtaining a Permit To Take Water (PTTW) that would be required for excavation of a two level basement. A major concern was the possibility for upward pressure from the underlying aquifer to overcome the soil remaining in place. This could have resulted in major flooding of the

excavation resulting in increased costs for construction.
- Project Manager for the completion of a number of Scaled Down Phase I/II ESAs at a number of properties operated by the Department of Fisheries and Oceans across southern Ontario.
- Completed a large number of Phase I and Phase II Environmental Site Assessments across the Province of Ontario.
- Supervised the completion of a number of remedial programs including the removal of impacted soils so that an RSC could be obtained for the property.

2005 – 2006 Self Employed

- Provided on site laboratory analysis during the investigation and clean up of TPH impacted sites. On site analysis used Ultra Violet Fluorescence (UVF) techniques to provide real time, near laboratory quality analysis for petroleum hydrocarbons.
- Developed a relational data base for a small local manufacturer to track supplies and equipment.

2000 – 2005 AEON Management, Brampton, Project Manager/Engineer

- Project Engineer on a number of electrical distribution stations that had been impacted by the use of arsenic trioxide which had been used as a defoliant until 1972. Field screening techniques included the use of X-Ray Fluorescence (XRF) were used to assess the extent of impacts and also to guide the excavation during the remediation program.
- Project engineer on the remediation of a number of sites that were impacted by NAPLs, petroleum hydrocarbons and metals.
- Provided on site laboratory analysis using X Ray Fluorescence (XRF) for metals and Ultra Violet Fluorescence (UVF) for some organics including petroleum hydrocarbons, BTEX parameters, some NAPLs, PCBs and PAHs. These techniques allow for near instantaneous analysis of field samples resulting in reduced downtime during a clean up process.
- Completed studies at a number of provincial parks to assess the potential for non-GUDI wells. Water supply wells were drilled at most sites and pumping tests were completed.
- Completed numerous data projects using VIEWLOG and SiteFX. These programs allow for the input of data into a relational database and the creations of isopoch, chemical concentration and groundwater flow maps. Cross sections were generated directly from the database and volumes of contaminated material were estimated. VIEWLOG may also be used as a pre- and post-processor for MODFLOW.
- Designed a number of surface and ground water observation stations that monitored the interaction between the ground and surface water flow into and out of a test area. These stations were designed to monitor surface flows and ground water levels through the use of pressure transducers. The data could be collected at regular intervals and downloaded for a more detailed analysis.

1997 – 2000 Trow Consulting Engineers, Stoney Creek, Project Engineer

- Site engineer responsible for overseeing the geotechnical and environmental aspects of a large-scale expansion of an industrial facility along the Hamilton Harbour front.
- Provided an assessment of an existing pump and treat system and determined its long-term effectiveness. Alternative methodologies were proposed.

1990 – 1997 Jagger Hims Limited, St. Catharines, Project Manager/Engineer

- Completed a multi year aquifer evaluation for a city in south central Ontario. The project involved the design of a phased pumping test program to ensure an adequate supply of drinking water was available over the duration of the test and to maximize the collected data. In addition, all information available for each water supply was compiled from various sources. It is understood this information is used to this day as a useful reference for City employees.
- Developed a relational database for a hazardous waste disposal facility located in southwestern Ontario. This database included all known information on the site including chemical analysis, geology and historical land use. This database was used in the preparation of an Environmental Assessment of a proposed expansion of the hazardous waste landfill.
- Completed a model of the fractured bedrock aquifer system for a city in south central Ontario. This included proposed wellhead protection zones.
- Completed a number of models to monitor the impact of landfills on the groundwater flow system
- Completed a number of 1½ D diffusion models to predict the long-term rate of impact of a hazardous waste facility on an aquifer supplying area residences.

1988 – 1990 MacLaren Engineers, Toronto, Project Engineer