REPORT

January 2013

SOIL AND SEDIMENT QUALITY ASSESSMENT

Central Grand Marais Drain
Windsor, Ontario

Submitted to:
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APPENDICES

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) is pleased to submit this report to Landmark Engineers Inc. (Landmark) to document the results of sediment and soil sampling activities carried out along five segments of the Central Grand Marais Drain in Windsor, Ontario (collectively referred to as the 'Study Area' or 'Site'). The approximate location and layout of the Study Area, situated between Walker Road and Dougall Avenue, is shown on Figure A. The work was performed in general accordance with proposal number P2-1134-0179-P01 dated September 12, 2012 and approved by Mr. Dan Krutsch of Landmark on September 18, 2012. The final scope of the investigation activities carried out by Golder was based on the September 12, 2012 proposal in addition to subsequent emails and telephone correspondence between Landmark and Golder.

1.1 Project Objectives

Based on information provided by Landmark, it is our understanding that Landmark was retained by the Essex Regional Conservation Authority (ERCA) to assist with the restoration of a portion of the Central Grand Marais Drain. As part of the proposed restoration activities, dredging and excavation activities of the drain sediment would be conducted to restore a proper channel alignment. In addition, excavation of soils along the drain banks may be required in order to realign the channel.

At the request of Landmark, the objectives of the sampling activities described herein were: to estimate the approximate depth of sediment thickness at the five channel segments as defined by Landmark; to collect samples of the sediment and soil for laboratory analysis to assess their chemical quality; and to assist Landmark in the evaluation of off-Site management and disposal alternatives for excess sediment/soil generated during the anticipated excavation/dredging activities.

It is Golder's understanding that the completed sediment and soil sampling activities were carried out to support an evaluation of channel restoration options, and are not required for preparation of a Record of Site Condition (RSC) for the Site as described in Ontario Regulation 153/04, as amended.

2.0 FIELD INVESTIGATION

2.1 Scope of Work Overview

The field work was carried out by members of Golder's staff on October 23 and 24, 2012. As indicated above, soil and sediment samples were collected from the five segments (1 through 5) of the Study Area, located as shown on Figure A. Specific sample locations within each segment are illustrated on Figures 1 through 5.

The following outlines, in general terms, the sampling program carried out for each segment:

Segment 1 – Turner Avenue to Byng Avenue (Refer to Figure 1)

- 3 samples in total (**Series 100**)
- 1 sediment sample from each of the upstream and downstream ends of the reach.
- 1 soil sample from the bank within the top third of the bank

Segment 2 – Upstream of E.C ROW Expressway culvert (adjacent to Woodall Property) (Refer to Figure 2)

- 10 samples in total (**Series 200**)
- 3 sediment sampling locations at the inlet of each of the three culvert sections with discrete samples taken at various intervals across the depth of the sediment.
- 1 sediment sample from the upstream limit of the improved section of the channel.
- 1 soil sample from the bank within the top third of the bank.

Segment 3 – Downstream of E.C ROW Expressway culvert (Refer to Figure 3)

- 7 samples in total (**Series 300**)
- 3 sediment sampling locations at the outlet of each of the two outer culverts[(1)] with discrete samples taken at various intervals across the depth of the sediment.
- 1 composite sediment sample from the northern culvert location for TCLP analysis.

Segment 4 – Roundhouse Centre (Refer to Figure 4)

- 5 samples in total (**Series 400**)
- 1 sediment sample from the outlet of the culvert.
- 1 soil sample from the bank within the reach.
- 3 soil samples from the adjacent floodplain area.

Segment 5 – Dougall Avenue to Railway (Refer to Figure 5)

- 2 samples in total (**Series 500**)
- 1 sediment sample taken from the downstream end before the drop structure.
- 1 soil sample from the bank within the top third of the bank.

The following sections summarize the procedures used during the sampling program.

[1] Note that there were 4 culverts at this location of Segment 2 – the southernmost culvert extends under Walker Road from the Devonshire site. Samples were taken from the inlets of the culverts that extend under E.C. ROW Expressway.

2.2 Methods and Procedures

2.2.1 Sediment Sampling

A total of 19 sediment samples, denoted with the prefix 'SD' in the sample identification, were collected at the ten locations shown on Figures 1 through 5 and at the inferred depths specified in Table A-1 (Appendix A).

Various sampling techniques were utilized during the sediment sampling activities. Attempts were made at the various segments using a split spoon sampler as well as a 'Ponar' grab sampler; however, neither technique proved successful in obtaining sufficient material for a viable sample.

Where necessary, any overburden, including rip rap and debris, was removed. Sediment samples taken at shallow and intermediate depths were taken using a shovel. The deeper sediment samples were taken by hand pushing and driving a two inch diameter polyvinyl chloride (PVC) pipe into the sediment until refusal. The pipe was then rotated to break the sample off the bottom creating a seal to allow for sample retrieval. The pipe was then slowly raised and the samples were taken from the material stuck in the bottom section of the PVC pipe.

Where the depth of water was too deep to permit the use of hip waders, Golder utilized a 16 foot row boat in order to access the appropriate sampling location.

Overall sediment thicknesses were generally determined by consistency and visual observations. The sampling pipe was placed at the top of the sediment and marked to estimate the depth of water and thickness of sediment. It was then pushed down until an increase in resistance was noted, or concrete encountered, and the pipe was marked again. Once the pipe was removed, the difference between the marks was used to estimate the sediment thickness at that location.

2.2.2 Soil Sampling

A total of seven soil samples, as noted by the prefix 'SS' in the sample identification, were collected by hand using a trowel at the approximate locations shown on Figures 1 through 5 and at the depths specified in Table A-1 (Appendix A). Where collected, soil samples were typically located within the top third of the bank of the channel. As indicated above, three shallow soil samples were also obtained from the adjacent flood plain within Segment 4 (See Figure 4).

2.3 Laboratory Analysis – Sample Submission

The collected sediment and soil samples were logged in the field for observations of potential impact (e.g. odours and staining). Samples were retained in glass jars, supplied by the analytical laboratory, for chemical

analysis. The sediment and soil samples were kept on ice until they were brought to the Golder office and kept refrigerated, prior to submission to the analytical laboratory.

Soil and sediment samples submitted for chemical analysis were placed in coolers and delivered to Maxxam Analytics in Mississauga, Ontario, under chain-of-custody for chemical analysis of metals and inorganics, petroleum hydrocarbons (PHCs) F1 to F4 fractions and benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). All of the 19 sediment and 7 shallow soil samples collected during the field program were submitted for laboratory analysis.

For waste characterization purposes, one composite sediment sample was submitted for toxicity characteristic leaching procedure (TCLP) and the resulting material was analysed for a variety of parameters. The composite sample (designated COMP 1), was comprised of sediment samples collected from the northern culvert location at Segment 3 (SD-301A, B and C) where all three depths exhibited field evidence of chemical impacts (i.e., staining, odour, and/or sheen) and had elevated concentrations of multiple chemical parameters.

2.4 Discussion of Environmental Criteria

Current environmental criteria for soil and sediment quality are identified in the Ministry of the Environment (MOE) document: "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*" (April 2011) (MOE Standards). The MOE Standards identify three sets of generic criteria: one conservative set as background site condition standards (Table 1), one set for a potable groundwater condition (Table 2) and a less stringent set for a non-potable groundwater condition (Table 3).

To help characterize potential impacts to soil and sediment quality and to assist Landmark in the evaluation of off-Site management and disposal alternatives for excess sediment/soil, the analytical results were compared against the following MOE standards:

- *For general evaluation of sediment quality, in-situ:* **Table 1 sediment standards**, full depth background site condition standards for all types of property use for all textured soils. The MOE's Table 1 sediment standards are generally representative of the 'lowest effect level' concentrations where parameters may have an adverse effect on aquatic organisms;
- *For disposal / management purposes, and to evaluate whether the material could be classified as 'inert fill', with fewer re-use restrictions:* **Table 1 soil standards**, full depth background site condition standards for non-agricultural property use for all textured soils. The Table 1 standards are the most conservative generic standards for soil quality; and
- *For evaluation of whether the material might require landfill disposal:* **Table 3 soil standards**, full depth generic site condition standards for commercial/industrial/community property use for medium and fine textured soils. The Table 3 standards are the least conservative generic standards for soil quality.

As indicated above, one composite sediment sample was submitted for TCLP analysis for waste characterization purposes and to determine potential restrictions for landfill disposal, if required. The results of the TCLP analysis were compared against the MOE's Leachate Quality Criteria presented in Schedule 4 of Ontario Regulation 558.

3.0 RESULTS OF FIELD INVESTIGATION

3.1 Encountered Soil and Sediment Conditions

Table A-1 in Appendix A provides a summary of field information for each soil and sediment sample collected, including: sample ID, individual sample depth, the sediment thickness at each sample location, sample description and visual and/or olfactory observations of the sampled material. Approximate sample locations and depths for Segments 1 through 5 are also shown on Figures 1 through 5, respectively.

Soil

Soil sample depths ranged from about 0.1 to 0.2 metres below ground surface. As indicated in Table A-1, no field evidence of potential impacts (i.e., staining or odour) was noted in the soil samples collected.

Sediment

As indicated in Table A-1, the encountered sediment depths ranged from less than 0.1 metres (Segment 5) to as high as 2.1 metres (Segment 3). Sediment was notably thicker at the inlets and outlets of the concrete culverts passing beneath E.C Row Expressway (sample locations SD-201, SD-202, SD-203, SD-301 and SD-302).

As indicated in Table A-1, field evidence of potential impacts (i.e., staining, odour and/or sheen on pore water) was noted in sediment samples from each of the sampling locations within Segments 2 through 4. In general, these observed impacts appeared to be more significant in the deeper sediments.

3.2 Analytical Results for Sediment and Soil Samples

The analytical results of the sampling activities are detailed in Tables I, II, III, IV, V and VI, along with the corresponding soil and sediment quality standards applied for comparison. The laboratory certificates of analysis are included in Appendix B.

For reference purposes, Table A-2 in Appendix A provides a summary of the exceedances of the various soil and/or sediment standards used for comparison for each sample. Rather than identifying individual parameters, Table A-2 indicates where concentrations of one or more parameters within a specific group (i.e., metals, PAHs, PHCs, VOCs and PCBs) exceeded a corresponding standard. It should also be noted that while the analytical results for sediment have been compared to relevant soil quality standards to evaluate potential management options, the results for the soil samples were not compared to the sediment quality standards. Consistent with Table A-2, Figures 1 through 5 also graphically illustrate where exceedances of the various standards were identified for each group of parameters, at each sample location and depth.

Soil Quality

When evaluating the analytical results for the soil samples, and as summarized in Table A-2, all the seven soil samples submitted for laboratory analysis exceeded one or more of the Table 1 soil quality standards for metals (7 of 7 samples), PAHs (3 of 5 samples), PHCs (6 of 7 samples), VOCs (5 of 7 samples) and PCBs (1 of 7 samples). Based on these results, this material would not be classified as 'inert fill' for the purpose of management or disposal.

When compared to the less conservative Table 3 soil quality standards, six of the seven soil samples exceeded soil quality standards for metals (6 of 7 samples) and/or PAHs (2 of 5 samples). Based on these results, this material would likely require landfill disposal should it be excavated and require off-Site disposal (i.e., it would not be acceptable to re-use as fill material at another site). The soil sample from Segment 5, SS-501, did not identified any exceedances of Table 3 soil quality standards.

Sediment Quality

As summarized in Table A-2, all the 19 sediment samples submitted for laboratory analysis exceeded one or more sediment quality standards for metals (19 of 19 samples), PAHs (17 of 19 samples) and/or PCBs (18 of 19 samples). While petroleum hydrocarbons and VOCs were detected, there are currently no sediment standards for these parameters.

When comparing the analytical results for sediment to the soil quality standards, exceedances of the Table 1 soil quality standards for one or more parameters were identified in 18 of the 19 sediment samples, meaning that this material would not be classified as 'inert fill' for the purpose of manage ment or disposal. The results for sediment sample from Segment 5, SD-501, did not indicate any exceedances of soil quality standards.

When compared to the less conservative Table 3 soil quality standards, 18 of the 19 sediment samples exceeded soil quality standards for metals (18 of 19 samples), PAHs (14 of 19 samples), PHCs (11 of 19 samples), VOCs (1 of 19 samples) and PCBs (6 of 19 samples). Based on these results, this material would likely require landfill disposal should it be dredged and require off-Site disposal (i.e., it would not be acceptable to re-use as fill material at another site). The sediment sample from Segment 5, SD-501, did not identified any exceedances of Table 3 soil quality standards.

Contaminant Distribution

As indicated by the analytical results presented in the attached tables, the concentrations of the detected parameters varied significantly by location and depth. In general, the highest concentrations of most parameters were typically found in the deeper samples from sediments at the culverts beneath the E.C Row Expressway (i.e., Segments 2 and 3). At these locations, the primary metals contaminants (i.e., those with concentrations regularly exceeding the Table 3 soil quality standards) included cadmium, chromium, lead and zinc. The highest PHC concentrations were found at depth at the downstream end of the culverts (Segment 3), as high as 90,000 micrograms per gram (mg/g) of total PHCs (sample SD-302C), and were primarily comprised of the F3 fraction (e.g., typical of heavier fuels and lubricants). The highest PCB concentration, 3.8 mg/g, was also identified at depth within Segment 3 (sample SD-302C).

With respect to PAHs, the highest concentrations, by one or more orders of magnitude, were identified in a relatively shallow sediment sample upstream of the above-noted culverts (sample SD-204 in Segment 2).

Where detected, VOC parameters were generally limited to petroleum hydrocarbon related BTEX parameters.

Waste Characterization

The reported TCLP results for sample number COMP 1 (composite sample of SD-301A, B and C) were below the applicable MOE's Leachate Quality Criteria presented in Schedule 4 of O. Reg. 558 for the specific parameters analysed. Therefore, the materials represented by the composite sample would not be characterised as hazardous and could be disposed of at a licensed non-hazardous waste landfill, if required. The TCLP analytical results are presented in Table VI.

4.0 CONCLUSIONS

In order to assist Landmark in the evaluation of off-Site management and disposal alternatives for excess sediment/soil which may be generated during the anticipated excavation/dredging activities, the objectives of the scope of work were to evaluate the quality of soil and sediment within the Study Area and estimate the approximate depth of sediment at the targeted sampling locations. To meet the stated objectives, Golder collected a total of five soil samples and 19 sediment samples. The sediment samples were collected at varying depths at 10 locations within the Study Area. The soil samples were typically on the side of the channel bank or adjacent flood plain.

Sediment Thickness

The encountered sediment depths ranged from less than 0.1 metres (Segment 5) to as high as 2.1 metres (Segment 3).

Segment	Sediment Observations (Encountered Depths)
1	0.1 metres at two location
2	0.6 to 1.8 metres at three locations at culverts (inlet) near the E.C Row Parkway
3	2.1 metres at two locations at culverts (outlet) near the E.C Row Expressway
4	0.9 metres at one location
5	0.3 metres at one location

As outlined above, sediment deposition was notably thicker at the inlets and outlets of the concrete culverts passing beneath E.C Row Expressway (Segments 2 and 3).

Soil and Sediment Quality

No field evidence of potential impacts (i.e., staining or odour) was noted in the shallow soil samples collected. Field evidence of potential impacts (i.e., staining, odour and/or sheen on pore water) was noted in sediment samples from each of the sampling locations within Segments 2 through 4. In general, these observed impacts appeared to be more significant in the deeper sediments.

As indicated by the analytical results presented herein, the concentrations of the detected parameters varied significantly by location and depth. Concentrations in all the 19 sediment samples submitted for laboratory analysis exceeded one or more sediment quality standards for metals, PAHs and PCBs. In general, the highest concentrations of most parameters were typically found in the deeper samples from sediments at the culverts beneath the E.C Row Expressway (i.e., Segments 2 and 3).

When comparing the analytical results to the soil quality standards, exceedances of both the MOE's Table 1 and Table 3 soil quality standards for one or more parameters were identified for all 24 of the soil and sediment samples submitted for laboratory analysis from Segments 1 through 4. Based on these results, this material would not be classified as 'inert fill' for the purpose of management or disposal. Furthermore, where

concentrations exceed the Table 3 soil quality standards, this material would likely require landfill disposal should it be excavated and require off-Site disposal (i.e., it would not be acceptable to re-use as fill material at another site).

Of the five segments within the Study Area, impacts to soil and sediment quality were relatively limited at Segment 5, with only marginal exceedances of the Table 1 soil quality standards identified for two parameters (PHC F2 and molybdenum). As such, more options may be available for the disposal or re-use of material originating from Segment 5.

The results of TCLP analysis suggest that the impacted sediments would not be characterised as hazardous and could be disposed of at a licensed non-hazardous waste landfill if required. However, due to saturated conditions of soil and sediment, special handling may also be required prior to off-Site disposal.

5.0 LIMITATIONS

This report was prepared for the exclusive use of Landmark Engineers Inc., with reliance extended to the Essex Regional Conservation Authority (ERCA). It is intended to provide an assessment of the current sediment and soil conditions at select sampling locations within five segments of the Central Grand Marais Drain in Windsor, Ontario as designated by Landmark on behalf of the ERCA. Golder Associates Ltd. will not be responsible for any use of this report by any other party.

There is no warranty, expressed or implied, by Golder Associates Ltd. that this assessment has identified all potential contaminants within the Study Area or that the Study Area is free from any and all contamination from past or current practices other than that noted, nor that all issues of environmental compliance have been addressed. The assessment of environmental conditions and potential hazards within the Study Area has been made using the information provided by the Landmark as well as the results of chemical analysis of samples collected on the dates identified and within the specified period of investigation. No assurance is made regarding changes in conditions subsequent to the time of investigation.

The Site conditions in the Study Area have been inferred based on conditions observed at a limited number of sampling locations in accessible areas, and it should be noted that conditions between and beyond sampling locations are expected to vary. In addition, the assessment is dependent upon the accuracy of the analytical data generated through sample analysis and is limited to determining the presence of contaminants for which analyses have been conducted.

In evaluating the conditions in the Study Area, Golder Associates Ltd. has relied in good faith on information provided by individuals and companies noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiency, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretations or fraudulent acts of the persons interviewed or contacted.

Where references have been made to regulatory guidelines and documents, it should be noted that regulatory statutes and guidelines are subject to interpretation and these guidelines and documents and their interpretations may be subject to change over time.

Golder Associates Ltd. accepts no responsibility for the consequential effects of this factual report on the real or perceived environmental liabilities associated with soil and sediment quality or on costs associated with the management of excavated and/or dredged materials (if any).

6.0 CLOSURE

We trust that this information is sufficient for your present purposes. If you have any questions regarding this report or if we can be of further assistance, please feel free to contact the undersigned directly.

GOLDER ASSOCIATES LTD.

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TABLE I

ANALYTICAL RESULTS FOR METALS AND INORGANIC PARAMETERS IN SOIL & SEDIMENT SAMPLES

Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

		RESULTS									
Sample Identification:		SD-101	SD-102	SS-101	SD-201A	SD-201B	SD-201C	SD-202A			
Sample Date:		23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:		0 to 0.08	0 to 0.08	0.15	0.10	0.30 to 0.41	1.53 to 1.68	0.15			
Sample Description:		SANDY GRAVEL	SANDY GRAVEL	SANDY SILTY CLAY	SILTY SAND	SILTY CLAY	SILTY CLAY	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER	UNITS										
Antimony	ug/g	**8.9**	**8.4**	**4.6**	1	1.1	**3.7**	**4.8**	--	1.3	50
Arsenic	ug/g	**22**	3.1	9.7	2.8	4	**6.5**	3.6	6	18	18
Barium	ug/g	89	94	**670**	160	220	**600**	190	--	220	670
Beryllium	ug/g	<0.20	<0.20	0.69	<0.20	0.23	0.4	<0.20	--	2.5	10
Boron (Hot Water Soluble)	ug/g	0.14	--	0.69	0.33	0.8	1.6	0.34	--	--	2
Boron (Total)	ug/g	<5.0	<5.0	6.9	<5.0	<5.0	6.1	<5.0	--	36	120
Cadmium	ug/g	**3.2**	**2.4**	**18**	**7.6**	**14**	**42**	**8.7**	0.6	1.2	1.9
Chromium	ug/g	**46**	**51**	64	**53**	**67**	**260**	**50**	26	70	160
Chromium VI	ug/g	<0.2	--	<0.2	<0.2	<0.2	<0.2	<0.2	--	0.66	10
Cobalt	ug/g	3.5	3	7.4	3.2	8	5.6	3.5	50	21	100
Copper	ug/g	**150**	**73**	**150**	**43**	**65**	**85**	**39**	16	92	300
Lead	ug/g	**92**	**370**	**500**	**48**	**87**	**360**	**78**	31	120	120
Mercury	ug/g	0.053	--	**0.58**	0.14	**0.22**	**0.48**	0.14	0.2	0.27	20
Molybdenum	ug/g	**2.1**	**3.4**	2	1.6	**3**	**3.3**	1.7	--	2	40
Nickel	ug/g	**18**	**18**	56	**20**	**26**	**110**	**23**	16	82	340
pH	pH	7.38	--	7.14	6.86	6.75	6.94	7.14	5-9/5-11[5]	5-9/5-11[5]	5-9/5-11[5]
Selenium	ug/g	<0.50	<0.50	0.99	<0.50	<0.50	1	<0.50	--	1.5	5.5
Silver	ug/g	<0.20	<0.20	**0.61**	<0.20	**2.5**	**1.3**	<0.20	0.5	0.5	50
Thallium	ug/g	0.09	0.074	0.19	0.073	0.097	0.17	0.065	--	1	3.3
Uranium	ug/g	0.67	0.82	1.5	0.48	0.8	1.3	0.45	--	2.5	33
Vanadium	ug/g	9.4	10	23	8	11	14	9.2	--	86	86
Zinc	ug/g	**320**	**290**	**960**	**240**	**450**	**1400**	**250**	120	290	340

Table I Continued

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ANALYTICAL RESULTS FOR METALS AND INORGANIC PARAMETERS IN SOIL & SEDIMENT SAMPLES

		RESULTS									
Sample Identification:		SD-202B	SD-202C	SD-203A	SD-203C	SD-204	SS-201	SD-301A			
Sample Date:		23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:		0.36 to 0.41	1.65 to 1.80	0.15	0.58	0 to 0.20	0.13	0 to 0.15			
Sample Description:		SILTY SAND	SILTY SAND & CLAY	SILTY SAND	SILTY SAND	SANDY SILTY CLAY	SANDY CLAYEY SILT	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER	UNITS										
Antimony	ug/g	1.3	**2.6**	**10**	**5.2**	**2**	0.76	**1.9**	--	1.3	50
Arsenic	ug/g	5.2	5.7	4.7	**8.1**	**6.1**	8.6	4.3	6	18	18
Barium	ug/g	130	**360**	80	**300**	**500**	140	**360**	--	220	670
Beryllium	ug/g	0.21	0.43	0.25	0.36	0.49	0.71	0.25	--	2.5	10
Boron (Hot Water Soluble)	ug/g	0.6	1.2	0.37	1	0.98	0.97	1.3	--	--	2
Boron (Total)	ug/g	<5.0	7.2	<5.0	6.8	<5.0	6.5	5.1	--	36	120
Cadmium	ug/g	**7.2**	**24**	**3.3**	**16**	**75**	**6.8**	**12**	0.6	1.2	1.9
Chromium	ug/g	**88**	**120**	**75**	**130**	**120**	32	**130**	26	70	160
Chromium VI	ug/g	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	0.66	10
Cobalt	ug/g	5.8	4.9	3.9	5.9	6.5	7.8	4.7	50	21	100
Copper	ug/g	**84**	**86**	**220**	**140**	**50**	38	**73**	16	92	300
Lead	ug/g	**68**	**210**	**810**	**270**	**110**	57	**130**	31	120	120
Mercury	ug/g	0.13	**0.37**	0.14	**0.3**	**0.4**	0.084	**0.22**	0.2	0.27	20
Molybdenum	ug/g	**7.7**	**4.7**	**6**	**7.2**	**2.3**	1.7	**7.6**	--	2	40
Nickel	ug/g	**43**	**48**	**31**	**47**	**87**	29	**50**	16	82	340
pH	pH	7.06	6.91	7.46	7.05	7.17	7.27	6.94	5-9/5-11[5]	5-9/5-11[5]	5-9/5-11[5]
Selenium	ug/g	<0.50	0.77	<0.50	0.82	0.89	0.56	0.73	--	1.5	5.5
Silver	ug/g	0.32	0.35	<0.20	0.47	0.22	<0.20	0.27	0.5	0.5	50
Thallium	ug/g	0.079	0.12	0.06	<0.050	0.16	0.18	0.14	--	1	3.3
Uranium	ug/g	0.71	1	0.56	1.2	1.2	1	0.85	--	2.5	33
Vanadium	ug/g	11	15	12	17	20	26	13	--	86	86
Zinc	ug/g	**500**	**820**	**410**	**840**	**800**	200	**600**	120	290	340

Table I Continued

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ANALYTICAL RESULTS FOR METALS AND INORGANIC PARAMETERS IN SOIL & SEDIMENT SAMPLES

		RESULTS									
Sample Identification:		SD-301B	SD-301C	SD-302A	SD-302B	SD-302C	SD-401	SS-401			
Sample Date:		23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:		0.30 to 0.38	2.03 to 2.13	0.15	0.30 to 0.41	2.03 to 2.13	0 to 0.30	0.15			
Sample Description:		SILTY CLAY	SILTY CLAY	SILTY SAND & CLAY	SILTY SAND & CLAY	SILTY CLAY	SILTY CLAY	SANDY SILT	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER	UNITS										
Antimony	ug/g	**3**	**5.3**	**3.2**	**1.8**	**4.9**	**4.6**	1.1	--	1.3	50
Arsenic	ug/g	**7.3**	**10**	**10**	5.8	**9.3**	**11**	**140**	6	18	18
Barium	ug/g	**300**	**350**	**510**	**390**	**420**	**420**	100	--	220	670
Beryllium	ug/g	0.45	0.55	0.5	0.35	0.48	0.65	0.42	--	2.5	10
Boron (Hot Water Soluble)	ug/g	1.7	**2.5**	1.3	1.1	2	1.3	1.3	--	--	2
Boron (Total)	ug/g	8.4	8.8	7.3	6.1	6.6	6.9	9.4	--	36	120
Cadmium	ug/g	**14**	**22**	**45**	**20**	**37**	**11**	1.2	0.6	1.2	1.9
Chromium	ug/g	**93**	**440**	**250**	**130**	**380**	**290**	17	26	70	160
Chromium VI	ug/g	<0.2	0.5	<0.2	<0.2	0.6	<0.2	<0.2	--	0.66	10
Cobalt	ug/g	15	7.9	13	9.7	9.4	8.1	6	50	21	100
Copper	ug/g	**190**	**150**	**210**	**120**	**120**	**110**	26	16	92	300
Lead	ug/g	**170**	**600**	**280**	**150**	**510**	**490**	45	31	120	120
Mercury	ug/g	**0.26**	**0.44**	**0.63**	**0.29**	**0.48**	**0.27**	<0.050	0.2	0.27	20
Molybdenum	ug/g	**6**	**4.8**	**5.9**	**3.8**	**4.9**	**3.5**	**2.9**	--	2	40
Nickel	ug/g	**44**	**180**	**81**	**45**	**180**	**130**	18	16	82	340
pH	pH	6.7	6.98	6.73	6.63	6.96	6.85	7.2	5-9/5-11[5]	5-9/5-11[5]	5-9/5-11[5]
Selenium	ug/g	1	1.2	**2.1**	0.83	1.2	1	0.58	--	1.5	5.5
Silver	ug/g	**4.9**	**0.99**	**2.2**	**2.1**	**1.7**	**1.3**	<0.20	0.5	0.5	50
Thallium	ug/g	0.2	0.27	0.16	0.18	0.096	0.26	0.18	--	1	3.3
Uranium	ug/g	1.3	1.6	1.7	1.1	1.8	1.6	0.63	--	2.5	33
Vanadium	ug/g	21	24	22	15	21	28	17	--	86	86
Zinc	ug/g	**940**	**2200**	**1600**	**800**	**2700**	**1400**	100	120	290	340

Table I Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR METALS AND INORGANIC PARAMETERS IN SOIL & SEDIMENT SAMPLES

		RESULTS							
Sample Identification:		SS-402	SS-403	SS-404	SD-501	SS-501			
Sample Date:		23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:		0.05	0.15	0.20	0 to 0.08	0 to 0.15			
Sample Description:		SILTY SAND	SILTY SAND & GRAVEL	SILTY SAND	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER	UNITS								
Antimony	ug/g	**3.2**	**5.8**	**7.8**	0.27	0.36	--	1.3	50
Arsenic	ug/g	16	**99**	**150**	5.9	6.5	6	18	18
Barium	ug/g	200	100	52	42	58	--	220	670
Beryllium	ug/g	0.53	1.3	0.57	0.34	0.48	--	2.5	10
Boron (Hot Water Soluble)	ug/g	--	0.86	--	0.22	0.31	--	--	2
Boron (Total)	ug/g	7.5	14	11	6.6	6.7	--	36	120
Cadmium	ug/g	**2.1**	1.2	1.1	0.16	0.53	0.6	1.2	1.9
Chromium	ug/g	26	21	26	13	17	26	70	160
Chromium VI	ug/g	--	<0.2	--	<0.2	<0.2	--	0.66	10
Cobalt	ug/g	8.8	9	5.5	6.6	8.3	50	21	100
Copper	ug/g	**130**	**240**	**120**	14	24	16	92	300
Lead	ug/g	**320**	**180**	**210**	7.1	15	31	120	120
Mercury	ug/g	-	0.2	-	<0.050	<0.050	0.2	0.27	20
Molybdenum	ug/g	**3**	**3.3**	**2.7**	1.9	**2.4**	--	2	40
Nickel	ug/g	30	30	25	**17**	23	16	82	340
pH	pH	--	7.12	--	7.61	7.53	5-9/5-11[5]	5-9/5-11[5]	5-9/5-11[5]
Selenium	ug/g	0.52	**2.8**	**2**	<0.50	<0.50	--	1.5	5.5
Silver	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.5	50
Thallium	ug/g	0.06	0.6	0.15	0.088	0.15	--	1	3.3
Uranium	ug/g	0.78	1.1	0.41	0.84	1.2	--	2.5	33
Vanadium	ug/g	25	23	13	18	22	--	86	86
Zinc	ug/g	**460**	**300**	190	44	61	120	290	340

Table I Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR METALS AND INORGANIC PARAMETERS IN SOIL & SEDIMENT SAMPLES

NOTES:

1. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are the Sediment standards for all types of property use. Values listed apply to all textured soils.
2. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are Table 1 full depth background site condition standards for residential/parkland/institutional/industrial/commercial/community property use. Values listed apply to all textured soils.
3. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Table 3 full depth generic site condition standards for commercial/industrial/community property use in a non-potable groundwater condition. Values listed apply to medium and fine textured soils.
4. All depths are expressed as metres below ground surface (mbgs).
5. All values shown as micrograms per gram (ug/g) unless otherwise noted.
6. Criterion applies to surface soil (up to 1.5 m bgs; pH of 5 to 9) and subsurface soil (greater than 1.5 m bgs; pH of 5 to 11).
7. "<" indicates concentration is below the laboratory detection limit.
8. "--" indicates parameter not analyzed or no applicable standard.
9. Values in bold (**XX.XX**) exceed the applicable 2011 MOE Sediment Standard.
10. Values underlined and in bold (**XX.XX**) exceed the applicable 2011 MOE Table 1 Standard.
11. Values underlined, in bold and shaded (**XX.XX**) exceed the applicable 2011 MOE Table 3 Standard.
12. Values in italics (*<XX.XX*) are below the laboratory detection limits; however, the limit exceeds the applicable MOE Sediment Standard.
13. Values underlined and in italics (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 1 Standard.
14. Values underlined, in italics and shaded (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 3 Standard.
15. Table to be read in conjunction with accompanying report.

Prepared By: LC
Checked By: KL

January 2013

12-1134-0179-R01

TABLE II

ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS AND BTEX IN SOIL & SEDIMENT SAMPLES

Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

	RESULTS										
Sample Identification:	SD-101	SD-102	SS-101	SD-201A	SD-201B	SD-201C	SD-202A	SD-202B			
Sample Date:	23/10/2012	23/10/2012	23/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0 to 0.08	0 to 0.08	0.15	0.10	0.30 to 0.41	1.53 to 1.68	0.15	0.36 to 0.41			
Sample Description:	SANDY GRAVEL	SANDY GRAVEL	SANDY SILTY CLAY	SILTY SAND	SILTY CLAY	SILTY CLAY	SILTY SAND	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER											
Benzene	<0.020	--	*<0.040*	<0.020	**0.033**	<0.040	<0.020	<0.020	--	0.02	0.4
Toluene	<0.020	--	**3.9**	0.061	0.078	0.06	0.034	<0.020	--	0.2	78
Ethylbenzene	<0.020	--	**0.16**	**0.06**	**0.084**	<0.040	**0.078**	<0.020	--	0.05	19
Total Xylene	<0.020	--	**0.88**	0.022	**0.11**	**0.25**	0.029	**0.072**	--	0.05	30
PHC F1 (C6-10)	<10	--	<10	<10	<20	**26**	<10	<10	--	25	65
PHC F2 (C>10-16)	**15**	**16**	<10	**45**	**160**	**340**	**29**	**49**	--	10	250
PHC F3 (C>16-34)	230	240	**250**	**690**	**3800**	**3300**	**530**	**2000**	--	240	2500
PHC F4 (C>34-C50)	**130**	**190**	**170**	**560**	**2200**	**1100**	**240**	**650**	--	120	6600
PHC F4 Gravimetric	**1300**	**1100**	**1100**	**2200**	**8700**	**3800**	**1600**	**2300**	--	120	6600

	RESULTS										
Sample Identification:	SD-202C	SD-203A	SD-203C	SD-204	SS-201	SD-301A	SD-301B	SD-301C			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	1.65 to 1.80	0.15	0.58	0 to 0.20	0.13	0 to 0.15	0.30 to 0.38	2.03 to 2.13			
Sample Description:	SILTY SAND & CLAY	SILTY SAND	SILTY SAND	SANDY SILTY CLAY	SANDY CLAYEY SILT	SILTY CLAY	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER											
Benzene	*<0.080*	<0.020	<0.020	**1.9**	<0.020	*<0.16*	*<0.24*	*<0.40*	--	0.02	0.4
Toluene	0.17	<0.020	0.034	**1.8**	<0.020	**0.43**	*<0.24*	**0.52**	--	0.2	78
Ethylbenzene	*<0.080*	<0.020	<0.020	**130**	<0.020	*<0.16*	*<0.24*	*<0.40*	--	0.05	19
Total Xylene	**0.23**	<0.020	<0.020	**43**	<0.020	*<0.16*	*<0.24*	**2.2**	--	0.05	30
PHC F1 (C6-10)	19	<10	<10	**160**	<10	<20	<30	**79**	--	25	65
PHC F2 (C>10-16)	**740**	**28**	**160**	**5900**	<10	**59**	**140**	**3500**	--	10	250
PHC F3 (C>16-34)	**7500**	**670**	**2500**	**19000**	**250**	**2000**	**4900**	**37000**	--	240	2500
PHC F4 (C>34)	**2400**	**350**	**860**	**2100**	**150**	**860**	**2100**	**10000**	--	120	6600
PHC F4 Gravimetric	--	**1400**	**1800**	--	**170**	**3000**	**7100**	--	--	120	6600

Table II Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS AND BTEX IN SOIL & SEDIMENT SAMPLES

	RESULTS										
Sample Identification:	SD-302A	SD-302B	SD-302C	SD-401	SS-401	SS-402	SS-403	SS-404			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.15	0.30 to 0.41	2.03 to 2.13	0 to 0.30	0.15	0.05	0.15	0.20			
Sample Description:	SILTY SAND & CLAY	SILTY SAND & CLAY	SILTY CLAY	SILTY CLAY	SANDY SILT	SILTY SAND	SILTY SAND & GRAVEL	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER											
Benzene	*<0.060*	*<0.48*	*<0.40*	<0.020	<0.020	<0.020	**0.023**	**0.064**	--	0.02	0.4
Toluene	0.19	*<0.48*	*<0.40*	0.1	**1.3**	0.2	**0.22**	**0.31**	--	0.2	78
Ethylbenzene	**0.11**	*<0.48*	*<0.40*	<0.020	**0.21**	0.029	**0.065**	**0.13**	--	0.05	19
Total Xylene	**0.27**	*<0.48*	**2.8**	**0.15**	**1.8**	**0.21**	**0.81**	**1.2**	--	0.05	30
PHC F1 (C6-10)	*<30*	*<30*	**97**	**32**	<10	<10	16	20	--	25	65
PHC F2 (C>10-16)	**160**	**340**	**10000**	**970**	<10	<10	**11**	**34**	--	10	250
PHC F3 (C>16-34)	**7300**	**13000**	**71000**	**8100**	47	**510**	38	**500**	--	240	2500
PHC F4 (C>34-C50)	**7000**	**4600**	**9300**	**1600**	<10	**210**	<10	**250**	--	120	6600
PHC F4 Gravimetric	**20000**	--	--	--	--	**1300**	--	**980**	--	120	6600

	RESULTS										
Sample Identification:	SD-501	SS-501									
Sample Date:	23/10/2012	23/10/2012									
Sample Depth (mbgs)[3]:	0 to 0.08	0 to 0.15									
Sample Description:	SILTY CLAY	SILTY CLAY							MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER											
Benzene	<0.020	<0.020							--	0.02	0.4
Toluene	<0.020	<0.020							--	0.2	78
Ethylbenzene	<0.020	<0.020							--	0.05	19
Total Xylene	<0.020	<0.020							--	0.05	30
PHC F1 (C6-10)	<10	<10							--	25	65
PHC F2 (C>10-16)	<10	**11**							--	10	250
PHC F3 (C>16-34)	<10	38							--	240	2500
PHC F4 (C>34)	<10	<10							--	120	6600
PHC F4 Gravimetric	--	--							--	120	6600

Table II Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS AND BTEX IN SOIL & SEDIMENT SAMPLES

NOTES:

1. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are the Sediment standards for all types of property use. Values listed apply to all textured soils.
2. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are Table 1 full depth background site condition standards for residential/parkland/institutional/industrial/commercial/community property use. Values listed apply to all textured soils.
3. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Table 3 full depth generic site condition standards for commercial/industrial/community property use in a non-potable groundwater condition. Values listed apply to medium and fine textured soils.
4. All depths are expressed as metres below ground surface (mbgs).
5. All values shown as micrograms per gram (ug/g) unless otherwise noted.
6. "<" indicates concentration is below the laboratory detection limit.
7. "--" indicates parameter not analyzed or no applicable standard.
8. Total Xylene represents the sum of p+m- and o-xylenes.
9. PHC F1 (C6-10) values do not include BTEX.
10. Values in bold (**XX.XX**) exceed the applicable 2011 MOE Sediment Standard.
11. Values underlined and in bold (**XX.XX**) exceed the applicable 2011 MOE Table 1 Standard.
12. Values underlined, in bold and shaded (**XX.XX**) exceed the applicable 2011 MOE Table 3 Standard.
13. Values in italics (*<XX.XX*) are below the laboratory detection limits; however, the limit exceeds the applicable MOE Sediment Standard.
14. Values underlined and in italics (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 1 Standard.
15. Values underlined, in italics and shaded (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 3 Standard.
16. Table to be read in conjunction with accompanying report.

Prepared By: LC
Checked By: KL

TABLE III

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

	RESULTS							
Sample Identification:	SD-101	SS-101	SD-201A	SD-201B	SD-201C			
Sample Date:	23/10/2012	23/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0 to 0.08	0.15	0.10	0.30 to 0.41	1.53 to 1.68			
Sample Description:	SANDY GRAVEL	SANDY SILTY CLAY	SILTY SAND	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER								
Acetone	<0.50	*<1.0*	<0.50	<0.50	*<1.0*	--	0.5	28
Benzene	<0.020	*<0.040*	<0.020	**0.033**	*<0.040*	--	0.02	0.4
Bromodichloromethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	18
Bromoform	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	1.7
Bromomethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.05
Carbon Tetrachloride	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	1.5
Chlorobenzene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	2.7
Chloroform	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.18
Dibromochloromethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	13
1,2-Dichlorobenzene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	8.5
1,3-Dichlorobenzene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	12
1,4-Dichlorobenzene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.84
1,1-Dichloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	21
1,2-Dichloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.05
1,1-Dichloroethylene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.48
Cis-1,2-Dichloroethylene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	37
Trans-1,2-Dichloroethylene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	9.3
1,2-Dichloropropane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.68
Cis-1,3-Dichloropropylene	<0.030	*<0.060*	<0.030	<0.030	*<0.060*	--	0.05	0.21
Trans-1,3-Dichloropropylene	<0.040	*<0.080*	<0.040	<0.040	*<0.080*	--	0.05	0.21
1,3-Dichloropropylene (Total)	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.21
Ethylbenzene	<0.020	**0.16**	**0.06**	**0.084**	<0.040	--	0.05	19
Ethylene Dibromide	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.05
Methyl Ethyl Ketone	<0.50	*<1.0*	<0.50	<0.50	*<1.0*	--	0.5	88
Methylene Chloride	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	2
Methyl Isobutyl Ketone	<0.50	*<1.0*	<0.50	<0.50	*<1.0*	--	0.5	210
Methyl-t-Butyl Ether	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	3.2
Styrene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	43
1,1,1,2-Tetrachloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.11
1,1,2,2-Tetrachloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.094
Toluene	<0.020	**3.9**	0.061	0.078	0.06	--	0.2	78
Tetrachloroethylene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	21
1,1,1-Trichloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	12
1,1,2-Trichloroethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.11
Trichloroethylene	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	0.61
Vinyl Chloride	<0.020	*<0.040*	<0.020	<0.020	*<0.040*	--	0.02	0.25
m-Xylene & p-Xylene	<0.020	0.64	0.022	0.066	0.1	--	--	--
o-Xylene	<0.020	0.24	<0.020	0.045	0.15	--	--	--
Xylenes (Total)	<0.020	**0.88**	0.022	**0.11**	**0.25**	--	0.05	30
Dichlorodifluoromethane	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	25
Hexane(n)	<0.050	*<0.10*	<0.050	<0.050	*<0.10*	--	0.05	88
Trichlorofluoromethane	<0.050	<0.10	<0.050	<0.050	<0.10	--	0.25	5.8

Table III Continued

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

	RESULTS							
Sample Identification:	SD-202A	SD-202B	SD-202C	SD-203A	SD-203C			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0.15	0.36 to 0.41	1.65 to 1.80	0.15	0.58			
Sample Description:	SILTY SAND	SILTY SAND	SILTY SAND & CLAY	SILTY SAND	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER								
Acetone	<0.50	<0.50	*<2.0*	<0.50	<0.50	--	0.5	28
Benzene	<0.020	<0.020	*<0.080*	<0.020	<0.020	--	0.02	0.4
Bromodichloromethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	18
Bromoform	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	1.7
Bromomethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.05
Carbon Tetrachloride	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	1.5
Chlorobenzene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	2.7
Chloroform	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.18
Dibromochloromethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	13
1,2-Dichlorobenzene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	8.5
1,3-Dichlorobenzene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	12
1,4-Dichlorobenzene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.84
1,1-Dichloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	21
1,2-Dichloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.05
1,1-Dichloroethylene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.48
Cis-1,2-Dichloroethylene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	37
Trans-1,2-Dichloroethylene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	9.3
1,2-Dichloropropane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.68
Cis-1,3-Dichloropropylene	<0.030	<0.030	*<0.12*	<0.030	<0.030	--	0.05	0.21
Trans-1,3-Dichloropropylene	<0.040	<0.040	*<0.16*	<0.040	<0.040	--	0.05	0.21
1,3-Dichloropropylene (Total)	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.21
Ethylbenzene	**0.078**	<0.020	*<0.080*	<0.020	<0.020	--	0.05	19
Ethylene Dibromide	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.05
Methyl Ethyl Ketone	<0.50	<0.50	*<2.0*	<0.50	<0.50	--	0.5	88
Methylene Chloride	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	2
Methyl Isobutyl Ketone	<0.50	<0.50	*<2.0*	<0.50	<0.50	--	0.5	210
Methyl-t-Butyl Ether	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	3.2
Styrene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	43
1,1,1,2-Tetrachloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.11
1,1,2,2-Tetrachloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.094
Toluene	0.034	<0.020	0.17	<0.020	0.034	--	0.2	78
Tetrachloroethylene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	21
1,1,1-Trichloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	12
1,1,2-Trichloroethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.11
Trichloroethylene	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	0.61
Vinyl Chloride	<0.020	<0.020	*<0.080*	<0.020	<0.020	--	0.02	0.25
m-Xylene & p-Xylene	0.029	0.072	0.14	<0.020	<0.020	--	--	--
o-Xylene	<0.020	<0.020	0.084	<0.020	<0.020	--	--	--
Xylenes (Total)	0.029	**0.072**	**0.23**	<0.020	<0.020	--	0.05	30
Dichlorodifluoromethane	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	25
Hexane(n)	<0.050	<0.050	*<0.20*	<0.050	<0.050	--	0.05	88
Trichlorofluoromethane	<0.050	<0.050	<0.20	<0.050	<0.050	--	0.25	5.8

Table III Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

	RESULTS							
Sample Identification:	SD-204	SS-201	SD-301A	SD-301B	SD-301C			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0 to 0.20	0.13	0 to 0.15	0.30 to 0.38	2.03 to 2.13			
Sample Description:	SANDY SILTY CLAY	SANDY CLAYEY SILT	SILTY CLAY	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER								
Acetone	*<40*	<0.50	*<4.0*	*<6.0*	*<10*	--	0.5	28
Benzene	**1.9**	<0.020	*<0.16*	*<0.24*	*<0.40*	--	0.02	0.4
Bromodichloromethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	18
Bromoform	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	1.7
Bromomethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.05
Carbon Tetrachloride	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	1.5
Chlorobenzene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	2.7
Chloroform	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.18
Dibromochloromethane	*<4.0*	<0.050	*<0.40*	<0.60	*<1.0*	--	0.05	13
1,2-Dichlorobenzene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	8.5
1,3-Dichlorobenzene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	12
1,4-Dichlorobenzene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.84
1,1-Dichloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	21
1,2-Dichloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.05
1,1-Dichloroethylene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.48
Cis-1,2-Dichloroethylene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	37
Trans-1,2-Dichloroethylene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	9.3
1,2-Dichloropropane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.68
Cis-1,3-Dichloropropylene	*<2.4*	<0.030	*<0.24*	*<0.36*	*<0.60*	--	0.05	0.21
Trans-1,3-Dichloropropylene	*<3.2*	<0.040	*<0.32*	*<0.48*	*<0.80*	--	0.05	0.21
1,3-Dichloropropylene (Total)	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.21
Ethylbenzene	**130**	<0.020	*<0.16*	*<0.24*	*<0.40*	--	0.05	19
Ethylene Dibromide	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.05
Methyl Ethyl Ketone	*<40*	<0.50	*<4.0*	*<6.0*	*<10*	--	0.5	88
Methylene Chloride	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	2
Methyl Isobutyl Ketone	*<40*	<0.50	*<4.0*	*<6.0*	*<10*	--	0.5	210
Methyl-t-Butyl Ether	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	3.2
Styrene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	43
1,1,1,2-Tetrachloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.11
1,1,2,2-Tetrachloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.094
Toluene	**1.8**	<0.020	**0.43**	*<0.24*	**0.52**	--	0.2	78
Tetrachloroethylene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	21
1,1,1-Trichloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	12
1,1,2-Trichloroethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.11
Trichloroethylene	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	0.61
Vinyl Chloride	*<1.6*	<0.020	*<0.16*	*<0.24*	*<0.40*	--	0.02	0.25
m-Xylene & p-Xylene	25	<0.020	<0.16	<0.24	0.87	--	--	--
o-Xylene	18	<0.020	<0.16	<0.24	1.3	--	--	--
Xylenes (Total)	**43**	<0.020	*<0.16*	*<0.24*	**2.2**	--	0.05	30
Dichlorodifluoromethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	25
Hexane(n)	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.05	88
Trichlorofluoromethane	*<4.0*	<0.050	*<0.40*	*<0.60*	*<1.0*	--	0.25	5.8

Table III Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

	RESULTS							
Sample Identification:	SD-302A	SD-302B	SD-302C	SD-401	SS-401			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.15	0.30 to 0.38	2.03 to 2.13	o to 0.30	0.15			
Sample Description:	SILTY SAND & CLAY	SILTY SAND & CLAY	SILTY CLAY	SILTY CLAY	SANDY SILT	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER								
Acetone	*<1.5*	*<12*	*<10*	<0.50	<0.50	--	0.5	28
Benzene	*<0.060*	*<0.48*	*<0.40*	<0.020	<0.020	--	0.02	0.4
Bromodichloromethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	18
Bromoform	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	1.7
Bromomethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.05
Carbon Tetrachloride	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	1.5
Chlorobenzene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	2.7
Chloroform	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.18
Dibromochloromethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	13
1,2-Dichlorobenzene	*<0.15*	*<1.2*	**1.9**	**0.28**	<0.050	--	0.05	8.5
1,3-Dichlorobenzene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	12
1,4-Dichlorobenzene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.84
1,1-Dichloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	21
1,2-Dichloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.05
1,1-Dichloroethylene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.48
Cis-1,2-Dichloroethylene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	37
Trans-1,2-Dichloroethylene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	9.3
1,2-Dichloropropane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.68
Cis-1,3-Dichloropropylene	*<0.090*	*<0.72*	*<0.60*	<0.030	<0.030	--	0.05	0.21
Trans-1,3-Dichloropropylene	*<0.12*	*<0.96*	*<0.80*	<0.040	<0.040	--	0.05	0.21
1,3-Dichloropropylene (Total)	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.21
Ethylbenzene	**0.11**	*<0.48*	*<0.40*	<0.020	**0.21**	--	0.05	19
Ethylene Dibromide	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.05
Methyl Ethyl Ketone	*<1.5*	*<12*	*<10*	<0.50	<0.50	--	0.5	88
Methylene Chloride	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	2
Methyl Isobutyl Ketone	*<1.5*	*<12*	*<10*	<0.50	<0.50	--	0.5	210
Methyl-t-Butyl Ether	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	3.2
Styrene	**0.18**	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	43
1,1,1,2-Tetrachloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.11
1,1,2,2-Tetrachloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.094
Toluene	0.19	*<0.48*	*<0.40*	0.1	**1.3**	--	0.2	78
Tetrachloroethylene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	21
1,1,1-Trichloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	12
1,1,2-Trichloroethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.11
Trichloroethylene	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	0.61
Vinyl Chloride	*<0.060*	*<0.48*	*<0.40*	<0.020	<0.020	--	0.02	0.25
m-Xylene & p-Xylene	0.16	<0.48	1	0.11	1.2	--	--	--
o-Xylene	0.11	<0.48	1.7	0.036	0.57	--	--	--
Xylenes (Total)	**0.27**	*<0.48*	**2.8**	**0.15**	**1.8**	--	0.05	30
Dichlorodifluoromethane	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	25
Hexane(n)	*<0.15*	*<1.2*	*<1.0*	<0.050	<0.050	--	0.05	88
Trichlorofluoromethane	<0.15	*<1.2*	*<1.0*	<0.050	<0.050	--	0.25	5.8

Table III Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

	RESULTS					
Sample Identification:	SS-403	SD-501	SS-501			
Sample Date:	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0.15	0 to 0.08	o to 0.15			
Sample Description:	SILTY SAND & GRAVEL	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER						
Acetone	<0.50	<0.50	<0.50	--	0.5	28
Benzene	**0.023**	<0.020	<0.020	--	0.02	0.4
Bromodichloromethane	<0.050	<0.050	<0.050	--	0.05	18
Bromoform	<0.050	<0.050	<0.050	--	0.05	1.7
Bromomethane	<0.050	<0.050	<0.050	--	0.05	0.05
Carbon Tetrachloride	<0.050	<0.050	<0.050	--	0.05	1.5
Chlorobenzene	<0.050	<0.050	<0.050	--	0.05	2.7
Chloroform	<0.050	<0.050	<0.050	--	0.05	0.18
Dibromochloromethane	<0.050	<0.050	<0.050	--	0.05	13
1,2-Dichlorobenzene	<0.050	<0.050	<0.050	--	0.05	8.5
1,3-Dichlorobenzene	<0.050	<0.050	<0.050	--	0.05	12
1,4-Dichlorobenzene	<0.050	<0.050	<0.050	--	0.05	0.84
1,1-Dichloroethane	<0.050	<0.050	<0.050	--	0.05	21
1,2-Dichloroethane	<0.050	<0.050	<0.050	--	0.05	0.05
1,1-Dichloroethylene	<0.050	<0.050	<0.050	--	0.05	0.48
Cis-1,2-Dichloroethylene	<0.050	<0.050	<0.050	--	0.05	37
Trans-1,2-Dichloroethylene	<0.050	<0.050	<0.050	--	0.05	9.3
1,2-Dichloropropane	<0.050	<0.050	<0.050	--	0.05	0.68
Cis-1,3-Dichloropropylene	<0.030	<0.030	<0.030	--	0.05	0.21
Trans-1,3-Dichloropropylene	<0.040	<0.040	<0.040	--	0.05	0.21
1,3-Dichloropropylene (Total)	<0.050	<0.050	<0.050	--	0.05	0.21
Ethylbenzene	**0.065**	<0.020	<0.020	--	0.05	19
Ethylene Dibromide	<0.050	<0.050	<0.050	--	0.05	0.05
Methyl Ethyl Ketone	<0.50	<0.50	<0.50	--	0.5	88
Methylene Chloride	<0.050	<0.050	<0.050	--	0.05	2
Methyl Isobutyl Ketone	<0.50	<0.50	<0.50	--	0.5	210
Methyl-t-Butyl Ether	<0.050	<0.050	<0.050	--	0.05	3.2
Styrene	<0.050	<0.050	<0.050	--	0.05	43
1,1,1,2-Tetrachloroethane	<0.050	<0.050	<0.050	--	0.05	0.11
1,1,2,2-Tetrachloroethane	<0.050	<0.050	<0.050	--	0.05	0.094
Toluene	**0.22**	<0.020	<0.020	--	0.2	78
Tetrachloroethylene	<0.050	<0.050	<0.050	--	0.05	21
1,1,1-Trichloroethane	<0.050	<0.050	<0.050	--	0.05	12
1,1,2-Trichloroethane	<0.050	<0.050	<0.050	--	0.05	0.11
Trichloroethylene	<0.050	<0.050	<0.050	--	0.05	0.61
Vinyl Chloride	<0.020	<0.020	<0.020	--	0.02	0.25
m-Xylene & p-Xylene	0.43	<0.020	<0.020	--	--	--
o-Xylene	0.38	<0.020	<0.020	--	--	--
Xylenes (Total)	**0.81**	<0.020	<0.020	--	0.05	30
Dichlorodifluoromethane	<0.050	<0.050	<0.050	--	0.05	25
Hexane(n)	**0.067**	<0.050	<0.050	--	0.05	88
Trichlorofluoromethane	<0.050	<0.050	<0.050	--	0.25	5.8

Table III Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL & SEDIMENT SAMPLES

NOTES:

1. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are the Sediment standards for all types of property use. Values listed apply to all textured soils.
2. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are Table 1 full depth background site condition standards for residential/parkland/institutional/industrial/commercial/community property use. Values listed apply to all textured soils.
3. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Table 3 full depth generic site condition standards for commercial/industrial/community property use in a non-potable groundwater condition. Values listed apply to medium and fine textured soils.
4. All depths are expressed as metres below ground surface (mbgs).
5. All values shown as micrograms per gram (ug/g) unless otherwise noted.
6. "<" indicates concentration is below the laboratory detection limit.
7. "--" indicates parameter not analyzed or no applicable standard.
8. Xylenes (Total) represents the sum of p+m- and o-xylenes.
9. 1,3-Dichloropone (Total) represents the sum of cis- and tris-1,3-Dichloropropene.
10. Values in bold (**XX.XX**) exceed the applicable 2011 MOE Sediment Standard.
11. Values underlined and in bold (**XX.XX**) exceed the applicable 2011 MOE Table 1 Standard.
12. Values underlined, in bold and shaded (**XX.XX**) exceed the applicable 2011 MOE Table 3 Standard.
13. Values in italics (<*XX.XX*) are below the laboratory detection limits; however, the limit exceeds the applicable MOE Sediment Standard
14. Values underlined and in italics (<*XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 1 Standard.
15. Values underlined, in italics and shaded (<*XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 3 Standard.
16. Table to be read in conjunction with accompanying report.

Prepared By: LC
Checked By: KL

January 2013

12-1134-0179-R01

TABLE IV

ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL & SEDIMENT SAMPLES

Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

	RESULTS									
Sample Identification:	SD-101	SD-102	SS-101	SD-201A	SD-201B	SD-201C	SD-202A			
Sample Date:	23/10/2012	23/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0 to 0.08	0 to 0.08	0.15	0.10	0.30 to 0.41	1.53 to 1.68	0.15			
Sample Description:	SANDY GRAVEL	SANDY GRAVEL	SANDY SILTY CLAY	SILTY SAND	SILTY CLAY	SILTY CLAY	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Acenaphthene	0.053	<0.050	**0.1**	**0.22**	**1.4**	**1.6**	**0.23**	--	0.072	96
Acenaphthylene	<0.050	<0.050	0.082	**0.18**	*<1.0*	**0.64**	**0.098**	--	0.093	0.17
Anthracene	0.16	<0.050	**0.41**	**0.32**	**1.3**	**1.3**	**0.42**	0.22	0.16	0.74
Benzo(a)anthracene	**0.55**	0.18	**1.9**	**0.81**	**2**	**2.9**	**1.3**	0.32	0.36	0.96
Benzo(a)pyrene	**0.41**	0.16	**1.6**	**0.55**	**1.5**	**2**	**0.84**	0.37	0.3	0.3
Benzo(b/j)fluoranthene	**0.64**	0.24	**2**	**0.78**	**2.6**	**3.4**	**1.1**	--	0.47	0.96
Benzo(ghi)perylene	**0.27**	0.13	**1.1**	**0.37**	**1.1**	**1.2**	**0.5**	0.17	0.68	9.6
Benzo(k)fluoranthene	0.22	0.087	**0.82**	**0.27**	*<1.0*	**0.92**	**0.36**	0.24	0.48	0.96
Chrysene	**0.47**	0.19	1.5	**0.71**	**2.5**	**3.5**	**1.1**	0.34	2.8	9.6
Dibenzo(a,h)anthracene	0.059	<0.050	**0.24**	**0.081**	*<1.0*	*<0.50*	**0.12**	0.06	0.1	0.1
Fluoranthene	**1.2**	0.51	**3.6**	**2**	**5.6**	**5.2**	**3.4**	0.75	0.56	9.6
Fluorene	0.068	<0.050	0.11	**0.25**	**1.1**	**1.3**	**0.24**	0.19	0.12	69
Indeno(1,2,3-cd)pyrene	**0.29**	0.12	**1.1**	**0.38**	**1**	**1.1**	**0.56**	0.2	0.23	0.95
1-Methylnaphthalene[7]	<0.050	<0.050	0.1	0.2	**1.1**	**1.9**	0.14	--	0.59	85
2-Methylnaphthalene[7]	<0.050	<0.050	0.14	0.16	**1.1**	**1.9**	0.13	--	0.59	85
Methylnapthalene (Total)[7]	<0.071	<0.071	0.24	0.35	**2.2**	**3.8**	0.27	--	0.59	85
Naphthalene	<0.050	<0.050	0.078	**0.2**	*<1.0*	*<0.50*	**0.2**	--	0.09	28
Phenanthrene	**0.6**	0.22	**1.7**	**2**	**5.9**	**8.9**	**2.1**	0.56	0.69	16
Pyrene	**1**	0.41	**3.1**	**1.7**	**4.4**	**4.8**	**2.4**	0.49	1	96

Table IV Continued

ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL & SEDIMENT SAMPLES

	RESULTS									
Sample Identification:	SD-202B	SD-202C	SD-203A	SD-203C	SD-204	SS-201	SD-301A			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0.36 to 0.41	1.65 to 1.80	0.15	0.58	0 to 0.20	0.13	0 to 0.15			
Sample Description:	SILTY SAND	SILTY SAND & CLAY	SILTY SAND	SILTY SAND	SANDY SILTY CLAY	SANDY CLAYEY SILT	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Acenaphthene	**0.13**	**4.7**	**0.094**	**0.17**	**89**	<0.050	**0.53**	--	0.072	96
Acenaphthylene	0.037	*<1.0*	<0.050	0.053	**3.3**	**0.78**	**0.11**	--	0.093	0.17
Anthracene	0.16	**2**	0.12	0.16	**24**	**0.42**	**1.2**	0.22	0.16	0.74
Benzo(a)anthracene	**0.5**	**1.6**	0.31	0.31	**9.7**	**0.96**	**5.1**	0.32	0.36	0.96
Benzo(a)pyrene	**0.49**	**1.2**	0.26	0.23	**2.8**	**0.87**	**4.2**	0.37	0.3	0.3
Benzo(b/j)fluoranthene	**0.81**	**2**	0.41	0.4	**4.4**	**1.8**	**5.2**	--	0.47	0.96
Benzo(ghi)perylene	**0.31**	**1**	**0.22**	0.14	*<1.0*	0.66	**2.9**	0.17	0.68	9.6
Benzo(k)fluoranthene	**0.29**	*<1.0*	0.14	0.15	**1.1**	0.38	**1.6**	0.24	0.48	0.96
Chrysene	**0.55**	**2.1**	**0.45**	**0.35**	**10**	1.6	**6**	0.34	2.8	9.6
Dibenzo(a,h)anthracene	**0.078**	*<1.0*	<0.050	0.033	*<1.0*	**0.25**	**0.58**	0.06	0.1	0.1
Fluoranthene	**1.5**	**4.9**	**1**	**0.91**	**20**	**0.98**	**15**	0.75	0.56	9.6
Fluorene	**0.14**	**2.2**	0.09	**0.18**	**41**	0.11	**0.62**	0.19	0.12	69
Indeno(1,2,3-cd)pyrene	**0.32**	*<1.0*	0.19	0.12	*<1.0*	**0.74**	**3.1**	0.2	0.23	0.95
1-Methylnaphthalene[7]	0.079	**4.4**	0.054	0.16	**120**	<0.050	0.18	--	0.59	85
2-Methylnaphthalene[7]	0.035	**4.3**	<0.050	0.11	**150**	0.054	0.26	--	0.59	85
Methylnapthalene (Total)[7]	0.11	**8.7**	<0.071	0.27	**270**	<0.071	0.44	--	0.59	85
Naphthalene	0.033	*<1.0*	0.06	0.054	**250**	<0.050	**0.29**	--	0.09	28
Phenanthrene	**0.98**	**11**	**0.66**	**0.81**	**120**	0.49	**7.6**	0.56	0.69	16
Pyrene	**1.2**	**4**	**0.79**	**0.75**	**19**	**1.3**	**11**	0.49	1	96

Table IV Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL & SEDIMENT SAMPLES

	RESULTS									
Sample Identification:	SD-301B	SD-301C	SD-302A	SD-302B	SD-302C	SD-401	SS-401			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.30 to 0.38	2.03 to 2.13	0.15	0.30 to 0.41	2.03 to 2.13	0 to 0.30	0.15			
Sample Description:	SILTY CLAY	SILTY CLAY	SILTY SAND & CLAY	SILTY SAND & CLAY	SILTY CLAY	SILTY CLAY	SANDY SILT	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Acenaphthene	*<1.0*	*<1.0*	**0.53**	*<1.0*	**5**	*<1.0*	<0.0050	--	0.072	96
Acenaphthylene	*<1.0*	*<1.0*	**0.24**	*<1.0*	*<1.0*	*<1.0*	0.023	--	0.093	0.17
Anthracene	**2**	**1.7**	**1.1**	*<1.0*	**3.3**	*<1.0*	0.025	0.22	0.16	0.74
Benzo(a)anthracene	**7.1**	**3.8**	**4.7**	**1.9**	**2.1**	*<1.0*	0.077	0.32	0.36	0.96
Benzo(a)pyrene	**6.6**	**2.7**	**3.6**	**1.7**	**1.4**	*<1.0*	0.077	0.37	0.3	0.3
Benzo(b/j)fluoranthene	**10**	**4.2**	**4.8**	**3.1**	**2.1**	*<1.0*	0.14	--	0.47	0.96
Benzo(ghi)perylene	**5.2**	**2**	**2.5**	**1.5**	**1**	*<1.0*	0.06	0.17	0.68	9.6
Benzo(k)fluoranthene	**3.8**	**1.5**	**1.5**	*<1.0*	*<1.0*	*<1.0*	0.051	0.24	0.48	0.96
Chrysene	**9.4**	**5**	**5.9**	**3.2**	**2.2**	*<1.0*	0.075	0.34	2.8	9.6
Dibenzo(a,h)anthracene	*<1.0*	*<1.0*	**0.51**	*<1.0*	*<1.0*	*<1.0*	0.014	0.06	0.1	0.1
Fluoranthene	**22**	**11**	**13**	**6**	**6.4**	**1.6**	0.13	0.75	0.56	9.6
Fluorene	*<1.0*	**1.6**	**0.61**	*<1.0*	**8**	*<1.0*	<0.0050	0.19	0.12	69
Indeno(1,2,3-cd)pyrene	**4.7**	**1.5**	**2.5**	**1.3**	*<1.0*	*<1.0*	0.059	0.2	0.23	0.95
1-Methylnaphthalene[7]	*<1.0*	**2.4**	0.29	*<1.0*	**14**	<1.0	0.023	--	0.59	85
2-Methylnaphthalene[7]	*<1.0*	**3**	0.38	*<1.0*	**19**	*<1.0*	0.03	--	0.59	85
Methylnapthalene (Total)[7]	*<1.4*	**5.4**	**0.67**	*<1.4*	**33**	*<1.4*	0.053	--	0.59	85
Naphthalene	*<1.0*	*<1.0*	**0.49**	*<1.0*	*<1.0*	*<1.0*	0.036	--	0.09	28
Phenanthrene	**11**	**8.5**	**6.1**	**3.4**	**21**	**2**	0.071	0.56	0.69	16
Pyrene	**17**	**8.6**	**10**	**5**	**6**	**1.5**	0.11	0.49	1	96

Table IV Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL & SEDIMENT SAMPLES

	RESULTS					
Sample Identification:	SS-403	SD-501	SS-501			
Sample Date:	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.15	0 to 0.08	0 to 0.15			
Sample Description:	SILTY SAND & GRAVEL	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER						
Acenaphthene	<0.050	<0.0050	0.017	--	0.072	96
Acenaphthylene	**0.15**	<0.0050	0.043	--	0.093	0.17
Anthracene	0.13	<0.0050	0.028	0.22	0.16	0.74
Benzo(a)anthracene	0.28	<0.0050	0.038	0.32	0.36	0.96
Benzo(a)pyrene	0.17	<0.0050	0.031	0.37	0.3	0.3
Benzo(b/j)fluoranthene	0.34	0.0056	0.05	--	0.47	0.96
Benzo(ghi)perylene	0.11	0.011	0.023	0.17	0.68	9.6
Benzo(k)fluoranthene	0.11	<0.0050	0.013	0.24	0.48	0.96
Chrysene	0.28	0.0059	0.034	0.34	2.8	9.6
Dibenzo(a,h)anthracene	<0.050	<0.0050	0.0076	0.06	0.1	0.1
Fluoranthene	0.53	0.0067	0.044	0.75	0.56	9.6
Fluorene	<0.050	<0.0050	0.015	0.19	0.12	69
Indeno(1,2,3-cd)pyrene	0.11	<0.0050	0.017	0.2	0.23	0.95
1-Methylnaphthalene[7]	0.35	<0.0050	0.039	--	0.59	85
2-Methylnaphthalene[7]	0.41	<0.0050	0.016	--	0.59	85
Methylnapthalene (Total)[7]	**0.76**	<0.0071	0.055	--	0.59	85
Naphthalene	**0.27**	<0.0050	0.021	--	0.09	28
Phenanthrene	0.48	0.0067	0.074	0.56	0.69	16
Pyrene	0.47	0.0094	0.05	0.49	1	96

NOTES:

1. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are the Sediment standards for all types of property use. Values listed apply to all textured soils.
2. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are Table 1 full depth background site condition standards for residential/parkland/institutional/industrial/commercial/community property use. Values listed apply to all textured soils.
3. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Table 3 full depth generic site condition standards for commercial/industrial/community property use in a non-potable groundwater condition. Values listed apply to medium and fine textured soils.
4. All depths are expressed as metres below ground surface (mbgs).
5. All values shown as micrograms per gram (ug/g) unless otherwise noted.
6. "<" indicates concentration is below the laboratory detection limit.
7. "--" indicates parameter not analyzed or no applicable standard.
8. If both methylnaphthalenes are detected, then the sum of the two must not exceed the standard.
9. Values in bold (**XX.XX**) exceed the applicable 2011 MOE Sediment Standard.
10. Values underlined and in bold (**XX.XX**) exceed the applicable 2011 MOE Table 1 Standard.
11. Values underlined, in bold and shaded (**XX.XX**) exceed the applicable 2011 MOE Table 3 Standard.
12. Values in italics (*<XX.XX*) are below the laboratory detection limits; however, the limit exceeds the applicable MOE Sediment Standard
13. Values underlined and in italics (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 1 Standard.
14. Values underlined, in italics and shaded (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 3 Standard.
15. Table to be read in conjunction with accompanying report.

Prepared By: LC
Checked By: KL

TABLE V

ANALYTICAL RESULTS FOR POLYCHLORINATED BIPHENYLS IN SOIL & SEDIMENT SAMPLES

Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

	RESULTS									
Sample Identification:	SD-101	SD-102	SS-101	SD-201A	SD-201B	SD-201C	SD-202A			
Sample Date:	23/10/2012	23/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0 to 0.08	0 to 0.08	0.15	0.10	0.30 to 0.41	1.53 to 1.68	0.15			
Sample Description:	SANDY GRAVEL	SANDY GRAVEL	SANDY SILTY CLAY	SILTY SAND	SILTY CLAY	SILTY CLAY	SILTY SAND	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Aroclor 1016	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Aroclor 1221	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Aroclor 1232	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Aroclor 1242	<0.010	<0.010	<0.010	0.010	0.046	0.13	<0.010	--	--	--
Aroclor 1248	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Aroclor 1254	0.065	0.071	0.17	0.099	0.29	0.34	0.057	--	--	--
Aroclor 1260	0.060	0.053	0.27	0.12	0.38	0.54	0.074	--	--	--
Aroclor 1262	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Aroclor 1268	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	--	--	--
Total PCB	**0.12**	**0.12**	**0.44**	**0.23**	**0.71**	**1.0**	**0.13**	0.07	0.3	1.1

Sample Identification:	SD-202B	SD-202C	SD-203A	SD-203C	SD-204	SS-201	SD-301A			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012			
Sample Depth (mbgs)[3]:	0.36 to 0.41	1.65 to 1.80	0.15	0.58	0 to 0.20	0.13	0 to 0.15			
Sample Description:	SILTY SAND	SILTY SAND & CLAY	SILTY SAND	SILTY SAND	SANDY SILTY CLAY	SANDY CLAYEY SILT	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Aroclor 1016	<0.010	<0.050	<0.010	<0.010	<0.10	<0.010	<0.020	--	--	--
Aroclor 1221	<0.010	<0.050	<0.010	<0.010	<0.10	<0.010	<0.020	--	--	--
Aroclor 1232	<0.010	<0.050	<0.010	<0.010	<0.10	<0.010	<0.020	--	--	--
Aroclor 1242	0.031	0.41	0.070	0.10	<0.10	<0.010	<0.020	--	--	--
Aroclor 1248	<0.010	<0.050	<0.010	<0.010	<0.10	<0.010	<0.020	--	--	--
Aroclor 1254	0.10	0.44	0.081	0.20	0.51	<0.010	0.79	--	--	--
Aroclor 1260	0.10	0.52	0.047	0.18	0.39	0.069	0.89	--	--	--
Aroclor 1262	<0.010	<0.050	<0.010	<0.010	<0.020	<0.010	<0.020	--	--	--
Aroclor 1268	<0.010	<0.050	<0.010	<0.010	<0.020	<0.010	<0.020	--	--	--
Total PCB	**0.24**	**1.4**	**0.20**	**0.48**	**0.89**	0.069	**1.7**	0.07	0.3	1.1

Table V Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR POLYCHLORINATED BIPHENYLS IN SOIL & SEDIMENT SAMPLES

	RESULTS									
Sample Identification:	SD-301B	SD-301C	SD-302A	SD-302B	SD-302C	SD-401	SS-401			
Sample Date:	24/10/2012	24/10/2012	24/10/2012	24/10/2012	24/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.30 to 0.38	2.03 to 2.13	0.15	0.30 to 0.41	2.03 to 2.13	0 to 0.30	0.15			
Sample Description:	SILTY CLAY	SILTY CLAY	SILTY SAND & CLAY	SILTY SAND & CLAY	SILTY CLAY	SILTY CLAY	SANDY SILT	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER										
Aroclor 1016	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Aroclor 1221	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Aroclor 1232	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Aroclor 1242	0.13	0.29	<0.10	0.14	0.94	0.25	<0.010	--	--	--
Aroclor 1248	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Aroclor 1254	0.19	1.3	0.44	0.23	1.8	0.66	0.035	--	--	--
Aroclor 1260	0.45	0.86	0.82	0.45	1.0	0.49	0.038	--	--	--
Aroclor 1262	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Aroclor 1268	<0.020	<0.10	<0.10	<0.020	<0.20	<0.10	<0.010	--	--	--
Total PCB	**0.76**	**2.5**	**1.3**	**0.82**	**3.8**	**1.4**	0.073	0.07	0.3	1.1

Sample Identification:	SS-403	SD-501	SS-501			
Sample Date:	23/10/2012	23/10/2012	23/10/2012			
Sample Depth (mbgs)[3]:	0.15	0 to 0.08	0 to 0.15			
Sample Description:	SILTY SAND & GRAVEL	SILTY CLAY	SILTY CLAY	MOE SEDIMENT STANDARDS[1]	MOE TABLE 1 STANDARDS[2]	MOE TABLE 3 STANDARDS[3]
PARAMETER						
Aroclor 1016	<0.010	<0.010	<0.010	--	--	--
Aroclor 1221	<0.010	<0.010	<0.010	--	--	--
Aroclor 1232	<0.010	<0.010	<0.010	--	--	--
Aroclor 1242	<0.010	<0.010	<0.010	--	--	--
Aroclor 1248	<0.010	<0.010	<0.010	--	--	--
Aroclor 1254	<0.010	<0.010	<0.010	--	--	--
Aroclor 1260	0.041	<0.010	<0.010	--	--	--
Aroclor 1262	<0.010	<0.010	<0.010	--	--	--
Aroclor 1268	<0.010	<0.010	<0.010	--	--	--
Total PCB	0.041	<0.010	<0.010	0.07	0.3	1.1

Table V Continued

12-1134-0179-R01

ANALYTICAL RESULTS FOR POLYCHLORINATED BIPHENYLS IN SOIL & SEDIMENT SAMPLES

NOTES:

1. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are the Sediment standards for all types of property use. Values listed apply to all textured soils.
2. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Values listed are Table 1 full depth background site condition standards for residential/parkland/institutional/industrial/commercial/community property use. Values listed apply to all textured soils.
3. MOE 'Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act' (April 2011). Table 3 full depth generic site condition standards for commercial/industrial/community property use in a non-potable groundwater condition. Values listed apply to medium and fine textured soils.
4. All depths are expressed as metres below ground surface (mbgs).
5. All values shown as micrograms per gram (ug/g) unless otherwise noted.
6. "<" indicates concentration is below the laboratory detection limit.
7. "--" indicates parameter not analyzed or no applicable standard.
8. Values in bold (**XX.XX**) exceed the applicable 2011 MOE Sediment Standard.
9. Values underlined and in bold (**XX.XX**) exceed the applicable 2011 MOE Table 1 Standard.
10. Values underlined, in bold and shaded (**XX.XX**) exceed the applicable 2011 MOE Table 3 Standard.
11. Values in italics (*<XX.XX*) are below the laboratory detection limits; however, the limit exceeds the applicable MOE Sediment Standard
12. Values underlined and in italics (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 1 Standard.
13. Values underlined, in italics and shaded (*<XX.XX*) are below the laboratory detection limit; however, the limit exceeds the applicable MOE Table 3 Standard.
14. Table to be read in conjunction with accompanying report.

Prepared By: LC
Checked By: KL

January 2013 12-1134-0179-R01

TABLE VI

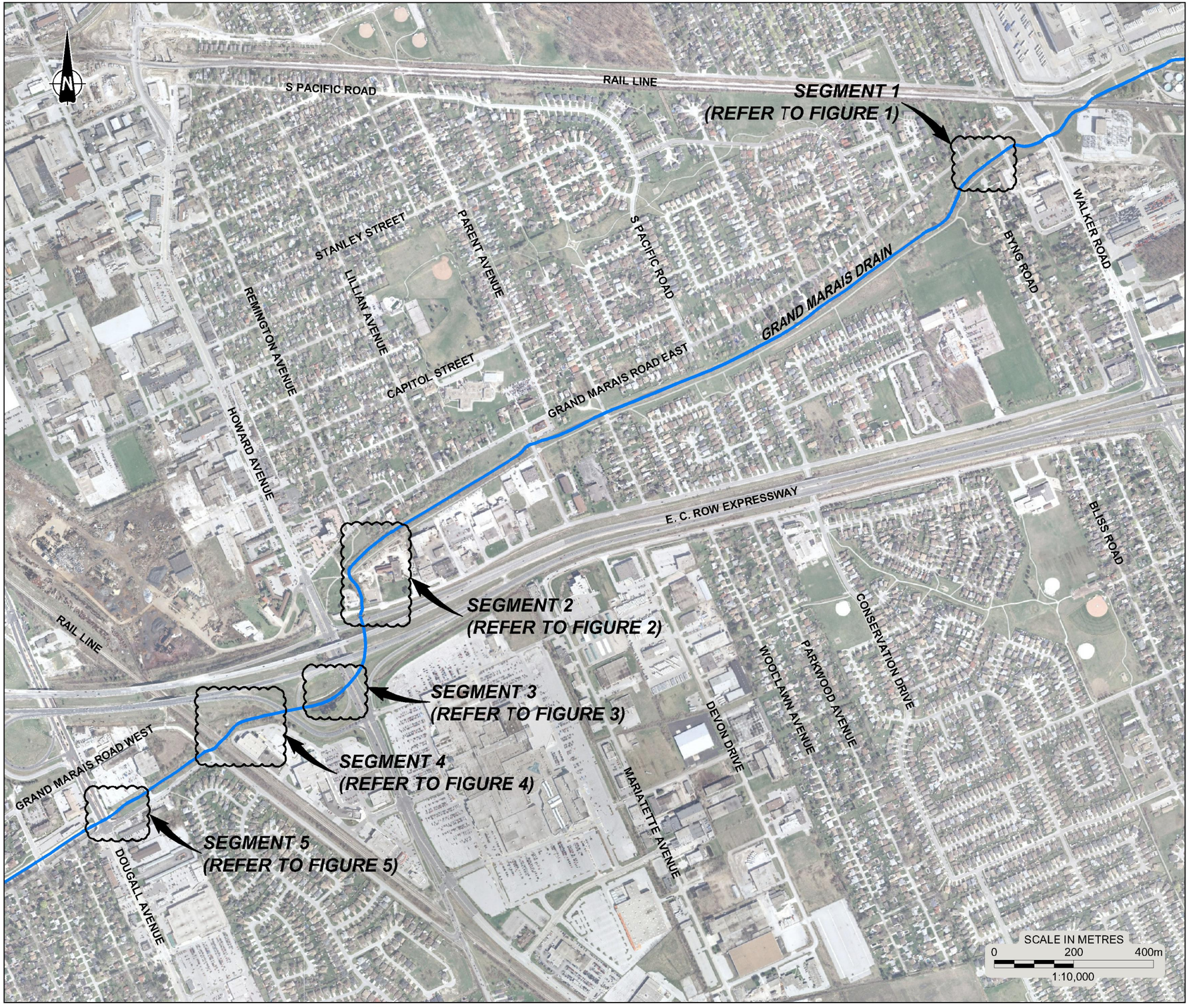
ANALYTICAL RESULTS FOR TOXICITY CHARACTERISTIC LEACHING PROCEDURE

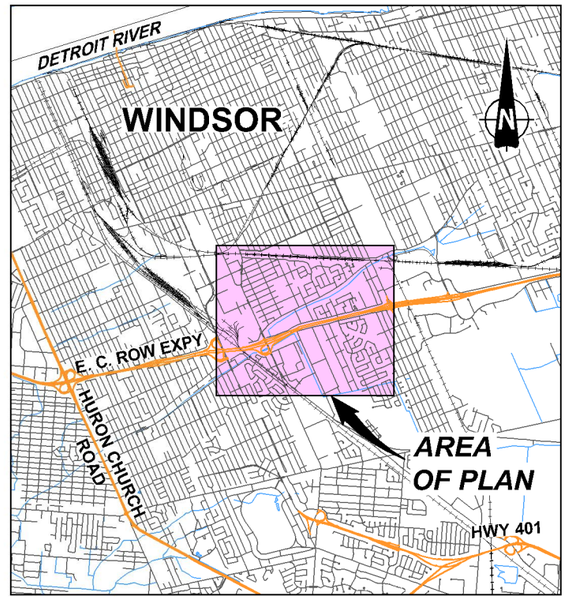
Soil and Sediment Quality Assessment
Central Grand Marais Drain
Windsor, Ontario

		RESULTS	
	Sample Identification:	COMP 1[5]	SCHEDULE 4
	Sample Date:	24/10/2012	CRITERIA[1]
PARAMETER	units		
Inorganics			
Fluoride (F-)	mg/L	0.2	150
Free Cyanide	mg/L	<0.002	20
Nitrite (N)	mg/L	<0.1	--
Nitrate (N)	mg/L	<1	--
Nitrate + Nitrite	mg/L	<1	1000
Metals			
Arsenic (As)	mg/L	<0.2	2.5
Barium (Ba)	mg/L	0.7	100
Boron (B)	mg/L	0.2	500
Cadmium (Cd)	mg/L	<0.05	0.5
Chromium (Cr)	mg/L	<0.1	5
Lead (Pb)	mg/L	<0.1	5
Mercury (Hg)	mg/L	<0.001	0.1
Selenium (Se)	mg/L	<0.1	1
Silver (Ag)	mg/L	<0.01	5
Uranium (U)	mg/L	<0.01	10
Volatile Organics			
1,1-Dichloroethylene	mg/L	<0.020	1.4
1,2-Dichlorobenzene	mg/L	<0.050	20
1,2-Dichloroethane	mg/L	<0.050	0.5
1,4-Dichlorobenzene	mg/L	<0.050	0.5
Benzene	mg/L	<0.020	0.5
Carbon Tetrachloride	mg/L	<0.020	0.5
Chlorobenzene	mg/L	<0.020	8
Chloroform	mg/L	<0.020	10
Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	200
Methylene Chloride(Dichloromethane)	mg/L	<0.20	5
Tetrachloroethylene	mg/L	<0.020	3
Trichloroethylene	mg/L	<0.020	5
Vinyl Chloride	mg/L	<0.020	0.2
Polyaromatic Hydrocarbons			
Benzo(b/j)fluoranthene	ug/L	<0.2	--
Naphthalene	ug/L	0.2	--
Acenaphthylene	ug/L	<0.2	--
Acenaphthene	ug/L	0.3	--
Fluorene	ug/L	0.7	--
Phenanthrene	ug/L	1	--
Anthracene	ug/L	<0.2	--
Fluoranthene	ug/L	<0.2	--
Pyrene	ug/L	<0.2	--
Benzo(a)anthracene	ug/L	<0.2	--
Chrysene	ug/L	<0.2	--
Benzo(k)fluoranthene	ug/L	<0.2	--
Benzo(a)pyrene	ug/L	<0.04	1
Indeno(1,2,3-cd)pyrene	ug/L	<0.4	--
Dibenz(a,h)anthracene	ug/L	<0.4	--
Benzo(g,h,i)perylene	ug/L	<0.4	--
1-Methylnaphthalene	ug/L	3.5	--
2-Methylnaphthalene	ug/L	3.8	--
Polychlorinated Biphenyls			
Total PCB	ug/L	<3	300

NOTES:
1. MOE, Regulation 558, Schedule 4 - Leachate Quality Criteria.
2. All depths are expressed as metres below ground surface (mbgs).
3. "<" indicates concentration is below the laboratory detection limit.
4. "--" indicates parameter not analyzed or not applicable.
5. COMP 1 is a composite of samples SD-301A, SD-301B and SD-301C.
6. Values in bold (**XX.XX**) exceed the applicable MOE Schedule 4 Criterion.
7. Table to be read in conjunction with accompanying report.

Prepared by: LC
Checked by: KL





KEY PLAN

REFERENCE

DRAWING BASED ON 2010 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION; AND CANMAP STREETFILES V2008.4.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

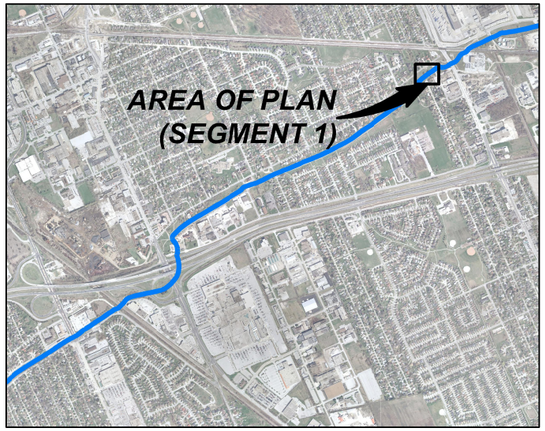
LOCATION PLAN

Golder Associates
LONDON, ONTARIO

PROJECT No.	12-1134-0179		FILE No.	1211340179-R01001
			SCALE	AS SHOWN
CADD	DCH	Jan. 14/13	REV.	
CHECK				

FIGURE A

Drawing file: 1211340179-R01001.dwg Feb 05, 2013 - 3:23pm



KEY PLAN

LEGEND

SD- SEDIMENT SAMPLE
SS- SOIL SAMPLE
(0-0.08m) DEPTH OR DEPTH RANGE OF SAMPLE
MULTIPLE SEDIMENT SAMPLES
EXCEEDANCE OF SEDIMENT STANDARD
EXCEEDANCE OF TABLE 1 STANDARD
EXCEEDANCE OF TABLE 3 STANDARD
PCBs METALS PAHs BTEX/PHC VOCs
NO EXCEEDANCE OF PARAMATERS WITHIN SPECIFIED CHEMICAL GROUP
SAMPLE NOT ANALYZED FOR SPECIFIED CHEMICAL GROUP

NOTE: ONLY SD SAMP_ES COMPARED TO SEDIMENT STANDARDS.

REFERENCE

DRAWING BASED ON 2010 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION; AND CANMAP STREETFILES V2008.4.

NOTES

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PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

SEGMENT 1

SAMPLING LOCATIONS AND SUMMARY OF EXCEEDANCES

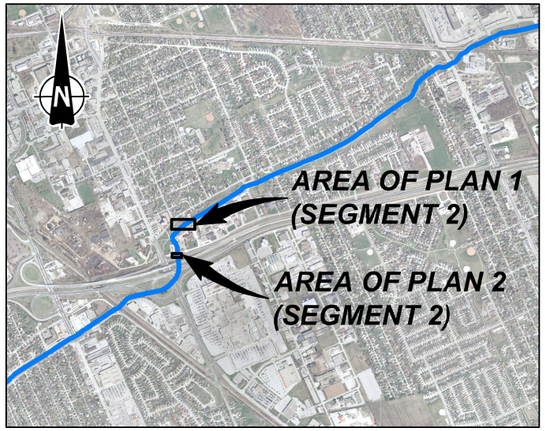
Golder Associates
LONDON, ONTARIO

PROJECT No.	12-1134-0179		FILE No.	1211340179-R01001	
			SCALE	AS SHOWN	REV.
CADD	DCH	Jan. 14/13			
CHECK					

FIGURE 1

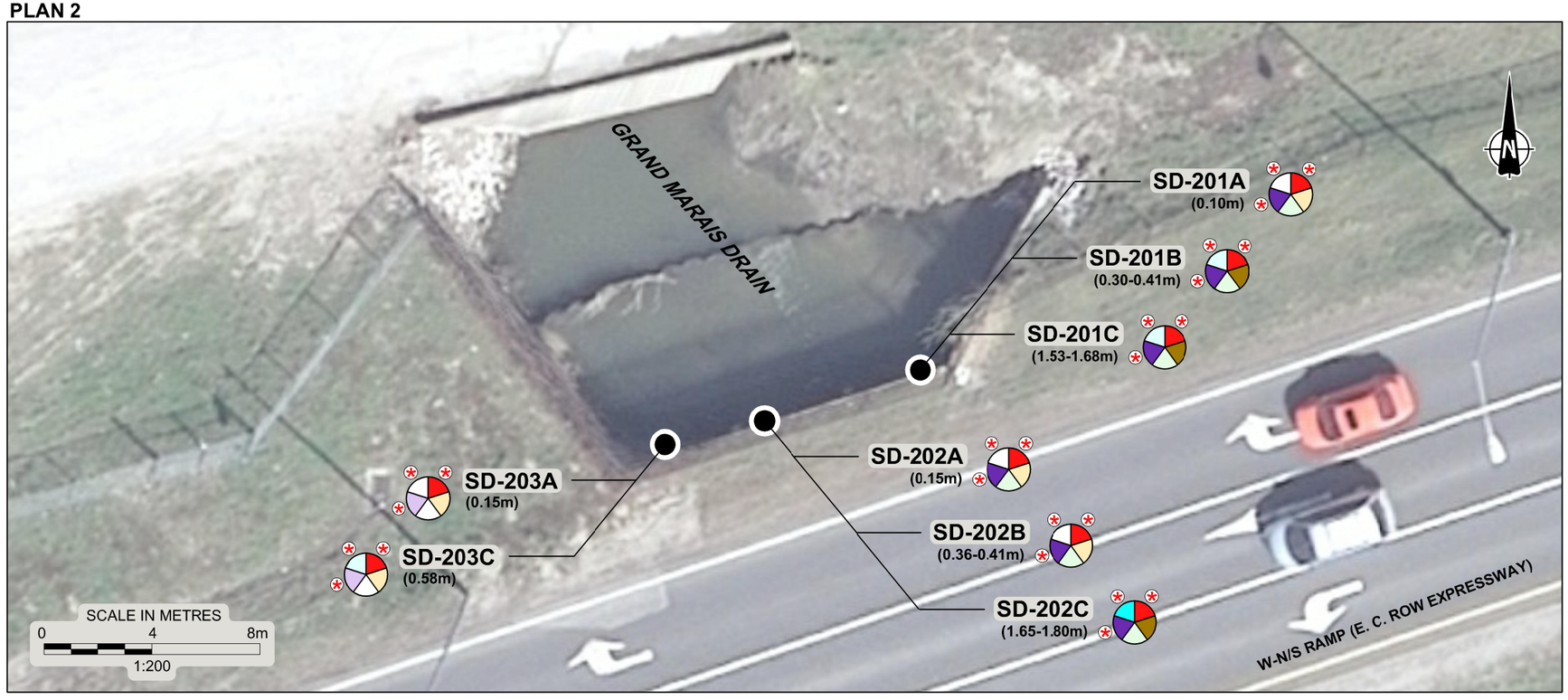
Drawing file: 1211340179-R01001.dwg Jan 18, 2013 - 12:07pm

PLAN 1



KEY PLAN

PLAN 2



LEGEND

- **SD-** SEDIMENT SAMPLE
- **SS-** SOIL SAMPLE
- **(1.53-1.68m)** DEPTH OR DEPTH RANGE OF SAMPLE
- ● MULTIPLE SEDIMENT SAMPLES
- EXCEEDANCE OF SEDIMENT STANDARD
- EXCEEDANCE OF TABLE 1 STANDARD (PCBs, METALS, PAHs, BTEX/PHC, VOCs)
- EXCEEDANCE OF TABLE 3 STANDARD (PCBs, METALS, PAHs, BTEX/PHC, VOCs)
- NO EXCEEDANCE OF PARAMATERS WITHIN SPECIFIED CHEMICAL GROUP

NOTE: ONLY SD SAMP_ES COMPARED TO SEDIMENT STANDARDS.

REFERENCE

DRAWING BASED ON 2010 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION; AND CANMAP STREETFILES V2008.4.

NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

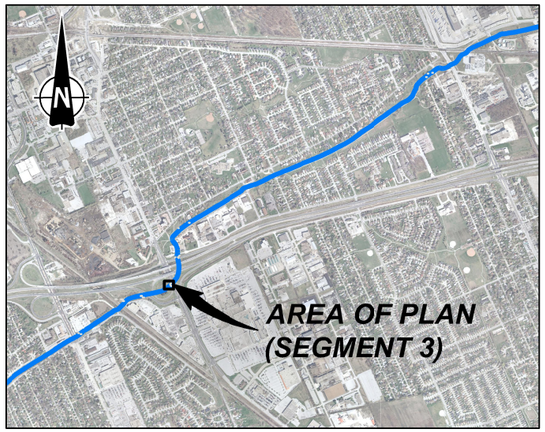
SEGMENT 2

SAMPLING LOCATIONS AND SUMMARY OF EXCEEDANCES

Golder Associates
LONDON, ONTARIO

PROJECT No. 12-1134-0179			FILE No. 1211340179-R01001	
			SCALE AS SHOWN	REV.
CADD	DCH	Jan. 14/13	FIGURE 2	
CHECK				

Drawing file: 1211340179-R01001.dwg Jan 18, 2013 - 12:08pm



KEY PLAN

LEGEND

SD- SEDIMENT SAMPLE

(2.03-2.13m) DEPTH OR DEPTH RANGE OF SAMPLE

MULTIPLE SEDIMENT SAMPLES

EXCEEDANCE OF SEDIMENT STANDARD

EXCEEDANCE OF TABLE 1 STANDARD

PCBs METALS PAHs BTEX/PHC VOCs

EXCEEDANCE OF TABLE 3 STANDARD

PCBs METALS PAHs BTEX/PHC VOCs

NO EXCEEDANCE OF PARAMATERS WITHIN SPECIFIED CHEMICAL GROUP

NOTE: ONLY SD SAMP_ES COMPARED TO SEDIMENT STANDARDS.

REFERENCE

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NOTES

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PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

SEGMENT 3

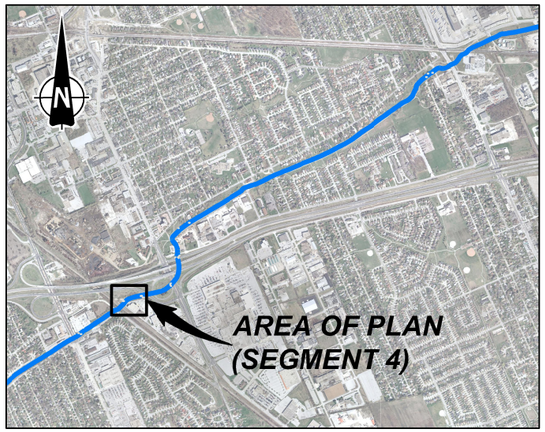
SAMPLING LOCATIONS AND SUMMARY OF EXCEEDANCES

Golder Associates
LONDON, ONTARIO

PROJECT No.	12-1134-0179			FILE No.	1211340179-R01001
				SCALE	AS SHOWN
CADD	DCH	Jan. 14/13		REV.	
CHECK					

FIGURE 3

Drawing file: 1211340179-R01001.dwg Jan 18, 2013 - 12:08pm



KEY PLAN

LEGEND

- SD- SEDIMENT SAMPLE
- SS- SOIL SAMPLE
- (0-0.30m) DEPTH OR DEPTH RANGE OF SAMPLE
- MULTIPLE SEDIMENT SAMPLES
- EXCEEDANCE OF SEDIMENT STANDARD
- EXCEEDANCE OF TABLE 1 STANDARD (PCBs, METALS, PAHs, BTEX/PHC, VOCs)
- EXCEEDANCE OF TABLE 3 STANDARD (PCBs, METALS, PAHs, BTEX/PHC, VOCs)
- NO EXCEEDANCE OF PARAMATERS WITHIN SPECIFIED CHEMICAL GROUP
- SAMPLE NOT ANALYZED FOR SPECIFIED CHEMICAL GROUP

NOTE: ONLY SD SAMP_ES COMPARED TO SEDIMENT STANDARDS.

REFERENCE

DRAWING BASED ON 2010 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION; AND CANMAP STREETFILES V2008.4.

NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

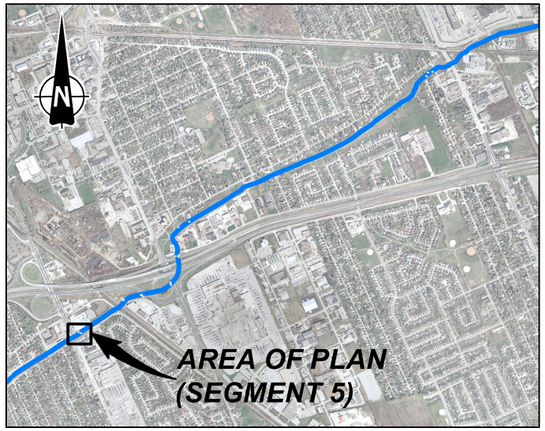
SEGMENT 4

SAMPLING LOCATIONS AND SUMMARY OF EXCEEDANCES

Golder Associates
LONDON, ONTARIO

PROJECT No. 12-1134-0179			FILE No. 1211340179-R01001	
			SCALE AS SHOWN	REV.
CADD	DCH	Jan. 14/13		
CHECK			FIGURE 4	

Drawing file: 1211340179-R01001.dwg Jan 18, 2013 - 12:09pm



KEY PLAN

LEGEND

SD- SEDIMENT SAMPLE
SS- SOIL SAMPLE
(0-0.15m) DEPTH OR DEPTH RANGE OF SAMPLE
● MULTIPLE SEDIMENT SAMPLES

EXCEEDANCE OF SEDIMENT STANDARD
*

EXCEEDANCE OF TABLE 1 STANDARD

EXCEEDANCE OF TABLE 3 STANDARD

NO EXCEEDANCE OF PARAMATERS WITHIN SPECIFIED CHEMICAL GROUP

NOTE: ONLY SD SAMP_ES COMPARED TO SEDIMENT STANDARDS.

REFERENCE

DRAWING BASED ON 2010 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION; AND CANMAP STREETFILES V2008.4.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

SOIL AND SEDIMENT QUALITY ASSESSMENT
CENTRAL GRAND MARAIS DRAIN
WINDSOR, ONTARIO

TITLE

SEGMENT 5
SAMPLING LOCATIONS AND SUMMARY OF EXCEEDANCES

Golder Associates
LONDON, ONTARIO

PROJECT No. 12-1134-0179			FILE No. 1211340179-R01001	
			SCALE AS SHOWN	REV.
CADD	DCH	Jan. 14/13		
CHECK				

FIGURE 5

Drawing file: 1211340179-R01001.dwg Jan 18, 2013 - 12:09pm

APPENDIX A

Summary of Field and Laboratory Information

Table A-1 : Summary of Field Observations

Segment	Sample ID[1,2]	Sample Depth (m)	Sediment Thickness at Sample Location (m)	Sample Description	Observations
Segment 1	SS-101	0.2	--	Dark brown sandy silty clay	None
	SD-101	0-0.1	0.1	Black sandy gravel some cobbles	None
	SD-102	0-0.1	0.1	Black sandy gravel some cobbles	None
Segment 2	SS-201	0.1	--	Brown sandy clayey silt	None
	SD-201A	0.1	1.7	Black silty sand and gravel	None
	SD-201B	0.3-0.4		Black silty clay and sand	Sheen in water, strong odour
	SD-201C	1.5-1.7		Black silty clay trace sand	Sheen in water, strong odour
	SD-202A	0.2	1.8	Black silty sand and gravel	None
	SD-202B	0.4		Black silty sand and gravel	Slight odour
	SD-202C	1.7-1.8		Black silty sand and clay	Sheen in water, strong odour and staining in sample
	SD-203A	0.2	0.6	Black silty sand and gravel	Sheen in water, strong odour
	SD-203C[3]	0.6		Black silty sand with clay and gravel	Sheen in water, very strong odour
	SD-204	0-0.2	0.4	Black sandy silty clay trace gravel	Sheen in water, very strong odour
Segment 3	SD-301A	0-0.2	2.1	Black silty clay trace sand and vegetation	Sheen in water, slight odour
	SD-301B	0.3-0.4		Black silty clay trace sand and vegetation	Sheen in water, slight odour
	SD-301C	2.0-2.1		Black silty clay trace sand and vegetation	Sheen in water and odour
	SD-302A	0.2	2.1	Black silty sand and clay with roots and vegetation	Sheen in water, slight odour
	SD-302B	0.3-0.4		Black silty sand and clay with roots and vegetation	Sheen in water and odour
	SD-302C	2.0-2.1		Black silty clay and vegetation	Sheen in water and odour

Segment	Sample ID[1,2]	Sample Depth (m)	Sediment Thickness at Sample Location (m)	Sample Description	Observations
Segment 4	SS-401	0.2	--	Brown sandy silt some clay trace gravel and rootlets	None
	SS-402	0.1	--	Brown silty sand some gravel trace rootlets	None
	SS-403	0.2	--	Black silty sand and gravel trace rootlets	None
	SS-404	0.2	--	Black silty sand some gravel trace rootlets	None
	SD-401	0-0.3	0.9	Grey and black silty clay with gravel	Sheen in water and odour
Segment 5	SS-501	0.2	--	Dry brown silty sand trace gravel	None
	SD-501	0-0.2	0.03	Thin layer of black sand and gravel over grey silty clay trace gravel	None
-	Comp 1[4]	0-2.1	2.1	Black silty clay trace sand and vegetation	NA

NOTES: 1) SS = Soil Sample,
2) SD = Sediment Sample
3) SD-203b was not sampled due to the depth of the water
4) Comp 1 is a composite sample of SD-301a, b and c.

Table A-2: Exceedances of Soil and Sediment Quality Standards

Segment No.	Sample ID	Sample Depth (m)	Exceedances of Table 1 Sediment Quality Standards					Exceedances of Table 1 Soil Quality Standards					Exceedances of Table 3 Soil Quality Standards				
			Metals	PAHs	PHCs	VOCs	PCBs	Metals	PAHs	PHCs	VOCs	PCBs	Metals	PAHs	PHCs	VOCs	PCBs
Segment 1	SS-101	0.2	/	/	/	/	/	●	●	●	●	●	●	●	○	○	○
	SD-101	0-0.1	●	●	/	/	●	●	●	●	○	○	●	●	○	○	○
	SD-102	0-0.1	●	○	/	/	●	●	○	●	/	○	●	○	○	/	○
Segment 2	SS-201	0.1	/	/	/	/	/	●	●	●	○	○	●	●	○	○	○
	SD-201A	0.1	●	●	/	/	●	●	●	●	●	○	●	●	○	○	○
	SD-201B	0.3-0.4	●	●	/	/	●	●	●	●	●	●	●	●	●	○	○
	SD-201C	1.5-1.7	●	●	/	/	●	●	●	●	●	●	●	●	●	○	○
	SD-202A	0.2	●	●	/	/	●	●	●	●	●	○	●	●	○	○	○
	SD-202B	0.4	●	●	/	/	●	●	●	●	●	○	●	●	○	○	○
	SD-202C	1.7-1.8	●	●	/	/	●	●	●	●	●	●	●	●	●	○	●
	SD-203A	0.2	●	●	/	/	●	●	●	●	○	○	●	○	○	○	○
	SD-203C	0.6	●	●	/	/	●	●	●	●	○	●	●	○	○	○	○
	SD-204	0-0.2	●	●	/	/	●	●	●	●	●	●	●	●	●	●	○
Segment 3	SD-301A	0-0.2	●	●	/	/	●	●	●	●	●	●	●	●	●	○	●
	SD-301B	0.3-0.4	●	●	/	/	●	●	●	●	○	●	●	●	●	○	○
	SD-301C	2.0-2.1	●	●	/	/	●	●	●	●	●	●	●	●	●	○	●
	SD-302A	0.2	●	●	/	/	●	●	●	●	●	●	●	●	●	○	●
	SD-302B	0.3-0.4	●	●	/	/	●	●	●	●	○	●	●	●	●	○	○
	SD-302C	2.0-2.1	●	●	/	/	●	●	●	●	●	●	●	●	●	○	●
Segment 4	SS-401	0.2	/	/	/	/	/	●	○	○	●	○	●	○	○	○	○
	SS-402	0.1	/	/	/	/	/	●	/	●	●	/	●	/	○	○	/
	SS-403	0.2	/	/	/	/	/	●	●	●	●	○	●	○	○	○	○
	SS-404	0.2	/	/	/	/	/	●	/	●	●	/	●	/	○	○	/
	SD-401	0-0.3	●	●	/	/	●	●	●	●	●	●	●	○	●	○	●
Segment 5	SS-501	0.2	/	/	/	/	/	●	○	●	○	○	○	○	○	○	○
	SD-501	0-0.2	●	○	/	/	○	○	○	○	○	○	○	○	○	○	○

Rev:AP/CES

NOTES: ○ = Sample analysed for one or more parameters, no exceedance identified.
● = Measured concentration of one or more parameters exceeds applicable standard.
/ = Sample not analysed for targeted parameters, no applicable standard, or sample not analysed for specific parameters.

APPENDIX B

Certificates of Analysis

Maxxam

Success Through Science®

Your Project #: 12-1134-0179
Site#: 12-1134-0179
Your C.O.C. #: 65820

Attention: Carl Schroeder
Golder Associates Ltd
309 Exeter Rd
Unit 1
London, ON
N6L 1C1

Report Date: 2012/11/05

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B2G8163
Received: 2012/10/26, 14:46

Sample Matrix: Soil
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Methylnaphthalene Sum	20	N/A	2012/11/01	CAM SOP - 00301	EPA 8270
Methylnaphthalene Sum	4	N/A	2012/11/02	CAM SOP - 00301	EPA 8270
Hot Water Extractable Boron	7	2012/10/31	2012/11/01	CAM SOP-00408	R153 Ana. Prot. 2011
Hot Water Extractable Boron	16	2012/11/01	2012/11/01	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	17	N/A	2012/10/31	CAM SOP-00226	EPA 8260
1,3-Dichloropropene Sum	6	N/A	2012/11/01	CAM SOP-00226	EPA 8260
Cyanide (WAD) in Leachates	1	N/A	2012/10/31	CAM SOP-00457	Ontario MOE CN-3015
Hexavalent Chromium in Soil by IC (1)	3	2012/10/30	2012/10/31	CAM SOP-00436	EPA SW846-3060/7199
Hexavalent Chromium in Soil by IC (1)	20	2012/10/30	2012/11/02	CAM SOP-00436	EPA SW846-3060/7199
Petroleum Hydro. CCME F1 & BTEX in Soil	6	2012/10/29	2012/10/31	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	19	2012/10/29	2012/11/01	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	23	2012/10/31	2012/11/01	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	3	2012/10/31	2012/11/02	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	5	2012/11/01	2012/11/01	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	11	2012/11/02	2012/11/03	CAM SOP-00316	CCME CWS
Fluoride by ISE in Leachates	1	2012/10/31	2012/10/31	CAM SOP-00448	SM 4500FC
Mercury (TCLP Leachable) (mg/L)	1	N/A	2012/10/30	CAM SOP-00453	EPA 7470
Acid Extr. Metals (aqua regia) by ICPMS	7	2012/10/31	2012/10/31	CAM SOP-00447	EPA 6020
Acid Extr. Metals (aqua regia) by ICPMS	19	2012/11/01	2012/11/01	CAM SOP-00447	EPA 6020
Total Metals in TCLP Leachate by ICPMS	1	2012/10/30	2012/10/30	CAM SOP-00447	EPA 6020
Moisture	26	N/A	2012/10/30	CAM SOP-00445	R.Carter,1993
Nitrate(NO3) + Nitrite(NO2) in Leachate	1	N/A	2012/10/31	CAM SOP-00440	SM 4500 NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2012/10/30	2012/10/31	EPA 8270	PAH by SIM GC/MS
PAH Compounds in Soil by GC/MS (SIM)	20	2012/10/30	2012/10/31	CAM SOP - 00318	EPA 8270
PAH Compounds in Soil by GC/MS (SIM)	4	2012/10/30	2012/11/01	CAM SOP - 00318	EPA 8270
Polychlorinated Biphenyl in Soil	12	2012/10/30	2012/10/31	CAM SOP-00309	SW846 8082
Polychlorinated Biphenyl in Soil	7	2012/10/30	2012/11/01	CAM SOP-00309	SW846 8082
Polychlorinated Biphenyl in Soil	1	2012/10/30	2012/11/02	CAM SOP-00309	SW846 8082
Polychlorinated Biphenyl in Soil	4	2012/10/31	2012/11/01	CAM SOP-00309	SW846 8082
Polychlorinated Biphenyl in Leachate	1	2012/11/01	2012/11/01	CAM SOP-00309	SW846 8082
pH CaCl2 EXTRACT	23	2012/11/01	2012/11/01	CAM SOP-00413	SM 4500H+ B
TCLP - % Solids	1	2012/10/29	2012/10/30	CAM SOP-00401	EPA 1311 modified
TCLP - Extraction Fluid	1	N/A	2012/10/30	CAM SOP-00401	EPA 1311 modified
TCLP - Initial and final pH	1	N/A	2012/10/30	CAM SOP-00401	EPA 1311 modified
TCLP Zero Headspace Extraction	1	2012/10/31	2012/10/31	CAM SOP-00430	EPA 1311 modified
Volatile Organic Compounds in Soil	22	2012/10/29	2012/10/31	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	1	2012/10/29	2012/11/01	CAM SOP-00226	EPA 8260 modified
VOCs in ZHE Leachates	1	2012/11/01	2012/11/01	CAM SOP 00226	EPA 8260 modified

Remarks:

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 #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

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.

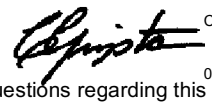
The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of 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 by SCC (Lab ID 97) 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.
* Results relate only to the items tested.

(1) Soils are reported on a dry weight basis unless otherwise specified.

Encryption Key



Christine Gripton
05 Nov 2012 12:31:40 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Christine Gripton, Project Manager
Email: CGripton@maxxam.ca
Phone# (800) 268-7396 Ext:250

==========

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.

Total cover pages: 2

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O'REG 153 ICPMS METALS (SOIL)

Maxxam ID		PJ6742		PJ6745	PJ6747		
Sampling Date		2012/10/23 12:00		2012/10/23 15:10	2012/10/23 15:30		
	Units	**SD-102**	**QC Batch**	**SS-402**	**SS-404**	**RDL**	**QC Batch**
Metals							
Acid Extractable Antimony (Sb)	ug/g	8.4	3021917	3.2	7.8	0.20	3021905
Acid Extractable Arsenic (As)	ug/g	3.1	3021917	16	150	1.0	3021905
Acid Extractable Barium (Ba)	ug/g	94	3021917	200	52	0.50	3021905
Acid Extractable Beryllium (Be)	ug/g	<0.20	3021917	0.53	0.57	0.20	3021905
Acid Extractable Boron (B)	ug/g	<5.0	3021917	7.5	11	5.0	3021905
Acid Extractable Cadmium (Cd)	ug/g	2.4	3021917	2.1	1.1	0.10	3021905
Acid Extractable Chromium (Cr)	ug/g	51	3021917	26	26	1.0	3021905
Acid Extractable Cobalt (Co)	ug/g	3.0	3021917	8.8	5.5	0.10	3021905
Acid Extractable Copper (Cu)	ug/g	73	3021917	130	120	0.50	3021905
Acid Extractable Lead (Pb)	ug/g	370	3021917	320	210	1.0	3021905
Acid Extractable Molybdenum (Mo)	ug/g	3.4	3021917	3.0	2.7	0.50	3021905
Acid Extractable Nickel (Ni)	ug/g	18	3021917	30	25	0.50	3021905
Acid Extractable Selenium (Se)	ug/g	<0.50	3021917	0.52	2.0	0.50	3021905
Acid Extractable Silver (Ag)	ug/g	<0.20	3021917	<0.20	<0.20	0.20	3021905
Acid Extractable Thallium (Tl)	ug/g	0.074	3021917	0.060	0.15	0.050	3021905
Acid Extractable Uranium (U)	ug/g	0.82	3021917	0.78	0.41	0.050	3021905
Acid Extractable Vanadium (V)	ug/g	10	3021917	25	13	5.0	3021905
Acid Extractable Zinc (Zn)	ug/g	290	3021917	460	190	5.0	3021905

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O'REG 153 METALS PACKAGE (SOIL)

Maxxam ID		PJ6740	PJ6740		PJ6741		PJ6743	PJ6744	PJ6746	PJ6748		
Sampling Date		2012/10/23 11:20	2012/10/23 11:20		2012/10/23 11:40		2012/10/23 14:30	2012/10/23 15:10	2012/10/23 15:20	2012/10/23 16:30		
	Units	**SS-101**	**SS-101 Lab-Dup**	**QC Batch**	**SD-101**	**QC Batch**	**SD-401**	**SS-401**	**SS-403**	**SS-501**	**RDL**	**QC Batch**
Inorganics												
Chromium (VI)	ug/g	<0.2	<0.2	3020269	<0.2	3020276	<0.2	<0.2	<0.2	<0.2	0.2	3020269
Metals												
Hot Water Ext. Boron (B)	ug/g	0.69		3021919	0.14	3022013	1.3	1.3	0.86	0.31	0.050	3022013
Acid Extractable Antimony (Sb)	ug/g	4.6		3021917	8.9	3021917	4.6	1.1	5.8	0.36	0.20	3021917
Acid Extractable Arsenic (As)	ug/g	9.7		3021917	3.2	3021917	11	140	99	6.5	1.0	3021917
Acid Extractable Barium (Ba)	ug/g	670		3021917	89	3021917	420	100	100	58	0.50	3021917
Acid Extractable Beryllium (Be)	ug/g	0.69		3021917	<0.20	3021917	0.65	0.42	1.3	0.48	0.20	3021917
Acid Extractable Boron (B)	ug/g	6.9		3021917	<5.0	3021917	6.9	9.4	14	6.7	5.0	3021917
Acid Extractable Cadmium (Cd)	ug/g	18		3021917	3.2	3021917	11	1.2	1.2	0.53	0.10	3021917
Acid Extractable Chromium (Cr)	ug/g	64		3021917	46	3021917	290	17	21	17	1.0	3021917
Acid Extractable Cobalt (Co)	ug/g	7.4		3021917	3.5	3021917	8.1	6.0	9.0	8.3	0.10	3021917
Acid Extractable Copper (Cu)	ug/g	150		3021917	150	3021917	110	26	240	24	0.50	3021917
Acid Extractable Lead (Pb)	ug/g	500		3021917	92	3021917	490	45	180	15	1.0	3021917
Acid Extractable Molybdenum (Mo)	ug/g	2.0		3021917	2.1	3021917	3.5	2.9	3.3	2.4	0.50	3021917
Acid Extractable Nickel (Ni)	ug/g	56		3021917	18	3021917	130	18	30	23	0.50	3021917
Acid Extractable Selenium (Se)	ug/g	0.99		3021917	<0.50	3021917	1.0	0.58	2.8	<0.50	0.50	3021917
Acid Extractable Silver (Ag)	ug/g	0.61		3021917	<0.20	3021917	1.3	<0.20	<0.20	<0.20	0.20	3021917
Acid Extractable Thallium (Tl)	ug/g	0.19		3021917	0.090	3021917	0.26	0.18	0.60	0.15	0.050	3021917
Acid Extractable Uranium (U)	ug/g	1.5		3021917	0.67	3021917	1.6	0.63	1.1	1.2	0.050	3021917
Acid Extractable Vanadium (V)	ug/g	23		3021917	9.4	3021917	28	17	23	22	5.0	3021917
Acid Extractable Zinc (Zn)	ug/g	960		3021917	320	3021917	1400	100	300	61	5.0	3021917
Acid Extractable Mercury (Hg)	ug/g	0.58		3021917	0.053	3021917	0.27	<0.050	0.20	<0.050	0.050	3021917

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O'REG 153 METALS PACKAGE (SOIL)

Maxxam ID		PJ6749	PJ6750		PJ6751		PJ6752		PJ6753	PJ6754		
Sampling Date		2012/10/23 16:45	2012/10/24 10:30		2012/10/24 10:40		2012/10/24 10:50		2012/10/24 11:10	2012/10/24 11:20		
	Units	**SD-501**	**SD-201A**	**QC Batch**	**SD-201B**	**QC Batch**	**SD-201C**	**QC Batch**	**SD-202A**	**SD-202B**	**RDL**	**QC Batch**
Inorganics												
Chromium (VI)	ug/g	<0.2	<0.2	3020269	<0.2	3020276	<0.2	3020269	<0.2	<0.2	0.2	3020269
Metals												
Hot Water Ext. Boron (B)	ug/g	0.22	0.33	3022013	0.80	3022013	1.6	3021148	0.34	0.60	0.050	3022013
Acid Extractable Antimony (Sb)	ug/g	0.27	1.0	3021917	1.1	3021917	3.7	3021180	4.8	1.3	0.20	3021917
Acid Extractable Arsenic (As)	ug/g	5.9	2.8	3021917	4.0	3021917	6.5	3021180	3.6	5.2	1.0	3021917
Acid Extractable Barium (Ba)	ug/g	42	160	3021917	220	3021917	600	3021180	190	130	0.50	3021917
Acid Extractable Beryllium (Be)	ug/g	0.34	<0.20	3021917	0.23	3021917	0.40	3021180	<0.20	0.21	0.20	3021917
Acid Extractable Boron (B)	ug/g	6.6	<5.0	3021917	<5.0	3021917	6.1	3021180	<5.0	<5.0	5.0	3021917
Acid Extractable Cadmium (Cd)	ug/g	0.16	7.6	3021917	14	3021917	42	3021180	8.7	7.2	0.10	3021917
Acid Extractable Chromium (Cr)	ug/g	13	53	3021917	67	3021917	260	3021180	50	88	1.0	3021917
Acid Extractable Cobalt (Co)	ug/g	6.6	3.2	3021917	8.0	3021917	5.6	3021180	3.5	5.8	0.10	3021917
Acid Extractable Copper (Cu)	ug/g	14	43	3021917	65	3021917	85	3021180	39	84	0.50	3021917
Acid Extractable Lead (Pb)	ug/g	7.1	48	3021917	87	3021917	360	3021180	78	68	1.0	3021917
Acid Extractable Molybdenum (Mo)	ug/g	1.9	1.6	3021917	3.0	3021917	3.3	3021180	1.7	7.7	0.50	3021917
Acid Extractable Nickel (Ni)	ug/g	17	20	3021917	26	3021917	110	3021180	23	43	0.50	3021917
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	3021917	<0.50	3021917	1.0	3021180	<0.50	<0.50	0.50	3021917
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	3021917	2.5	3021917	1.3	3021180	<0.20	0.32	0.20	3021917
Acid Extractable Thallium (Tl)	ug/g	0.088	0.073	3021917	0.097	3021917	0.17	3021180	0.065	0.079	0.050	3021917
Acid Extractable Uranium (U)	ug/g	0.84	0.48	3021917	0.80	3021917	1.3	3021180	0.45	0.71	0.050	3021917
Acid Extractable Vanadium (V)	ug/g	18	8.0	3021917	11	3021917	14	3021180	9.2	11	5.0	3021917
Acid Extractable Zinc (Zn)	ug/g	44	240	3021917	450	3021917	1400	3021180	250	500	5.0	3021917
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.14	3021917	0.22	3021917	0.48	3021180	0.14	0.13	0.050	3021917

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O'REG 153 METALS PACKAGE (SOIL)

Maxxam ID		PJ6755		PJ6756	PJ6757	PJ6758		PJ6759		PJ6760		
Sampling Date		2012/10/24 11:30		2012/10/24 11:40	2012/10/24 11:50	2012/10/24 12:30		2012/10/24 12:40		2012/10/24 13:40		
	Units	**SD-202C**	**QC Batch**	**SD-203A**	**SD-203C**	**SD-204**	**QC Batch**	**SS-201**	**QC Batch**	**SD-302A**	**RDL**	**QC Batch**
Inorganics												
Chromium (VI)	ug/g	<0.2	3020276	<0.2	<0.2	<0.2	3020269	<0.2	3020269	<0.2	0.2	3020269
Metals												
Hot Water Ext. Boron (B)	ug/g	1.2	3022013	0.37	1.0	0.98	3021148	0.97	3022013	1.3	0.050	3021148
Acid Extractable Antimony (Sb)	ug/g	2.6	3021917	10	5.2	2.0	3021180	0.76	3021917	3.2	0.20	3021180
Acid Extractable Arsenic (As)	ug/g	5.7	3021917	4.7	8.1	6.1	3021180	8.6	3021917	10	1.0	3021180
Acid Extractable Barium (Ba)	ug/g	360	3021917	80	300	500	3021180	140	3021917	510	0.50	3021180
Acid Extractable Beryllium (Be)	ug/g	0.43	3021917	0.25	0.36	0.49	3021180	0.71	3021917	0.50	0.20	3021180
Acid Extractable Boron (B)	ug/g	7.2	3021917	<5.0	6.8	<5.0	3021180	6.5	3021917	7.3	5.0	3021180
Acid Extractable Cadmium (Cd)	ug/g	24	3021917	3.3	16	75	3021180	6.8	3021917	45	0.10	3021180
Acid Extractable Chromium (Cr)	ug/g	120	3021917	75	130	120	3021180	32	3021917	250	1.0	3021180
Acid Extractable Cobalt (Co)	ug/g	4.9	3021917	3.9	5.9	6.5	3021180	7.8	3021917	13	0.10	3021180
Acid Extractable Copper (Cu)	ug/g	86	3021917	220	140	50	3021180	38	3021917	210	0.50	3021180
Acid Extractable Lead (Pb)	ug/g	210	3021917	810	270	110	3021180	57	3021917	280	1.0	3021180
Acid Extractable Molybdenum (Mo)	ug/g	4.7	3021917	6.0	7.2	2.3	3021180	1.7	3021917	5.9	0.50	3021180
Acid Extractable Nickel (Ni)	ug/g	48	3021917	31	47	87	3021180	29	3021917	81	0.50	3021180
Acid Extractable Selenium (Se)	ug/g	0.77	3021917	<0.50	0.82	0.89	3021180	0.56	3021917	2.1	0.50	3021180
Acid Extractable Silver (Ag)	ug/g	0.35	3021917	<0.20	0.47	0.22	3021180	<0.20	3021917	2.2	0.20	3021180
Acid Extractable Thallium (Tl)	ug/g	0.12	3021917	0.060	<0.050	0.16	3021180	0.18	3021917	0.16	0.050	3021180
Acid Extractable Uranium (U)	ug/g	1.0	3021917	0.56	1.2	1.2	3021180	1.0	3021917	1.7	0.050	3021180
Acid Extractable Vanadium (V)	ug/g	15	3021917	12	17	20	3021180	26	3021917	22	5.0	3021180
Acid Extractable Zinc (Zn)	ug/g	820	3021917	410	840	800	3021180	200	3021917	1600	5.0	3021180
Acid Extractable Mercury (Hg)	ug/g	0.37	3021917	0.14	0.30	0.40	3021180	0.084	3021917	0.63	0.050	3021180

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O'REG 153 METALS PACKAGE (SOIL)

Maxxam ID		PJ6761			PJ6762		PJ6763		PJ6764			PJ6765		
Sampling Date		2012/10/24 13:50			2012/10/24 14:00		2012/10/24 14:10		2012/10/24 14:20			2012/10/24 14:30		
	Units	**SD-302B**	**RDL**	**QC Batch**	**SD-302C**	**RDL**	**SD-301A**	**QC Batch**	**SD-301B**	**RDL**	**QC Batch**	**SD-301C**	**RDL**	**QC Batch**
Inorganics														
Chromium (VI)	ug/g	<0.2	0.2	3020269	0.6	0.2	<0.2	3020269	<0.2	0.2	3020269	0.5	0.2	3020269
Metals														
Hot Water Ext. Boron (B)	ug/g	1.1	0.050	3022013	2.0	0.050	1.3	3021148	1.7	0.050	3021919	2.5	0.050	3022013
Acid Extractable Antimony (Sb)	ug/g	1.8	0.20	3021917	4.9	0.20	1.9	3021180	3.0	0.20	3021917	5.3	0.20	3021917
Acid Extractable Arsenic (As)	ug/g	5.8	1.0	3021917	9.3	1.0	4.3	3021180	7.3	1.0	3021917	10	1.0	3021917
Acid Extractable Barium (Ba)	ug/g	390	0.50	3021917	420	0.50	360	3021180	300	0.50	3021917	350	0.50	3021917
Acid Extractable Beryllium (Be)	ug/g	0.35	0.20	3021917	0.48	0.20	0.25	3021180	0.45	0.20	3021917	0.55	0.20	3021917
Acid Extractable Boron (B)	ug/g	6.1	5.0	3021917	6.6	5.0	5.1	3021180	8.4	5.0	3021917	8.8	5.0	3021917
Acid Extractable Cadmium (Cd)	ug/g	20	0.10	3021917	37	0.10	12	3021180	14	0.10	3021917	22	0.10	3021917
Acid Extractable Chromium (Cr)	ug/g	130	1.0	3021917	380	5.0	130	3021180	93	1.0	3021917	440	5.0	3021917
Acid Extractable Cobalt (Co)	ug/g	9.7	0.10	3021917	9.4	0.10	4.7	3021180	15	0.10	3021917	7.9	0.10	3021917
Acid Extractable Copper (Cu)	ug/g	120	0.50	3021917	120	0.50	73	3021180	190	0.50	3021917	150	0.50	3021917
Acid Extractable Lead (Pb)	ug/g	150	1.0	3021917	510	1.0	130	3021180	170	1.0	3021917	600	1.0	3021917
Acid Extractable Molybdenum (Mo)	ug/g	3.8	0.50	3021917	4.9	0.50	7.6	3021180	6.0	0.50	3021917	4.8	0.50	3021917
Acid Extractable Nickel (Ni)	ug/g	45	0.50	3021917	180	0.50	50	3021180	44	0.50	3021917	180	0.50	3021917
Acid Extractable Selenium (Se)	ug/g	0.83	0.50	3021917	1.2	0.50	0.73	3021180	1.0	0.50	3021917	1.2	0.50	3021917
Acid Extractable Silver (Ag)	ug/g	2.1	0.20	3021917	1.7	0.20	0.27	3021180	4.9	0.20	3021917	0.99	0.20	3021917
Acid Extractable Thallium (Tl)	ug/g	0.18	0.050	3021917	0.096	0.050	0.14	3021180	0.20	0.050	3021917	0.27	0.050	3021917
Acid Extractable Uranium (U)	ug/g	1.1	0.050	3021917	1.8	0.050	0.85	3021180	1.3	0.050	3021917	1.6	0.050	3021917
Acid Extractable Vanadium (V)	ug/g	15	5.0	3021917	21	5.0	13	3021180	21	5.0	3021917	24	5.0	3021917
Acid Extractable Zinc (Zn)	ug/g	800	5.0	3021917	2700	5.0	600	3021180	940	5.0	3021917	2200	5.0	3021917
Acid Extractable Mercury (Hg)	ug/g	0.29	0.050	3021917	0.48	0.050	0.22	3021180	0.26	0.050	3021917	0.44	0.050	3021917

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 PAHS IN SOIL (SOIL)

Maxxam ID		PJ6740	PJ6741	PJ6742		PJ6743			PJ6744			PJ6746		
Sampling Date		2012/10/23 11:20	2012/10/23 11:40	2012/10/23 12:00		2012/10/23 14:30			2012/10/23 15:10			2012/10/23 15:20		
	Units	**SS-101**	**SD-101**	**SD-102**	**RDL**	**SD-401**	**RDL**	**QC Batch**	**SS-401**	**RDL**	**QC Batch**	**SS-403**	**RDL**	**QC Batch**
Inorganics														
Moisture	%			18	1.0			3019571						
Calculated Parameters														
Methylnaphthalene, 2-(1-)	ug/g	0.24	<0.071	<0.071	0.071	<1.4	1.4	3017730	0.053	0.0071	3017730	0.76	0.071	3017730
Polyaromatic Hydrocarbons														
Acenaphthene	ug/g	0.10	0.053	<0.050	0.050	<1.0	1.0	3019486	<0.0050	0.0050	3020076	<0.050	0.050	3019486
Acenaphthylene	ug/g	0.082	<0.050	<0.050	0.050	<1.0	1.0	3019486	0.023	0.0050	3020076	0.15	0.050	3019486
Anthracene	ug/g	0.41	0.16	<0.050	0.050	<1.0	1.0	3019486	0.025	0.0050	3020076	0.13	0.050	3019486
Benzo(a)anthracene	ug/g	1.9	0.55	0.18	0.050	<1.0	1.0	3019486	0.077	0.0050	3020076	0.28	0.050	3019486
Benzo(a)pyrene	ug/g	1.6	0.41	0.16	0.050	<1.0	1.0	3019486	0.077	0.0050	3020076	0.17	0.050	3019486
Benzo(b/j)fluoranthene	ug/g	2.0	0.64	0.24	0.050	<1.0	1.0	3019486	0.14	0.0050	3020076	0.34	0.050	3019486
Benzo(g,h,i)perylene	ug/g	1.1	0.27	0.13	0.050	<1.0	1.0	3019486	0.060	0.0050	3020076	0.11	0.050	3019486
Benzo(k)fluoranthene	ug/g	0.82	0.22	0.087	0.050	<1.0	1.0	3019486	0.051	0.0050	3020076	0.11	0.050	3019486
Chrysene	ug/g	1.5	0.47	0.19	0.050	<1.0	1.0	3019486	0.075	0.0050	3020076	0.28	0.050	3019486
Dibenz(a,h)anthracene	ug/g	0.24	0.059	<0.050	0.050	<1.0	1.0	3019486	0.014	0.0050	3020076	<0.050	0.050	3019486
Fluoranthene	ug/g	3.6	1.2	0.51	0.050	1.6	1.0	3019486	0.13	0.0050	3020076	0.53	0.050	3019486
Fluorene	ug/g	0.11	0.068	<0.050	0.050	<1.0	1.0	3019486	<0.0050	0.0050	3020076	<0.050	0.050	3019486
Indeno(1,2,3-cd)pyrene	ug/g	1.1	0.29	0.12	0.050	<1.0	1.0	3019486	0.059	0.0050	3020076	0.11	0.050	3019486
1-Methylnaphthalene	ug/g	0.10	<0.050	<0.050	0.050	<1.0	1.0	3019486	0.023	0.0050	3020076	0.35	0.050	3019486
2-Methylnaphthalene	ug/g	0.14	<0.050	<0.050	0.050	<1.0	1.0	3019486	0.030	0.0050	3020076	0.41	0.050	3019486
Naphthalene	ug/g	0.078	<0.050	<0.050	0.050	<1.0	1.0	3019486	0.036	0.0050	3020076	0.27	0.050	3019486
Phenanthrene	ug/g	1.7	0.60	0.22	0.050	2.0	1.0	3019486	0.071	0.0050	3020076	0.48	0.050	3019486
Pyrene	ug/g	3.1	1.0	0.41	0.050	1.5	1.0	3019486	0.11	0.0050	3020076	0.47	0.050	3019486
Surrogate Recovery (%)														
D10-Anthracene	%	95	97	125		120		3019486	76		3020076	100		3019486
D14-Terphenyl (FS)	%	92	81	80		90		3019486	90		3020076	69		3019486
D8-Acenaphthylene	%	73	69	73		80		3019486	80		3020076	71		3019486

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 PAHS IN SOIL (SOIL)

Maxxam ID		PJ6748		PJ6749	PJ6749		PJ6750		PJ6751		PJ6752		
Sampling Date		2012/10/23 16:30		2012/10/23 16:45	2012/10/23 16:45		2012/10/24 10:30		2012/10/24 10:40		2012/10/24 10:50		
	Units	**SS-501**	**QC Batch**	**SD-501**	**SD-501 Lab-Dup**	**RDL**	**SD-201A**	**RDL**	**SD-201B**	**RDL**	**SD-201C**	**RDL**	**QC Batch**
Calculated Parameters													
Methylnaphthalene, 2-(1-)	ug/g	0.055	3017730	<0.0071		0.0071	0.35	0.071	2.2	1.4	3.8	0.71	3017730
Polyaromatic Hydrocarbons													
Acenaphthene	ug/g	0.017	3020076	<0.0050	<0.0050	0.0050	0.22	0.050	1.4	1.0	1.6	0.50	3019486
Acenaphthylene	ug/g	0.043	3020076	<0.0050	<0.0050	0.0050	0.18	0.050	<1.0	1.0	0.64	0.50	3019486
Anthracene	ug/g	0.028	3020076	<0.0050	<0.0050	0.0050	0.32	0.050	1.3	1.0	1.3	0.50	3019486
Benzo(a)anthracene	ug/g	0.038	3020076	<0.0050	<0.0050	0.0050	0.81	0.050	2.0	1.0	2.9	0.50	3019486
Benzo(a)pyrene	ug/g	0.031	3020076	<0.0050	<0.0050	0.0050	0.55	0.050	1.5	1.0	2.0	0.50	3019486
Benzo(b/j)fluoranthene	ug/g	0.050	3020076	0.0056	<0.0050	0.0050	0.78	0.050	2.6	1.0	3.4	0.50	3019486
Benzo(g,h,i)perylene	ug/g	0.023	3020076	0.011	0.010	0.0050	0.37	0.050	1.1	1.0	1.2	0.50	3019486
Benzo(k)fluoranthene	ug/g	0.013	3020076	<0.0050	<0.0050	0.0050	0.27	0.050	<1.0	1.0	0.92	0.50	3019486
Chrysene	ug/g	0.034	3020076	0.0059	0.0056	0.0050	0.71	0.050	2.5	1.0	3.5	0.50	3019486
Dibenz(a,h)anthracene	ug/g	0.0076	3020076	<0.0050	<0.0050	0.0050	0.081	0.050	<1.0	1.0	<0.50	0.50	3019486
Fluoranthene	ug/g	0.044	3020076	0.0067	<0.0050	0.0050	2.0	0.050	5.6	1.0	5.2	0.50	3019486
Fluorene	ug/g	0.015	3020076	<0.0050	<0.0050	0.0050	0.25	0.050	1.1	1.0	1.3	0.50	3019486
Indeno(1,2,3-cd)pyrene	ug/g	0.017	3020076	<0.0050	<0.0050	0.0050	0.38	0.050	1.0	1.0	1.1	0.50	3019486
1-Methylnaphthalene	ug/g	0.039	3020076	<0.0050	<0.0050	0.0050	0.20	0.050	1.1	1.0	1.9	0.50	3019486
2-Methylnaphthalene	ug/g	0.016	3020076	<0.0050	<0.0050	0.0050	0.16	0.050	1.1	1.0	1.9	0.50	3019486
Naphthalene	ug/g	0.021	3020076	<0.0050	<0.0050	0.0050	0.20	0.050	<1.0	1.0	<0.50	0.50	3019486
Phenanthrene	ug/g	0.074	3020076	0.0067	0.0068	0.0050	2.0	0.050	5.9	1.0	8.9	0.50	3019486
Pyrene	ug/g	0.050	3020076	0.0094	0.0066	0.0050	1.7	0.050	4.4	1.0	4.8	0.50	3019486
Surrogate Recovery (%)													
D10-Anthracene	%	77	3020076	81	77		102		120		120		3019486
D14-Terphenyl (FS)	%	90	3020076	88	85		96		90		110		3019486
D8-Acenaphthylene	%	85	3020076	76	77		86		80		90		3019486

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 PAHS IN SOIL (SOIL)

Maxxam ID		PJ6753			PJ6754			PJ6755		PJ6756		
Sampling Date		2012/10/24 11:10			2012/10/24 11:20			2012/10/24 11:30		2012/10/24 11:40		
	Units	**SD-202A**	**RDL**	**QC Batch**	**SD-202B**	**RDL**	**QC Batch**	**SD-202C**	**RDL**	**SD-203A**	**RDL**	**QC Batch**
Calculated Parameters												
Methylnaphthalene, 2-(1-)	ug/g	0.27	0.071	3017730	0.11	0.014	3017730	8.7	1.4	<0.071	0.071	3017730
Polyaromatic Hydrocarbons												
Acenaphthene	ug/g	0.23	0.050	3019486	0.13	0.010	3020076	4.7	1.0	0.094	0.050	3019486
Acenaphthylene	ug/g	0.098	0.050	3019486	0.037	0.010	3020076	<1.0	1.0	<0.050	0.050	3019486
Anthracene	ug/g	0.42	0.050	3019486	0.16	0.010	3020076	2.0	1.0	0.12	0.050	3019486
Benzo(a)anthracene	ug/g	1.3	0.050	3019486	0.50	0.010	3020076	1.6	1.0	0.31	0.050	3019486
Benzo(a)pyrene	ug/g	0.84	0.050	3019486	0.49	0.010	3020076	1.2	1.0	0.26	0.050	3019486
Benzo(b/j)fluoranthene	ug/g	1.1	0.050	3019486	0.81	0.010	3020076	2.0	1.0	0.41	0.050	3019486
Benzo(g,h,i)perylene	ug/g	0.50	0.050	3019486	0.31	0.010	3020076	1.0	1.0	0.22	0.050	3019486
Benzo(k)fluoranthene	ug/g	0.36	0.050	3019486	0.29	0.010	3020076	<1.0	1.0	0.14	0.050	3019486
Chrysene	ug/g	1.1	0.050	3019486	0.55	0.010	3020076	2.1	1.0	0.45	0.050	3019486
Dibenz(a,h)anthracene	ug/g	0.12	0.050	3019486	0.078	0.010	3020076	<1.0	1.0	<0.050	0.050	3019486
Fluoranthene	ug/g	3.4	0.050	3019486	1.5	0.010	3020076	4.9	1.0	1.0	0.050	3019486
Fluorene	ug/g	0.24	0.050	3019486	0.14	0.010	3020076	2.2	1.0	0.090	0.050	3019486
Indeno(1,2,3-cd)pyrene	ug/g	0.56	0.050	3019486	0.32	0.010	3020076	<1.0	1.0	0.19	0.050	3019486
1-Methylnaphthalene	ug/g	0.14	0.050	3019486	0.079	0.010	3020076	4.4	1.0	0.054	0.050	3019486
2-Methylnaphthalene	ug/g	0.13	0.050	3019486	0.035	0.010	3020076	4.3	1.0	<0.050	0.050	3019486
Naphthalene	ug/g	0.20	0.050	3019486	0.033	0.010	3020076	<1.0	1.0	0.060	0.050	3019486
Phenanthrene	ug/g	2.1	0.050	3019486	0.98	0.010	3020076	11	1.0	0.66	0.050	3019486
Pyrene	ug/g	2.4	0.050	3019486	1.2	0.010	3020076	4.0	1.0	0.79	0.050	3019486
Surrogate Recovery (%)												
D10-Anthracene	%	119		3019486	78		3020076	130		88		3019486
D14-Terphenyl (FS)	%	90		3019486	92		3020076	110		79		3019486
D8-Acenaphthylene	%	79		3019486	82		3020076	100		71		3019486

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 #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 PAHS IN SOIL (SOIL)

Maxxam ID		PJ6757			PJ6758		PJ6759		PJ6760		
Sampling Date		2012/10/24 11:50			2012/10/24 12:30		2012/10/24 12:40		2012/10/24 13:40		
	Units	**SD-203C**	**RDL**	**QC Batch**	**SD-204**	**RDL**	**SS-201**	**RDL**	**SD-302A**	**RDL**	**QC Batch**
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	0.27	0.014	3017730	270	1.4	<0.071	0.071	0.67	0.14	3017730
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	0.17	0.010	3020076	89	1.0	<0.050	0.050	0.53	0.10	3019486
Acenaphthylene	ug/g	0.053	0.010	3020076	3.3	1.0	0.78	0.050	0.24	0.10	3019486
Anthracene	ug/g	0.16	0.010	3020076	24	1.0	0.42	0.050	1.1	0.10	3019486
Benzo(a)anthracene	ug/g	0.31	0.010	3020076	9.7	1.0	0.96	0.050	4.7	0.10	3019486
Benzo(a)pyrene	ug/g	0.23	0.010	3020076	2.8	1.0	0.87	0.050	3.6	0.10	3019486
Benzo(b/j)fluoranthene	ug/g	0.40	0.010	3020076	4.4	1.0	1.8	0.050	4.8	0.10	3019486
Benzo(g,h,i)perylene	ug/g	0.14	0.010	3020076	<1.0	1.0	0.66	0.050	2.5	0.10	3019486
Benzo(k)fluoranthene	ug/g	0.15	0.010	3020076	1.1	1.0	0.38	0.050	1.5	0.10	3019486
Chrysene	ug/g	0.35	0.010	3020076	10	1.0	1.6	0.050	5.9	0.10	3019486
Dibenz(a,h)anthracene	ug/g	0.033	0.010	3020076	<1.0	1.0	0.25	0.050	0.51	0.10	3019486
Fluoranthene	ug/g	0.91	0.010	3020076	20	1.0	0.98	0.050	13	0.10	3019486
Fluorene	ug/g	0.18	0.010	3020076	41	1.0	0.11	0.050	0.61	0.10	3019486
Indeno(1,2,3-cd)pyrene	ug/g	0.12	0.010	3020076	<1.0	1.0	0.74	0.050	2.5	0.10	3019486
1-Methylnaphthalene	ug/g	0.16	0.010	3020076	120	1.0	<0.050	0.050	0.29	0.10	3019486
2-Methylnaphthalene	ug/g	0.11	0.010	3020076	150	1.0	0.054	0.050	0.38	0.10	3019486
Naphthalene	ug/g	0.054	0.010	3020076	250	1.0	<0.050	0.050	0.49	0.10	3019486
Phenanthrene	ug/g	0.81	0.010	3020076	120	1.0	0.49	0.050	6.1	0.10	3019486
Pyrene	ug/g	0.75	0.010	3020076	19	1.0	1.3	0.050	10	0.10	3019486
Surrogate Recovery (%)											
D10-Anthracene	%	77		3020076	130		94		129		3019486
D14-Terphenyl (FS)	%	93		3020076	NC(1)		82		98		3019486
D8-Acenaphthylene	%	80		3020076	130		68		81		3019486

NC = Non-calculable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Surrogate recovery was not calculated (NC) due to matrix interferences.

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 PAHS IN SOIL (SOIL)

Maxxam ID		PJ6761	PJ6762		PJ6763		PJ6764	PJ6765		
Sampling Date		2012/10/24 13:50	2012/10/24 14:00		2012/10/24 14:10		2012/10/24 14:20	2012/10/24 14:30		
	Units	**SD-302B**	**SD-302C**	**RDL**	**SD-301A**	**RDL**	**SD-301B**	**SD-301C**	**RDL**	**QC Batch**
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	<1.4	33	1.4	0.44	0.14	<1.4	5.4	1.4	3017730
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	<1.0	5.0	1.0	0.53	0.10	<1.0	<1.0	1.0	3019486
Acenaphthylene	ug/g	<1.0	<1.0	1.0	0.11	0.10	<1.0	<1.0	1.0	3019486
Anthracene	ug/g	<1.0	3.3	1.0	1.2	0.10	2.0	1.7	1.0	3019486
Benzo(a)anthracene	ug/g	1.9	2.1	1.0	5.1	0.10	7.1	3.8	1.0	3019486
Benzo(a)pyrene	ug/g	1.7	1.4	1.0	4.2	0.10	6.6	2.7	1.0	3019486
Benzo(b/j)fluoranthene	ug/g	3.1	2.1	1.0	5.2	0.10	10	4.2	1.0	3019486
Benzo(g,h,i)perylene	ug/g	1.5	1.0	1.0	2.9	0.10	5.2	2.0	1.0	3019486
Benzo(k)fluoranthene	ug/g	<1.0	<1.0	1.0	1.6	0.10	3.8	1.5	1.0	3019486
Chrysene	ug/g	3.2	2.2	1.0	6.0	0.10	9.4	5.0	1.0	3019486
Dibenz(a,h)anthracene	ug/g	<1.0	<1.0	1.0	0.58	0.10	<1.0	<1.0	1.0	3019486
Fluoranthene	ug/g	6.0	6.4	1.0	15	0.10	22	11	1.0	3019486
Fluorene	ug/g	<1.0	8.0	1.0	0.62	0.10	<1.0	1.6	1.0	3019486
Indeno(1,2,3-cd)pyrene	ug/g	1.3	<1.0	1.0	3.1	0.10	4.7	1.5	1.0	3019486
1-Methylnaphthalene	ug/g	<1.0	14	1.0	0.18	0.10	<1.0	2.4	1.0	3019486
2-Methylnaphthalene	ug/g	<1.0	19	1.0	0.26	0.10	<1.0	3.0	1.0	3019486
Naphthalene	ug/g	<1.0	<1.0	1.0	0.29	0.10	<1.0	<1.0	1.0	3019486
Phenanthrene	ug/g	3.4	21	1.0	7.6	0.10	11	8.5	1.0	3019486
Pyrene	ug/g	5.0	6.0	1.0	11	0.10	17	8.6	1.0	3019486
Surrogate Recovery (%)										
D10-Anthracene	%	130	110		122		130	120		3019486
D14-Terphenyl (FS)	%	120	NC(1)		100		100	120		3019486
D8-Acenaphthylene	%	110	80		88		90	NC(1)		3019486

NC = Non-calculable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Surrogate recovery was not calculated (NC) due to matrix interferences.

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Golder Associates Ltd
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Sampler Initials: KL

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		PJ6740	PJ6741		PJ6743		PJ6744		PJ6745		PJ6746		
Sampling Date		2012/10/23 11:20	2012/10/23 11:40		2012/10/23 14:30		2012/10/23 15:10		2012/10/23 15:10		2012/10/23 15:20		
	Units	**SS-101**	**SD-101**	**RDL**	**SD-401**	**RDL**	**SS-401**	**QC Batch**	**SS-402**	**QC Batch**	**SS-403**	**RDL**	**QC Batch**
Inorganics													
Moisture	%	14	20	1.0	47	1.0	18	3019571	12	3019164	19	1.0	3019571
BTEX & F1 Hydrocarbons													
Benzene	ug/g								<0.020	3021440		0.020	
Toluene	ug/g								0.20	3021440		0.020	
Ethylbenzene	ug/g								0.029	3021440		0.020	
o-Xylene	ug/g								0.078	3021440		0.020	
p+m-Xylene	ug/g								0.14	3021440		0.040	
Total Xylenes	ug/g								0.21	3021440		0.040	
F1 (C6-C10)	ug/g	<10	<10	10	33	20	<10	3021440	<10	3021440	17	10	3021440
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	32	20	<10	3021440	<10	3021440	16	10	3021440
F2-F4 Hydrocarbons													
F2 (C10-C16 Hydrocarbons)	ug/g	<10	15	10	970	20	<10	3021149	<10	3021149	11	10	3021149
F3 (C16-C34 Hydrocarbons)	ug/g	250	230	10	8100	20	47	3021149	510	3021149	38	10	3021149
F4 (C34-C50 Hydrocarbons)	ug/g	170	130	10	1600	20	<10	3021149	210	3021149	<10	10	3021149
Reached Baseline at C50	ug/g	NO	NO		YES		YES	3021149	NO	3021149	YES		3021149
Surrogate Recovery (%)													
1,4-Difluorobenzene	%	97	99		100		99	3021440	99	3021440	98		3021440
4-Bromofluorobenzene	%	97	98		101		100	3021440	100	3021440	99		3021440
D10-Ethylbenzene	%	94	94		89		99	3021440	96	3021440	95		3021440
D4-1,2-Dichloroethane	%	100	102		104		103	3021440	102	3021440	101		3021440
o-Terphenyl	%	92	94		107		96	3021149	96	3021149	94		3021149

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Sampler Initials: KL

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		PJ6747		PJ6748	PJ6749	PJ6749	PJ6750		PJ6751		PJ6752	PJ6753		
Sampling Date		2012/10/23 15:30		2012/10/23 16:30	2012/10/23 16:45	2012/10/23 16:45	2012/10/24 10:30		2012/10/24 10:40		2012/10/24 10:50	2012/10/24 11:10		
	Units	**SS-404**	**QC Batch**	**SS-501**	**SD-501**	**SD-501 Lab-Dup**	**SD-201A**	**RDL**	**SD-201B**	**RDL**	**SD-201C**	**SD-202A**	**RDL**	**QC Batch**
Inorganics														
Moisture	%	13	3019164	2.8	12	13	22	1.0	41	1.0	25	18	1.0	3019571
BTEX & F1 Hydrocarbons														
Benzene	ug/g	0.064	3021440					0.020						
Toluene	ug/g	0.31	3021440					0.020						
Ethylbenzene	ug/g	0.13	3021440					0.020						
o-Xylene	ug/g	0.64	3021440					0.020						
p+m-Xylene	ug/g	0.59	3021440					0.040						
Total Xylenes	ug/g	1.2	3021440					0.040						
F1 (C6-C10)	ug/g	22	3021440	<10	<10		<10	10	<20	20	27	<10	10	3021440
F1 (C6-C10) - BTEX	ug/g	20	3021440	<10	<10		<10	10	<20	20	26	<10	10	3021440
F2-F4 Hydrocarbons														
F2 (C10-C16 Hydrocarbons)	ug/g	34	3021149	11	<10		45	10	160	20	340	29	10	3021149
F3 (C16-C34 Hydrocarbons)	ug/g	500	3021149	38	<10		690	10	3800	20	3300	530	10	3021149
F4 (C34-C50 Hydrocarbons)	ug/g	250	3021149	<10	<10		560	10	2200	20	1100	240	10	3021149
Reached Baseline at C50	ug/g	NO	3021149	YES	YES		NO		NO		NO	NO		3021149
Surrogate Recovery (%)														
1,4-Difluorobenzene	%	99	3021440	98	97		98		97		98	96		3021440
4-Bromofluorobenzene	%	99	3021440	101	99		100		100		102	100		3021440
D10-Ethylbenzene	%	94	3021440	95	100		91		96		92	93		3021440
D4-1,2-Dichloroethane	%	101	3021440	103	101		101		102		102	102		3021440
o-Terphenyl	%	100	3021149	98	94		98		101		104	96		3021149

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		PJ6754		PJ6755		PJ6756		PJ6757		PJ6758		
Sampling Date		2012/10/24 11:20		2012/10/24 11:30		2012/10/24 11:40		2012/10/24 11:50		2012/10/24 12:30		
	Units	**SD-202B**	**QC Batch**	**SD-202C**	**QC Batch**	**SD-203A**	**QC Batch**	**SD-203C**	**RDL**	**SD-204**	**RDL**	**QC Batch**
Inorganics												
Moisture	%	20	3019571	36	3019164	16	3019571	25	1.0	43	1.0	3019571
BTEX & F1 Hydrocarbons												
F1 (C6-C10)	ug/g	<10	3021440	20	3021440	<10	3021440	<10	10	280	100	3021440
F1 (C6-C10) - BTEX	ug/g	<10	3021440	19	3021440	<10	3021440	<10	10	160	100	3021440
F2-F4 Hydrocarbons												
F2 (C10-C16 Hydrocarbons)	ug/g	49	3021149	740	3021149	28	3021149	160	10	5900	20	3021640
F3 (C16-C34 Hydrocarbons)	ug/g	2000	3021149	7500	3021149	670	3021149	2500	10	19000	20	3021640
F4 (C34-C50 Hydrocarbons)	ug/g	650	3021149	2400	3021149	350	3021149	860	10	2100	20	3021640
Reached Baseline at C50	ug/g	NO	3021149	YES	3021149	NO	3021149	NO		YES		3021640
Surrogate Recovery (%)												
1,4-Difluorobenzene	%	97	3021440	97	3021440	98	3021440	97		97		3021440
4-Bromofluorobenzene	%	99	3021440	102	3021440	99	3021440	101		102		3021440
D10-Ethylbenzene	%	91	3021440	90	3021440	99	3021440	98		98		3021440
D4-1,2-Dichloroethane	%	99	3021440	102	3021440	100	3021440	101		99		3021440
o-Terphenyl	%	102	3021149	110	3021149	94	3021149	81		104		3021640

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		PJ6759	PJ6759			PJ6760	PJ6760		PJ6761		
Sampling Date		2012/10/24 12:40	2012/10/24 12:40			2012/10/24 13:40	2012/10/24 13:40		2012/10/24 13:50		
	Units	**SS-201**	**SS-201 Lab-Dup**	**RDL**	**QC Batch**	**SD-302A**	**SD-302A Lab-Dup**	**QC Batch**	**SD-302B**	**RDL**	**QC Batch**
Inorganics											
Moisture	%	12		1.0	3019238	60		3019571	56	1.0	3019164
BTEX & F1 Hydrocarbons											
F1 (C6-C10)	ug/g	<10		10	3021440	<30	<30	3020379	<30	30	3020379
F1 (C6-C10) - BTEX	ug/g	<10		10	3021440	<30	<30	3020379	<30	30	3020379
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	3021640	160		3021640	340	20	3021640
F3 (C16-C34 Hydrocarbons)	ug/g	250	290	10	3021640	7300		3021640	13000	20	3021640
F4 (C34-C50 Hydrocarbons)	ug/g	150	110	10	3021640	7000		3021640	4600	20	3021640
Reached Baseline at C50	ug/g	NO	NO		3021640	NO		3021640	YES		3021640
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	97			3021440	107	105	3020379	103		3020379
4-Bromofluorobenzene	%	100			3021440	104	102	3020379	105		3020379
D10-Ethylbenzene	%	96			3021440	98	91	3020379	85		3020379
D4-1,2-Dichloroethane	%	101			3021440	92	88	3020379	92		3020379
o-Terphenyl	%	78	78		3021640	80		3021640	82		3021640

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		PJ6762			PJ6763			PJ6764		PJ6765		
Sampling Date		2012/10/24 14:00			2012/10/24 14:10			2012/10/24 14:20		2012/10/24 14:30		
	Units	**SD-302C**	**RDL**	**QC Batch**	**SD-301A**	**RDL**	**QC Batch**	**SD-301B**	**RDL**	**SD-301C**	**RDL**	**QC Batch**
Inorganics												
Moisture	%	53	1.0	3019571	43	1.0	3019164	60	1.0	54	1.0	3019571
BTEX & F1 Hydrocarbons												
F1 (C6-C10)	ug/g	100	30	3020379	<20	20	3020379	<30	30	82	20	3020379
F1 (C6-C10) - BTEX	ug/g	97	30	3020379	<20	20	3020379	<30	30	79	20	3020379
F2-F4 Hydrocarbons												
F2 (C10-C16 Hydrocarbons)	ug/g	10000	20	3021640	59	10	3021640	140	30	3500	20	3021640
F3 (C16-C34 Hydrocarbons)	ug/g	71000	20	3021640	2000	10	3021640	4900	30	37000	20	3021640
F4 (C34-C50 Hydrocarbons)	ug/g	9300	20	3021640	860	10	3021640	2100	30	10000	20	3021640
Reached Baseline at C50	ug/g	YES		3021640	NO		3021640	NO		YES		3021640
Surrogate Recovery (%)												
1,4-Difluorobenzene	%	101		3020379	102		3020379	101		103		3020379
4-Bromofluorobenzene	%	104		3020379	105		3020379	102		107		3020379
D10-Ethylbenzene	%	81		3020379	88		3020379	90		81		3020379
D4-1,2-Dichloroethane	%	85		3020379	91		3020379	88		90		3020379
o-Terphenyl	%	114		3021640	78		3021640	82		113		3021640

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6740		PJ6741	PJ6741	PJ6743	PJ6744	PJ6746	PJ6748	PJ6749		
Sampling Date		2012/10/23 11:20		2012/10/23 11:40	2012/10/23 11:40	2012/10/23 14:30	2012/10/23 15:10	2012/10/23 15:20	2012/10/23 16:30	2012/10/23 16:45		
	Units	**SS-101**	**RDL**	**SD-101**	**SD-101 Lab-Dup**	**SD-401**	**SS-401**	**SS-403**	**SS-501**	**SD-501**	**RDL**	**QC Batch**
Calculated Parameters												
1,3-Dichloropropene (cis+trans)	ug/g	<0.10	0.10	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3017731
Volatile Organics												
Acetone (2-Propanone)	ug/g	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	3018358
Benzene	ug/g	<0.040	0.040	<0.020	<0.020	<0.020	<0.020	0.023	<0.020	<0.020	0.020	3018358
Bromodichloromethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Bromoform	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Bromomethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Carbon Tetrachloride	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Chlorobenzene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Chloroform	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Dibromochloromethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,2-Dichlorobenzene	ug/g	<0.10	0.10	<0.050	<0.050	0.28	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,3-Dichlorobenzene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,4-Dichlorobenzene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Dichlorodifluoromethane (FREON 12)	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,1-Dichloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,2-Dichloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,1-Dichloroethylene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
cis-1,2-Dichloroethylene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
trans-1,2-Dichloroethylene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,2-Dichloropropane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
cis-1,3-Dichloropropene	ug/g	<0.060	0.060	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.030	3018358
trans-1,3-Dichloropropene	ug/g	<0.080	0.080	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	3018358
Ethylbenzene	ug/g	0.16	0.040	<0.020	<0.020	<0.020	0.21	0.065	<0.020	<0.020	0.020	3018358
Ethylene Dibromide	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Hexane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	0.067	<0.050	<0.050	0.050	3018358
Methylene Chloride(Dichloromethane)	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Methyl Isobutyl Ketone	ug/g	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	3018358
Methyl Ethyl Ketone (2-Butanone)	ug/g	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	3018358
Methyl t-butyl ether (MTBE)	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Styrene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,1,1,2-Tetrachloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,1,2,2-Tetrachloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Tetrachloroethylene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6740		PJ6741	PJ6741	PJ6743	PJ6744	PJ6746	PJ6748	PJ6749		
Sampling Date		2012/10/23 11:20		2012/10/23 11:40	2012/10/23 11:40	2012/10/23 14:30	2012/10/23 15:10	2012/10/23 15:20	2012/10/23 16:30	2012/10/23 16:45		
	Units	**SS-101**	**RDL**	**SD-101**	**SD-101 Lab-Dup**	**SD-401**	**SS-401**	**SS-403**	**SS-501**	**SD-501**	**RDL**	**QC Batch**
Toluene	ug/g	3.9	0.040	<0.020	<0.020	0.10	1.3	0.22	<0.020	<0.020	0.020	3018358
1,1,1-Trichloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
1,1,2-Trichloroethane	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Trichloroethylene	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Vinyl Chloride	ug/g	<0.040	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	3018358
p+m-Xylene	ug/g	0.64	0.040	<0.020	<0.020	0.11	1.2	0.43	<0.020	<0.020	0.020	3018358
o-Xylene	ug/g	0.24	0.040	<0.020	<0.020	0.036	0.57	0.38	<0.020	<0.020	0.020	3018358
Xylene (Total)	ug/g	0.88	0.040	<0.020	<0.020	0.15	1.8	0.81	<0.020	<0.020	0.020	3018358
Trichlorofluoromethane (FREON 11)	ug/g	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3018358
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	106		100	98	100	108	99	99	98		3018358
D10-o-Xylene	%	100		90	100	86	96	91	89	104		3018358
D4-1,2-Dichloroethane	%	99		103	99	99	93	92	92	89		3018358
D8-Toluene	%	99		101	100	103	100	102	101	99		3018358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6750	PJ6751		PJ6752		PJ6753	PJ6754		PJ6755		PJ6756		
Sampling Date		2012/10/24 10:30	2012/10/24 10:40		2012/10/24 10:50		2012/10/24 11:10	2012/10/24 11:20		2012/10/24 11:30		2012/10/24 11:40		
	Units	**SD-201A**	**SD-201B**	**RDL**	**SD-201C**	**RDL**	**SD-202A**	**SD-202B**	**RDL**	**SD-202C**	**RDL**	**SD-203A**	**RDL**	**QC Batch**
Calculated Parameters														
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3017731
Volatile Organics														
Acetone (2-Propanone)	ug/g	<0.50	<0.50	0.50	<1.0	1.0	<0.50	<0.50	0.50	<2.0	2.0	<0.50	0.50	3018358
Benzene	ug/g	<0.020	0.033	0.020	<0.040	0.040	<0.020	<0.020	0.020	<0.080	0.080	<0.020	0.020	3018358
Bromodichloromethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Bromoform	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Bromomethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Carbon Tetrachloride	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Chlorobenzene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Chloroform	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Dibromochloromethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,1-Dichloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,2-Dichloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,1-Dichloroethylene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,2-Dichloropropane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	<0.060	0.060	<0.030	<0.030	0.030	<0.12	0.12	<0.030	0.030	3018358
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	<0.080	0.080	<0.040	<0.040	0.040	<0.16	0.16	<0.040	0.040	3018358
Ethylbenzene	ug/g	0.060	0.084	0.020	<0.040	0.040	0.078	<0.020	0.020	<0.080	0.080	<0.020	0.020	3018358
Ethylene Dibromide	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Hexane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	0.50	<1.0	1.0	<0.50	<0.50	0.50	<2.0	2.0	<0.50	0.50	3018358
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	0.50	<1.0	1.0	<0.50	<0.50	0.50	<2.0	2.0	<0.50	0.50	3018358
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Styrene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Tetrachloroethylene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6750	PJ6751		PJ6752		PJ6753	PJ6754		PJ6755		PJ6756		
Sampling Date		2012/10/24 10:30	2012/10/24 10:40		2012/10/24 10:50		2012/10/24 11:10	2012/10/24 11:20		2012/10/24 11:30		2012/10/24 11:40		
	Units	**SD-201A**	**SD-201B**	**RDL**	**SD-201C**	**RDL**	**SD-202A**	**SD-202B**	**RDL**	**SD-202C**	**RDL**	**SD-203A**	**RDL**	**QC Batch**
Toluene	ug/g	0.061	0.078	0.020	0.060	0.040	0.034	<0.020	0.020	0.17	0.080	<0.020	0.020	3018358
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Trichloroethylene	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Vinyl Chloride	ug/g	<0.020	<0.020	0.020	<0.040	0.040	<0.020	<0.020	0.020	<0.080	0.080	<0.020	0.020	3018358
p+m-Xylene	ug/g	0.022	0.066	0.020	0.10	0.040	0.029	0.072	0.020	0.14	0.080	<0.020	0.020	3018358
o-Xylene	ug/g	<0.020	0.045	0.020	0.15	0.040	<0.020	<0.020	0.020	0.084	0.080	<0.020	0.020	3018358
Xylene (Total)	ug/g	0.022	0.11	0.020	0.25	0.040	0.029	0.072	0.020	0.23	0.080	<0.020	0.020	3018358
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	0.050	<0.10	0.10	<0.050	<0.050	0.050	<0.20	0.20	<0.050	0.050	3018358
Surrogate Recovery (%)														
4-Bromofluorobenzene	%	96	98		108		97	97		109		98		3018358
D10-o-Xylene	%	92	100		107		104	97		110		103		3018358
D4-1,2-Dichloroethane	%	87	87		101		83	83		101		85		3018358
D8-Toluene	%	100	101		98		102	103		99		102		3018358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6757		PJ6758		PJ6759		PJ6760			PJ6761		
Sampling Date		2012/10/24 11:50		2012/10/24 12:30		2012/10/24 12:40		2012/10/24 13:40			2012/10/24 13:50		
	Units	**SD-203C**	**RDL**	**SD-204**	**RDL**	**SS-201**	**RDL**	**SD-302A**	**RDL**	**QC Batch**	**SD-302B**	**RDL**	**QC Batch**
Calculated Parameters													
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3017731	<1.2	1.2	3017731
Volatile Organics													
Acetone (2-Propanone)	ug/g	<0.50	0.50	<40	40	<0.50	0.50	<1.5	1.5	3018358	<12	12	3017119
Benzene	ug/g	<0.020	0.020	1.9	1.6	<0.020	0.020	<0.060	0.060	3018358	<0.48	0.48	3017119
Bromodichloromethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Bromoform	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Bromomethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Carbon Tetrachloride	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Chlorobenzene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Chloroform	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Dibromochloromethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,2-Dichlorobenzene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,3-Dichlorobenzene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,4-Dichlorobenzene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,1-Dichloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,2-Dichloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,1-Dichloroethylene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
cis-1,2-Dichloroethylene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
trans-1,2-Dichloroethylene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,2-Dichloropropane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	<2.4	2.4	<0.030	0.030	<0.090	0.090	3018358	<0.72	0.72	3017119
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	<3.2	3.2	<0.040	0.040	<0.12	0.12	3018358	<0.96	0.96	3017119
Ethylbenzene	ug/g	<0.020	0.020	130	1.6	<0.020	0.020	0.11	0.060	3018358	<0.48	0.48	3017119
Ethylene Dibromide	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Hexane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Methylene Chloride(Dichloromethane)	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Methyl Isobutyl Ketone	ug/g	<0.50	0.50	<40	40	<0.50	0.50	<1.5	1.5	3018358	<12	12	3017119
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	0.50	<40	40	<0.50	0.50	<1.5	1.5	3018358	<12	12	3017119
Methyl t-butyl ether (MTBE)	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Styrene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	0.18	0.15	3018358	<1.2	1.2	3017119
1,1,1,2-Tetrachloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,1,2,2-Tetrachloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Tetrachloroethylene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6757		PJ6758		PJ6759		PJ6760			PJ6761		
Sampling Date		2012/10/24 11:50		2012/10/24 12:30		2012/10/24 12:40		2012/10/24 13:40			2012/10/24 13:50		
	Units	**SD-203C**	**RDL**	**SD-204**	**RDL**	**SS-201**	**RDL**	**SD-302A**	**RDL**	**QC Batch**	**SD-302B**	**RDL**	**QC Batch**
Toluene	ug/g	0.034	0.020	1.8	1.6	<0.020	0.020	0.19	0.060	3018358	<0.48	0.48	3017119
1,1,1-Trichloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
1,1,2-Trichloroethane	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Trichloroethylene	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Vinyl Chloride	ug/g	<0.020	0.020	<1.6	1.6	<0.020	0.020	<0.060	0.060	3018358	<0.48	0.48	3017119
p+m-Xylene	ug/g	<0.020	0.020	25	1.6	<0.020	0.020	0.16	0.060	3018358	<0.48	0.48	3017119
o-Xylene	ug/g	<0.020	0.020	18	1.6	<0.020	0.020	0.11	0.060	3018358	<0.48	0.48	3017119
Xylene (Total)	ug/g	<0.020	0.020	43	1.6	<0.020	0.020	0.27	0.060	3018358	<0.48	0.48	3017119
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	0.050	<4.0	4.0	<0.050	0.050	<0.15	0.15	3018358	<1.2	1.2	3017119
Surrogate Recovery (%)													
4-Bromofluorobenzene	%	98		104		97		97		3018358	110		3017119
D10-o-Xylene	%	94		NC(1)		90		93		3018358	84		3017119
D4-1,2-Dichloroethane	%	85		101		85		84		3018358	97		3017119
D8-Toluene	%	101		95		100		100		3018358	102		3017119

NC = Non-calculable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Extraction surrogate recovery not calculable (NC) due to high dilution required.

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6762		PJ6763		PJ6764		PJ6765		
Sampling Date		2012/10/24 14:00		2012/10/24 14:10		2012/10/24 14:20		2012/10/24 14:30		
	Units	**SD-302C**	**RDL**	**SD-301A**	**RDL**	**SD-301B**	**RDL**	**SD-301C**	**RDL**	**QC Batch**
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017731
Volatile Organics										
Acetone (2-Propanone)	ug/g	<10	10	<4.0	4.0	<6.0	6.0	<10	10	3017119
Benzene	ug/g	<0.40	0.40	<0.16	0.16	<0.24	0.24	<0.40	0.40	3017119
Bromodichloromethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Bromoform	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Bromomethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Carbon Tetrachloride	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Chlorobenzene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Chloroform	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Dibromochloromethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,2-Dichlorobenzene	ug/g	1.9	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,3-Dichlorobenzene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,4-Dichlorobenzene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Dichlorodifluoromethane (FREON 12)	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,1-Dichloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,2-Dichloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,1-Dichloroethylene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
cis-1,2-Dichloroethylene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
trans-1,2-Dichloroethylene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,2-Dichloropropane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
cis-1,3-Dichloropropene	ug/g	<0.60	0.60	<0.24	0.24	<0.36	0.36	<0.60	0.60	3017119
trans-1,3-Dichloropropene	ug/g	<0.80	0.80	<0.32	0.32	<0.48	0.48	<0.80	0.80	3017119
Ethylbenzene	ug/g	<0.40	0.40	<0.16	0.16	<0.24	0.24	<0.40	0.40	3017119
Ethylene Dibromide	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Hexane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Methylene Chloride(Dichloromethane)	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Methyl Isobutyl Ketone	ug/g	<10	10	<4.0	4.0	<6.0	6.0	<10	10	3017119
Methyl Ethyl Ketone (2-Butanone)	ug/g	<10	10	<4.0	4.0	<6.0	6.0	<10	10	3017119
Methyl t-butyl ether (MTBE)	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Styrene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,1,1,2-Tetrachloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,1,2,2-Tetrachloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Tetrachloroethylene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 153 VOLATILE ORGANICS IN SOIL (SOIL)

Maxxam ID		PJ6762		PJ6763		PJ6764		PJ6765		
Sampling Date		2012/10/24 14:00		2012/10/24 14:10		2012/10/24 14:20		2012/10/24 14:30		
	Units	**SD-302C**	**RDL**	**SD-301A**	**RDL**	**SD-301B**	**RDL**	**SD-301C**	**RDL**	**QC Batch**
Toluene	ug/g	<0.40	0.40	0.43	0.16	<0.24	0.24	0.52	0.40	3017119
1,1,1-Trichloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
1,1,2-Trichloroethane	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Trichloroethylene	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Vinyl Chloride	ug/g	<0.40	0.40	<0.16	0.16	<0.24	0.24	<0.40	0.40	3017119
p+m-Xylene	ug/g	1.0	0.40	<0.16	0.16	<0.24	0.24	0.87	0.40	3017119
o-Xylene	ug/g	1.7	0.40	<0.16	0.16	<0.24	0.24	1.3	0.40	3017119
Xylene (Total)	ug/g	2.8	0.40	<0.16	0.16	<0.24	0.24	2.2	0.40	3017119
Trichlorofluoromethane (FREON 11)	ug/g	<1.0	1.0	<0.40	0.40	<0.60	0.60	<1.0	1.0	3017119
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	110		108		109		109		3017119
D10-o-Xylene	%	75		90		85		87		3017119
D4-1,2-Dichloroethane	%	96		96		96		94		3017119
D8-Toluene	%	102		100		102		101		3017119

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 558 TCLP VOLATILE ORGANICS (SOIL)

Maxxam ID		PJ6766		
Sampling Date		2012/10/24 14:40		
	Units	**COMP 1**	**RDL**	**QC Batch**
Charge/Prep Analysis				
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	3021187
Volatile Organics				
Leachable Benzene	mg/L	<0.020	0.020	3021909
Leachable Carbon Tetrachloride	mg/L	<0.020	0.020	3021909
Leachable Chlorobenzene	mg/L	<0.020	0.020	3021909
Leachable Chloroform	mg/L	<0.020	0.020	3021909
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	0.050	3021909
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	0.050	3021909
Leachable 1,2-Dichloroethane	mg/L	<0.050	0.050	3021909
Leachable 1,1-Dichloroethylene	mg/L	<0.020	0.020	3021909
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	0.20	3021909
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	1.0	3021909
Leachable Tetrachloroethylene	mg/L	<0.020	0.020	3021909
Leachable Trichloroethylene	mg/L	<0.020	0.020	3021909
Leachable Vinyl Chloride	mg/L	<0.020	0.020	3021909
Surrogate Recovery (%)				
Leachable 4-Bromofluorobenzene	%	95		3021909
Leachable D4-1,2-Dichloroethane	%	105		3021909
Leachable D8-Toluene	%	104		3021909

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 558 TCLP INORGANICS PACKAGE (SOIL)

Maxxam ID		PJ6766		
Sampling Date		2012/10/24 14:40		
	Units	**COMP 1**	**RDL**	**QC Batch**
Inorganics				
Leachable Fluoride (F-)	mg/L	0.2	0.1	3020603
Leachable Free Cyanide	mg/L	<0.002	0.002	3020606
Leachable Nitrite (N)	mg/L	<0.1	0.1	3020607
Leachable Nitrate (N)	mg/L	<1	1	3020607
Leachable Nitrate + Nitrite	mg/L	<1	1	3020607
Metals				
Leachable Mercury (Hg)	mg/L	<0.001	0.001	3019359
Leachable Arsenic (As)	mg/L	<0.2	0.2	3019343
Leachable Barium (Ba)	mg/L	0.7	0.2	3019343
Leachable Boron (B)	mg/L	0.2	0.1	3019343
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	3019343
Leachable Chromium (Cr)	mg/L	<0.1	0.1	3019343
Leachable Lead (Pb)	mg/L	<0.1	0.1	3019343
Leachable Selenium (Se)	mg/L	<0.1	0.1	3019343
Leachable Silver (Ag)	mg/L	<0.01	0.01	3019343
Leachable Uranium (U)	mg/L	<0.01	0.01	3019343

O.REG 558 TCLP LEACHATE PREPARATION (SOIL)

Maxxam ID		PJ6766	PJ6766		
Sampling Date		2012/10/24 14:40	2012/10/24 14:40		
	Units	**COMP 1**	**COMP 1 Lab-Dup**	**RDL**	**QC Batch**
Inorganics					
Final pH	pH	4.84	4.82		3019012
Initial pH	pH	8.32	8.29		3019012
TCLP - % Solids	%	100	100	0.2	3019003
TCLP Extraction Fluid	N/A	FLUID 2	FLUID 2		3019008

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

O.REG 558 TCLP PCBS (SOIL)

Maxxam ID		PJ6766		
Sampling Date		2012/10/24 14:40		
	Units	**COMP 1**	**RDL**	**QC Batch**
PCBs				
Leachable Total PCB	ug/L	<3	3	3021932
Surrogate Recovery (%)				
Leachable Decachlorobiphenyl	%	108		3021932

RESULTS OF ANALYSES OF SOIL

Maxxam ID		PJ6740	PJ6740		PJ6741		PJ6743	PJ6744	PJ6746	PJ6748	PJ6749		
Sampling Date		2012/10/23 11:20	2012/10/23 11:20		2012/10/23 11:40		2012/10/23 14:30	2012/10/23 15:10	2012/10/23 15:20	2012/10/23 16:30	2012/10/23 16:45		
	Units	**SS-101**	**SS-101 Lab-Dup**	**QC Batch**	**SD-101**	**QC Batch**	**SD-401**	**SS-401**	**SS-403**	**SS-501**	**SD-501**	**RDL**	**QC Batch**
Inorganics													
Available (CaCl2) pH	pH	7.14	7.15	3022254	7.38	3022085	6.85	7.20	7.12	7.53	7.61		3022254

Maxxam ID		PJ6750		PJ6751		PJ6752	PJ6753	PJ6754		PJ6755		
Sampling Date		2012/10/24 10:30		2012/10/24 10:40		2012/10/24 10:50	2012/10/24 11:10	2012/10/24 11:20		2012/10/24 11:30		
	Units	**SD-201A**	**QC Batch**	**SD-201B**	**QC Batch**	**SD-201C**	**SD-202A**	**SD-202B**	**QC Batch**	**SD-202C**	**RDL**	**QC Batch**
Inorganics												
Available (CaCl2) pH	pH	6.86	3022254	6.75	3022248	6.94	7.14	7.06	3022254	6.91		3022085

Maxxam ID		PJ6756	PJ6757	PJ6758	PJ6759	PJ6760	PJ6761	PJ6762	PJ6763	PJ6764		
Sampling Date		2012/10/24 11:40	2012/10/24 11:50	2012/10/24 12:30	2012/10/24 12:40	2012/10/24 13:40	2012/10/24 13:50	2012/10/24 14:00	2012/10/24 14:10	2012/10/24 14:20		
	Units	**SD-203A**	**SD-203C**	**SD-204**	**SS-201**	**SD-302A**	**SD-302B**	**SD-302C**	**SD-301A**	**SD-301B**	**RDL**	**QC Batch**
Inorganics												
Available (CaCl2) pH	pH	7.46	7.05	7.17	7.27	6.73	6.63	6.96	6.94	6.70		3022254

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
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Golder Associates Ltd
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Sampler Initials: KL

RESULTS OF ANALYSES OF SOIL

Maxxam ID		PJ6765		
Sampling Date		2012/10/24 14:30		
	Units	**SD-301C**	**RDL**	**QC Batch**
Inorganics				
Available (CaCl2) pH	pH	6.98		3022254

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		PJ6766		
Sampling Date		2012/10/24 14:40		
	Units	**COMP 1**	**RDL**	**QC Batch**
Polyaromatic Hydrocarbons				
Leachable Benzo(b/j)fluoranthene	ug/L	<0.2	0.2	3019387
Leachable Naphthalene	ug/L	0.2	0.2	3019387
Leachable Acenaphthylene	ug/L	<0.2	0.2	3019387
Leachable Acenaphthene	ug/L	0.3	0.2	3019387
Leachable Fluorene	ug/L	0.7	0.2	3019387
Leachable Phenanthrene	ug/L	1.0	0.2	3019387
Leachable Anthracene	ug/L	<0.2	0.2	3019387
Leachable Fluoranthene	ug/L	<0.2	0.2	3019387
Leachable Pyrene	ug/L	<0.2	0.2	3019387
Leachable Benzo(a)anthracene	ug/L	<0.2	0.2	3019387
Leachable Chrysene	ug/L	<0.2	0.2	3019387
Leachable Benzo(k)fluoranthene	ug/L	<0.2	0.2	3019387
Leachable Benzo(a)pyrene	ug/L	<0.04	0.04	3019387
Leachable Indeno(1,2,3-cd)pyrene	ug/L	<0.4	0.4	3019387
Leachable Dibenz(a,h)anthracene	ug/L	<0.4	0.4	3019387
Leachable Benzo(g,h,i)perylene	ug/L	<0.4	0.4	3019387
Leachable 1-Methylnaphthalene	ug/L	3.5	0.2	3019387
Leachable 2-Methylnaphthalene	ug/L	3.8	0.2	3019387
Surrogate Recovery (%)				
Leachable D10-Anthracene	%	92		3019387
Leachable D14-Terphenyl (FS)	%	101		3019387
Leachable D8-Acenaphthylene	%	87		3019387

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Sampler Initials: KL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		PJ6740	PJ6741	PJ6742	PJ6745	PJ6747	PJ6750	PJ6751	PJ6752	PJ6753		
Sampling Date		2012/10/23 11:20	2012/10/23 11:40	2012/10/23 12:00	2012/10/23 15:10	2012/10/23 15:30	2012/10/24 10:30	2012/10/24 10:40	2012/10/24 10:50	2012/10/24 11:10		
	Units	**SS-101**	**SD-101**	**SD-102**	**SS-402**	**SS-404**	**SD-201A**	**SD-201B**	**SD-201C**	**SD-202A**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons												
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	1100	1300	1100	1300	980	2200	8700	3800	1600	100	3023950
F2 (C10-C16 Hydrocarbons)	ug/g			16							10	3021149
F3 (C16-C34 Hydrocarbons)	ug/g			240							10	3021149
F4 (C34-C50 Hydrocarbons)	ug/g			190							10	3021149
Reached Baseline at C50	ug/g			NO								3021149
Surrogate Recovery (%)												
o-Terphenyl	%			95								3021149

Maxxam ID		PJ6754	PJ6756		PJ6757	PJ6759	PJ6760	PJ6763	PJ6764		
Sampling Date		2012/10/24 11:20	2012/10/24 11:40		2012/10/24 11:50	2012/10/24 12:40	2012/10/24 13:40	2012/10/24 14:10	2012/10/24 14:20		
	Units	**SD-202B**	**SD-203A**	**QC Batch**	**SD-203C**	**SS-201**	**SD-302A**	**SD-301A**	**SD-301B**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons											
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	2300	1400	3023950	1800	170	20000	3000	7100	100	3022881

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		PJ6740	PJ6740	PJ6741		PJ6742			PJ6743		PJ6744		
Sampling Date		2012/10/23 11:20	2012/10/23 11:20	2012/10/23 11:40		2012/10/23 12:00			2012/10/23 14:30		2012/10/23 15:10		
	Units	**SS-101**	**SS-101 Lab-Dup**	**SD-101**	**QC Batch**	**SD-102**	**RDL**	**QC Batch**	**SD-401**	**RDL**	**SS-401**	**RDL**	**QC Batch**
PCBs													
Aroclor 1016	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Aroclor 1221	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Aroclor 1232	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Aroclor 1242	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	0.25	0.10	<0.010	0.010	3019804
Aroclor 1248	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Aroclor 1254	ug/g	0.17	0.19	0.065	3019804	0.071	0.010	3021190	0.66	0.10	0.035	0.010	3019804
Aroclor 1260	ug/g	0.27	0.32	0.060	3019804	0.053	0.010	3021190	0.49	0.10	0.038	0.010	3019804
Aroclor 1262	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Aroclor 1268	ug/g	<0.010	<0.010	<0.010	3019804	<0.010	0.010	3021190	<0.10	0.10	<0.010	0.010	3019804
Total PCB	ug/g	0.44	0.51	0.12	3019804	0.12	0.010	3021190	1.4	0.10	0.073	0.010	3019804
Surrogate Recovery (%)													
Decachlorobiphenyl	%	88	91	84	3019804	88		3021190	105		86		3019804

Maxxam ID		PJ6746		PJ6748	PJ6749	PJ6750		PJ6751		PJ6752	PJ6753	PJ6754		
Sampling Date		2012/10/23 15:20		2012/10/23 16:30	2012/10/23 16:45	2012/10/24 10:30		2012/10/24 10:40		2012/10/24 10:50	2012/10/24 11:10	2012/10/24 11:20		
	Units	**SS-403**	**QC Batch**	**SS-501**	**SD-501**	**SD-201A**	**RDL**	**SD-201B**	**RDL**	**SD-201C**	**SD-202A**	**SD-202B**	**RDL**	**QC Batch**
PCBs														
Aroclor 1016	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Aroclor 1221	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Aroclor 1232	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Aroclor 1242	ug/g	<0.010	3021190	<0.010	<0.010	0.010	0.010	0.046	0.020	0.13	<0.010	0.031	0.010	3019804
Aroclor 1248	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Aroclor 1254	ug/g	<0.010	3021190	<0.010	<0.010	0.099	0.010	0.29	0.020	0.34	0.057	0.10	0.010	3019804
Aroclor 1260	ug/g	0.041	3021190	<0.010	<0.010	0.12	0.010	0.38	0.020	0.54	0.074	0.10	0.010	3019804
Aroclor 1262	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Aroclor 1268	ug/g	<0.010	3021190	<0.010	<0.010	<0.010	0.010	<0.020	0.020	<0.010	<0.010	<0.010	0.010	3019804
Total PCB	ug/g	0.041	3021190	<0.010	<0.010	0.23	0.010	0.71	0.020	1.0	0.13	0.24	0.010	3019804
Surrogate Recovery (%)														
Decachlorobiphenyl	%	95	3021190	97	86	88		104		102	86	92		3019804

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		PJ6755		PJ6756	PJ6757			PJ6758			PJ6759		
Sampling Date		2012/10/24 11:30		2012/10/24 11:40	2012/10/24 11:50			2012/10/24 12:30			2012/10/24 12:40		
	Units	**SD-202C**	**RDL**	**SD-203A**	**SD-203C**	**RDL**	**QC Batch**	**SD-204**	**RDL**	**QC Batch**	**SS-201**	**RDL**	**QC Batch**
PCBs													
Aroclor 1016	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.10	0.10	3021190	<0.010	0.010	3019804
Aroclor 1221	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.10	0.10	3021190	<0.010	0.010	3019804
Aroclor 1232	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.10	0.10	3021190	<0.010	0.010	3019804
Aroclor 1242	ug/g	0.41	0.050	0.070	0.10	0.010	3019804	<0.10	0.10	3021190	<0.010	0.010	3019804
Aroclor 1248	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.10	0.10	3021190	<0.010	0.010	3019804
Aroclor 1254	ug/g	0.44	0.050	0.081	0.20	0.010	3019804	0.51	0.020	3021190	<0.010	0.010	3019804
Aroclor 1260	ug/g	0.52	0.050	0.047	0.18	0.010	3019804	0.39	0.020	3021190	0.069	0.010	3019804
Aroclor 1262	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.020	0.020	3021190	<0.010	0.010	3019804
Aroclor 1268	ug/g	<0.050	0.050	<0.010	<0.010	0.010	3019804	<0.020	0.020	3021190	<0.010	0.010	3019804
Total PCB	ug/g	1.4	0.050	0.20	0.48	0.010	3019804	0.89	0.10	3021190	0.069	0.010	3019804
Surrogate Recovery (%)													
Decachlorobiphenyl	%	111		82	92		3019804	85		3021190	81		3019804

Maxxam ID		PJ6760		PJ6761		PJ6762			PJ6763		PJ6764		PJ6765		
Sampling Date		2012/10/24 13:40		2012/10/24 13:50		2012/10/24 14:00			2012/10/24 14:10		2012/10/24 14:20		2012/10/24 14:30		
	Units	**SD-302A**	**RDL**	**SD-302B**	**RDL**	**SD-302C**	**RDL**	**QC Batch**	**SD-301A**	**QC Batch**	**SD-301B**	**RDL**	**SD-301C**	**RDL**	**QC Batch**
PCBs															
Aroclor 1016	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Aroclor 1221	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Aroclor 1232	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Aroclor 1242	ug/g	<0.10	0.10	0.14	0.020	0.94	0.20	3019804	<0.020	3021190	0.13	0.020	0.29	0.10	3019804
Aroclor 1248	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Aroclor 1254	ug/g	0.44	0.10	0.23	0.020	1.8	0.20	3019804	0.79	3021190	0.19	0.020	1.3	0.10	3019804
Aroclor 1260	ug/g	0.82	0.10	0.45	0.020	1.0	0.20	3019804	0.89	3021190	0.45	0.020	0.86	0.10	3019804
Aroclor 1262	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Aroclor 1268	ug/g	<0.10	0.10	<0.020	0.020	<0.20	0.20	3019804	<0.020	3021190	<0.020	0.020	<0.10	0.10	3019804
Total PCB	ug/g	1.3	0.10	0.82	0.020	3.8	0.20	3019804	1.7	3021190	0.76	0.020	2.5	0.10	3019804
Surrogate Recovery (%)															
Decachlorobiphenyl	%	108		93		101		3019804	103	3021190	101		108		3019804

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6740 **Collected** 2012/10/23
Sample ID SS-101 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021919	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6740 Dup **Collected** 2012/10/23
Sample ID SS-101 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6741 **Collected** 2012/10/23
Sample ID SD-101 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020276	2012/10/30	2012/10/31	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022085	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6741 Dup **Collected** 2012/10/23
Sample ID SD-101 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6742 **Collected** 2012/10/23
Sample ID SD-102 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller

Maxxam Job #: B2G8163
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Golder Associates Ltd
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Sampler Initials: KL

Test Summary

Polychlorinated Biphenyl in Soil	GC/ECD	3021190	2012/10/31	2012/11/01	Li Peng

Maxxam ID PJ6743
Sample ID SD-401
Matrix Soil

Collected 2012/10/23
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6744
Sample ID SS-401
Matrix Soil

Collected 2012/10/23
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/02	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3020076	2012/10/30	2012/11/01	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/11/01	James Zou

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Maxxam Job #: B2G8163
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Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6745 **Collected** 2012/10/23
Sample ID SS-402 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021905	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019164	N/A	2012/10/30	Valentina Kaftani

Maxxam ID PJ6746 **Collected** 2012/10/23
Sample ID SS-403 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3021190	2012/10/31	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6747 **Collected** 2012/10/23
Sample ID SS-404 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021905	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019164	N/A	2012/10/30	Valentina Kaftani

Maxxam ID PJ6748 **Collected** 2012/10/23
Sample ID SS-501 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/02	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3020076	2012/10/30	2012/11/01	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6749 **Collected** 2012/10/23
Sample ID SD-501 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6749 Dup **Collected** 2012/10/23
Sample ID SD-501 **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller

Maxxam ID PJ6750 **Collected** 2012/10/24
Sample ID SD-201A **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa

Maxxam Job #: B2G8163
Report Date: 2012/11/05

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Sampler Initials: KL

Test Summary

F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6751
Sample ID SD-201B
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020276	2012/10/30	2012/10/31	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/02	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022248	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6752
Sample ID SD-201C
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

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Test Summary

Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/02	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6753
Sample ID SD-202A
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
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Test Summary

Maxxam ID PJ6754 **Collected** 2012/10/24
Sample ID SD-202B **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/02	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3020076	2012/10/30	2012/11/01	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6755 **Collected** 2012/10/24
Sample ID SD-202C **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020276	2012/10/30	2012/10/31	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/01	Dorina Popa
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019164	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022085	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

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Report Date: 2012/11/05

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Test Summary

Maxxam ID PJ6756
Sample ID SD-203A
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021149	2012/10/31	2012/11/02	Dorina Popa
F4G (CCME Hydrocarbons Gravimetric)	BAL	3023950	2012/11/02	2012/11/03	Rajni Tyagi
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6757
Sample ID SD-203C
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/02	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
F4G (CCME Hydrocarbons Gravimetric)	BAL	3022881	2012/11/01	2012/11/01	Raheela Usmani
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3020076	2012/10/30	2012/11/01	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

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Report Date: 2012/11/05

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Test Summary

Maxxam ID PJ6758
Sample ID SD-204
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3021190	2012/10/31	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6759
Sample ID SS-201
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3021440	2012/10/29	2012/11/01	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
F4G (CCME Hydrocarbons Gravimetric)	BAL	3022881	2012/11/01	2012/11/01	Raheela Usmani
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019238	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6759 Dup
Sample ID SS-201
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic

Maxxam ID PJ6760
Sample ID SD-302A
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/10/31	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
F4G (CCME Hydrocarbons Gravimetric)	BAL	3022881	2012/11/01	2012/11/01	Raheela Usmani
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3018358	2012/10/29	2012/10/31	James Zou

Maxxam ID PJ6760 Dup
Sample ID SD-302A
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
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Test Summary

Maxxam ID PJ6761 **Collected** 2012/10/24
Sample ID SD-302B **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019164	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/10/31	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3017119	2012/10/29	2012/10/31	Serena Lentz

Maxxam ID PJ6762 **Collected** 2012/10/24
Sample ID SD-302C **Shipped**
Matrix Soil **Received** 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/02	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3017119	2012/10/29	2012/10/31	Serena Lentz

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6763
Sample ID SD-301A
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021148	2012/10/31	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
F4G (CCME Hydrocarbons Gravimetric)	BAL	3022881	2012/11/01	2012/11/01	Raheela Usmani
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021180	2012/10/31	2012/10/31	Kevin Comerford
Moisture	BAL	3019164	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3021190	2012/10/31	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3017119	2012/10/29	2012/10/31	Serena Lentz

Maxxam ID PJ6764
Sample ID SD-301B
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3021919	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
F4G (CCME Hydrocarbons Gravimetric)	BAL	3022881	2012/11/01	2012/11/01	Raheela Usmani
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3017119	2012/10/29	2012/10/31	Serena Lentz

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6765
Sample ID SD-301C
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Methylnaphthalene Sum	CALC	3017730	N/A	2012/11/01	Automated Statchk
Hot Water Extractable Boron	ICP	3022013	2012/11/01	2012/11/01	Azita Fazaeli
1,3-Dichloropropene Sum	CALC	3017731	N/A	2012/11/01	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	3020269	2012/10/30	2012/11/02	Sally Coughlin
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	3020379	2012/10/29	2012/10/31	Mamdouh Salib
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	3021640	2012/10/31	2012/11/01	Biljana Lazovic
Acid Extr. Metals (aqua regia) by ICPMS	ICP/MS	3021917	2012/11/01	2012/11/01	Viviana Canzonieri
Moisture	BAL	3019571	N/A	2012/10/30	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	3019486	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Soil	GC/ECD	3019804	2012/10/30	2012/11/01	Li Peng
pH CaCl2 EXTRACT		3022254	2012/11/01	2012/11/01	Xuanhong Qiu
Volatile Organic Compounds in Soil	P&T/MS	3017119	2012/10/29	2012/10/31	Serena Lentz

Maxxam ID PJ6766
Sample ID COMP 1
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Cyanide (WAD) in Leachates	TECH/CN	3020606	N/A	2012/10/31	Louise Harding
Fluoride by ISE in Leachates	ISE	3020603	2012/10/31	2012/10/31	Surinder Rai
Mercury (TCLP Leachable) (mg/L)	CVAA	3019359	N/A	2012/10/30	Magdalena Carlos
Total Metals in TCLP Leachate by ICPMS	ICP1/MS	3019343	2012/10/30	2012/10/30	Arefa Dabhad
Nitrate(NO3) + Nitrite(NO2) in Leachate	LACH	3020607	N/A	2012/10/31	Chris Li
PAH Compounds in Leachate by GC/MS (SI	GC/MS	3019387	2012/10/30	2012/10/31	Darryl Tiller
Polychlorinated Biphenyl in Leachate	GC/ECD	3021932	2012/11/01	2012/11/01	Li Peng
TCLP - % Solids	BAL	3019003	2012/10/29	2012/10/30	Jian (Ken) Wang
TCLP - Extraction Fluid		3019008	N/A	2012/10/30	Jian (Ken) Wang
TCLP - Initial and final pH	PH	3019012	N/A	2012/10/30	Jian (Ken) Wang
TCLP Zero Headspace Extraction		3021187	2012/10/31	2012/10/31	Fozia Tabasum
VOCs in ZHE Leachates	GC/MS	3021909	2012/11/01	2012/11/01	Vivek Akolkar

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Test Summary

Maxxam ID PJ6766 Dup
Sample ID COMP 1
Matrix Soil

Collected 2012/10/24
Shipped
Received 2012/10/26

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
TCLP - % Solids	BAL	3019003	2012/10/29	2012/10/30	Jian (Ken) Wang
TCLP - Extraction Fluid		3019008	N/A	2012/10/30	Jian (Ken) Wang
TCLP - Initial and final pH	PH	3019012	N/A	2012/10/30	Jian (Ken) Wang

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Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

Package 1	3.0°C
Package 2	2.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Custody seal present and intact on the coolers.

F1-BTEX Analysis: The BTEX results used for the F1-BTEX calculation were obtained from Headspace-GC analysis.

PCB Analysis: Detection limits were adjusted for high moisture content. Due to the sample matrix, some samples required dilution. Detection limit were adjusted accordingly.

PAH Analysis: Due to the sample matrix, samples required dilution. Detection limits were adjusted accordingly.

Sample PJ6740-01: VOC Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly.

Sample PJ6743-01: F1-BTEX, PAH Analysis: Detection limits were adjusted for high moisture content.

Sample PJ6751-01: F1-BTEX, PAH Analysis: Detection limits were adjusted for high moisture content.

Sample PJ6752-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample required dilution. The detection limits were adjusted accordingly.

Sample PJ6754-01: PAH Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample PJ6755-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample required dilution. The detection limits were adjusted accordingly.
PAH Analysis: Detection limits were adjusted for high moisture content.

Sample PJ6757-01: PAH Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample PJ6758-01: VOC Analysis: Due to a level of target aanalytes and petroleum hydrocarbon compounds beyond the appropriate range, the sample required dilution. The detection limits were adjusted accordingly.The detection limits were furthur raised due to high moisture content .
F1-BTEX, PAH, PCB Analysis: Detection limits were adjusted for high moisture content.

Sample PJ6760-01: F1-BTEX, PAH, VOC Analysis:Detection limits were adjusted for high moisture content.

Sample PJ6761-01: VOC Soil Analysis: Detection limits were raised for high moisture content and dilution due to foaming.
F1-BTEX, PAH Analysis:Detection limits were adjusted for high moisture content.

Sample PJ6762-01: VOC Soil Analysis: Detection limits were raised for high moisture content and dilution due to foaming.

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PAH Analysis: Detection limits were adjusted for high moisture content.

Sample PJ6763-01: VOC Soil Analysis: Detection limits were raised for high moisture content and dilution due to foaming.
F1-BTEX, PAH Analysis:Detection limits were adjusted for high moisture content.

Sample PJ6764-01: VOC Soil Analysis: Detection limits were raised for high moisture content and dilution due to foaming.
F1-BTEX, PAH Analysis:Detection limits were adjusted for high moisture content.

Sample PJ6765-01: VOC Soil Analysis: Detection limits were raised for high moisture content and dilution due to foaming.
PAH Analysis: Detection limits were adjusted for high moisture content.

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Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3017119	4-Bromofluorobenzene	2012/10/30	109	60 - 140	107	60 - 140	106	%				
3017119	D10-o-Xylene	2012/10/30	96	60 - 130	88	60 - 130	95	%				
3017119	D4-1,2-Dichloroethane	2012/10/30	92	60 - 140	93	60 - 140	92	%				
3017119	D8-Toluene	2012/10/30	101	60 - 140	101	60 - 140	102	%				
3017119	Acetone (2-Propanone)	2012/10/31	68	60 - 140	68	60 - 140	<0.50	ug/g	NC	50		
3017119	Benzene	2012/10/31	92	60 - 140	92	60 - 130	<0.020	ug/g	NC	50		
3017119	Bromodichloromethane	2012/10/31	93	60 - 140	92	60 - 130	<0.050	ug/g	NC	50		
3017119	Bromoform	2012/10/31	102	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
3017119	Bromomethane	2012/10/31	97	60 - 140	95	60 - 140	<0.050	ug/g	NC	50		
3017119	Carbon Tetrachloride	2012/10/31	97	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3017119	Chlorobenzene	2012/10/31	95	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
3017119	Chloroform	2012/10/31	97	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
3017119	Dibromochloromethane	2012/10/31	101	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		
3017119	1,2-Dichlorobenzene	2012/10/31	99	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3017119	1,3-Dichlorobenzene	2012/10/31	99	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3017119	1,4-Dichlorobenzene	2012/10/31	97	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3017119	Dichlorodifluoromethane (FREON 12)	2012/10/31	81	60 - 140	82	60 - 140	<0.050	ug/g	NC	50		
3017119	1,1-Dichloroethane	2012/10/31	76	60 - 140	76	60 - 130	<0.050	ug/g	NC	50		
3017119	1,2-Dichloroethane	2012/10/31	88	60 - 140	87	60 - 130	<0.050	ug/g	NC	50		
3017119	1,1-Dichloroethylene	2012/10/31	87	60 - 140	87	60 - 130	<0.050	ug/g	NC	50		
3017119	cis-1,2-Dichloroethylene	2012/10/31	92	60 - 140	91	60 - 130	<0.050	ug/g	NC	50		
3017119	trans-1,2-Dichloroethylene	2012/10/31	96	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
3017119	1,2-Dichloropropane	2012/10/31	85	60 - 140	85	60 - 130	<0.050	ug/g	NC	50		
3017119	cis-1,3-Dichloropropene	2012/10/31	85	60 - 140	84	60 - 130	<0.030	ug/g	NC	50		
3017119	trans-1,3-Dichloropropene	2012/10/31	83	60 - 140	83	60 - 130	<0.040	ug/g	NC	50		
3017119	Ethylbenzene	2012/10/31	90	60 - 140	90	60 - 130	<0.020	ug/g	NC	50		
3017119	Ethylene Dibromide	2012/10/31	94	60 - 140	92	60 - 130	<0.050	ug/g	NC	50		
3017119	Hexane	2012/10/31	74	60 - 140	76	60 - 130	<0.050	ug/g	NC	50		
3017119	Methylene Chloride(Dichloromethane)	2012/10/31	93	60 - 140	92	60 - 130	<0.050	ug/g	NC	50		
3017119	Methyl Isobutyl Ketone	2012/10/31	76	60 - 140	75	60 - 130	<0.50	ug/g	NC	50		
3017119	Methyl Ethyl Ketone (2-Butanone)	2012/10/31	72	60 - 140	72	60 - 140	<0.50	ug/g	NC	50		
3017119	Methyl t-butyl ether (MTBE)	2012/10/31	87	60 - 140	87	60 - 130	<0.050	ug/g	NC	50		
3017119	Styrene	2012/10/31	91	60 - 140	90	60 - 130	<0.050	ug/g	NC	50		
3017119	1,1,1,2-Tetrachloroethane	2012/10/31	96	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
3017119	1,1,2,2-Tetrachloroethane	2012/10/31	82	60 - 140	82	60 - 130	<0.050	ug/g	NC	50		
3017119	Tetrachloroethylene	2012/10/31	99	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
3017119	Toluene	2012/10/31	95	60 - 140	93	60 - 130	<0.020	ug/g	NC	50		
3017119	1,1,1-Trichloroethane	2012/10/31	88	60 - 140	88	60 - 130	<0.050	ug/g	NC	50		
3017119	1,1,2-Trichloroethane	2012/10/31	92	60 - 140	92	60 - 130	<0.050	ug/g	NC	50		
3017119	Trichloroethylene	2012/10/31	101	60 - 140	102	60 - 130	<0.050	ug/g	NC	50		

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3017119	Vinyl Chloride	2012/10/31	83	60 - 140	83	60 - 130	<0.020	ug/g	NC	50		
3017119	p+m-Xylene	2012/10/31	93	60 - 140	94	60 - 130	<0.020	ug/g	NC	50		
3017119	o-Xylene	2012/10/31	95	60 - 140	95	60 - 130	<0.020	ug/g	NC	50		
3017119	Trichlorofluoromethane (FREON 11)	2012/10/31	95	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
3017119	Xylene (Total)	2012/10/31					<0.020	ug/g	NC	50		
3017730	Methylnaphthalene,2-(1-)	2012/10/30							14.4	N/A		
3018358	4-Bromofluorobenzene	2012/10/30	101	60 - 140	99	60 - 140	98	%				
3018358	D10-o-Xylene	2012/10/30	102	60 - 130	92	60 - 130	94	%				
3018358	D4-1,2-Dichloroethane	2012/10/30	101	60 - 140	102	60 - 140	100	%				
3018358	D8-Toluene	2012/10/30	102	60 - 140	100	60 - 140	102	%				
3018358	Acetone (2-Propanone)	2012/10/31	88	60 - 140	82	60 - 140	<0.50	ug/g	NC	50		
3018358	Benzene	2012/10/31	103	60 - 140	96	60 - 130	<0.020	ug/g	NC	50		
3018358	Bromodichloromethane	2012/10/31	108	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3018358	Bromoform	2012/10/31	110	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
3018358	Bromomethane	2012/10/31	88	60 - 140	97	60 - 140	<0.050	ug/g	NC	50		
3018358	Carbon Tetrachloride	2012/10/31	107	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		
3018358	Chlorobenzene	2012/10/31	104	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
3018358	Chloroform	2012/10/31	104	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3018358	Dibromochloromethane	2012/10/31	112	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3018358	1,2-Dichlorobenzene	2012/10/31	106	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
3018358	1,3-Dichlorobenzene	2012/10/31	104	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3018358	1,4-Dichlorobenzene	2012/10/31	104	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
3018358	Dichlorodifluoromethane (FREON 12)	2012/10/31	101	60 - 140	90	60 - 140	<0.050	ug/g	NC	50		
3018358	1,1-Dichloroethane	2012/10/31	89	60 - 140	83	60 - 130	<0.050	ug/g	NC	50		
3018358	1,2-Dichloroethane	2012/10/31	107	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3018358	1,1-Dichloroethylene	2012/10/31	100	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
3018358	cis-1,2-Dichloroethylene	2012/10/31	100	60 - 140	91	60 - 130	<0.050	ug/g	NC	50		
3018358	trans-1,2-Dichloroethylene	2012/10/31	102	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
3018358	1,2-Dichloropropane	2012/10/31	105	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
3018358	cis-1,3-Dichloropropene	2012/10/31	102	60 - 140	93	60 - 130	<0.030	ug/g	NC	50		
3018358	trans-1,3-Dichloropropene	2012/10/31	107	60 - 140	93	60 - 130	<0.040	ug/g	NC	50		
3018358	Ethylbenzene	2012/10/31	106	60 - 140	95	60 - 130	<0.020	ug/g	NC	50		
3018358	Ethylene Dibromide	2012/10/31	106	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
3018358	Hexane	2012/10/31	94	60 - 140	83	60 - 130	<0.050	ug/g	NC	50		
3018358	Methylene Chloride(Dichloromethane)	2012/10/31	91	60 - 140	86	60 - 130	<0.050	ug/g	NC	50		
3018358	Methyl Isobutyl Ketone	2012/10/31	105	60 - 140	91	60 - 130	<0.50	ug/g	NC	50		
3018358	Methyl Ethyl Ketone (2-Butanone)	2012/10/31	97	60 - 140	88	60 - 140	<0.50	ug/g	NC	50		
3018358	Methyl t-butyl ether (MTBE)	2012/10/31	98	60 - 140	91	60 - 130	<0.050	ug/g	NC	50		
3018358	Styrene	2012/10/31	106	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
3018358	1,1,1,2-Tetrachloroethane	2012/10/31	106	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		

Maxxam Job #: B2G8163
Report Date: 2012/11/05

Golder Associates Ltd
Client Project #: 12-1134-0179

Sampler Initials: KL

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3018358	1,1,2,2-Tetrachloroethane	2012/10/31	102	60 - 140	86	60 - 130	<0.050	ug/g	NC	50		
3018358	Tetrachloroethylene	2012/10/31	102	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
3018358	Toluene	2012/10/31	105	60 - 140	94	60 - 130	<0.020	ug/g	NC	50		
3018358	1,1,1-Trichloroethane	2012/10/31	100	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
3018358	1,1,2-Trichloroethane	2012/10/31	104	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
3018358	Trichloroethylene	2012/10/31	105	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3018358	Vinyl Chloride	2012/10/31	97	60 - 140	94	60 - 130	<0.020	ug/g	NC	50		
3018358	p+m-Xylene	2012/10/31	110	60 - 140	99	60 - 130	<0.020	ug/g	NC	50		
3018358	o-Xylene	2012/10/31	112	60 - 140	99	60 - 130	<0.020	ug/g	NC	50		
3018358	Trichlorofluoromethane (FREON 11)	2012/10/31	103	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
3018358	Xylene (Total)	2012/10/31					<0.020	ug/g	NC	50		
3019164	Moisture	2012/10/30							0	20		
3019238	Moisture	2012/10/30							7.7	20		
3019343	Leachable Arsenic (As)	2012/10/30	102	75 - 125	99	75 - 125	<0.2	mg/L	NC	35		
3019343	Leachable Barium (Ba)	2012/10/30	NC	75 - 125	99	75 - 125	<0.2	mg/L	6.5	35		
3019343	Leachable Boron (B)	2012/10/30	105	75 - 125	88	75 - 125	<0.1	mg/L	NC	35		
3019343	Leachable Cadmium (Cd)	2012/10/30	100	75 - 125	92	75 - 125	<0.05	mg/L	NC	35		
3019343	Leachable Chromium (Cr)	2012/10/30	96	75 - 125	92	75 - 125	<0.1	mg/L	NC	35		
3019343	Leachable Lead (Pb)	2012/10/30	99	75 - 125	95	75 - 125	<0.1	mg/L	NC	35		
3019343	Leachable Selenium (Se)	2012/10/30	101	75 - 125	96	75 - 125	<0.1	mg/L	NC	35		
3019343	Leachable Silver (Ag)	2012/10/30	98	75 - 125	90	75 - 125	<0.01	mg/L	NC	35		
3019343	Leachable Uranium (U)	2012/10/30	98	75 - 125	93	75 - 125	<0.01	mg/L	NC	35		
3019359	Leachable Mercury (Hg)	2012/10/30	98	80 - 120	99	80 - 120	<0.001	mg/L	NC	25		
3019387	Leachable D10-Anthracene	2012/10/31	97	50 - 130	105	50 - 130	97	%				
3019387	Leachable D14-Terphenyl (FS)	2012/10/31	103	50 - 130	103	50 - 130	99	%				
3019387	Leachable D8-Acenaphthylene	2012/10/31	92	50 - 130	93	50 - 130	90	%				
3019387	Leachable Benzo(b/j)fluoranthene	2012/10/31	90	50 - 130	86	50 - 130	<0.2	ug/L				
3019387	Leachable Naphthalene	2012/10/31	75	50 - 130	77	50 - 130	<0.2	ug/L				
3019387	Leachable Acenaphthylene	2012/10/31	87	50 - 130	93	50 - 130	<0.2	ug/L				
3019387	Leachable Acenaphthene	2012/10/31	84	50 - 130	86	50 - 130	<0.2	ug/L				
3019387	Leachable Fluorene	2012/10/31	93	50 - 130	95	50 - 130	<0.2	ug/L				
3019387	Leachable Phenanthrene	2012/10/31	89	50 - 130	90	50 - 130	<0.2	ug/L				
3019387	Leachable Anthracene	2012/10/31	96	50 - 130	104	50 - 130	<0.2	ug/L				
3019387	Leachable Fluoranthene	2012/10/31	90	50 - 130	96	50 - 130	<0.2	ug/L				
3019387	Leachable Pyrene	2012/10/31	92	50 - 130	98	50 - 130	<0.2	ug/L				
3019387	Leachable Benzo(a)anthracene	2012/10/31	94	50 - 130	106	50 - 130	<0.2	ug/L				
3019387	Leachable Chrysene	2012/10/31	95	50 - 130	97	50 - 130	<0.2	ug/L				
3019387	Leachable Benzo(k)fluoranthene	2012/10/31	99	50 - 130	85	50 - 130	<0.2	ug/L				
3019387	Leachable Benzo(a)pyrene	2012/10/31	98	50 - 130	93	50 - 130	<0.04	ug/L	NC	40		
3019387	Leachable Indeno(1,2,3-cd)pyrene	2012/10/31	91	50 - 130	92	50 - 130	<0.4	ug/L				

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3019387	LeachableDibenz(a,h)anthracene	2012/10/31	100	50 - 130	91	50 - 130	<0.4	ug/L				
3019387	LeachableBenzo(g,h,i)perylene	2012/10/31	95	50 - 130	85	50 - 130	<0.4	ug/L				
3019387	Leachable1-Methylnaphthalene	2012/10/31	77	50 - 130	79	50 - 130	<0.2	ug/L				
3019387	Leachable2-Methylnaphthalene	2012/10/31	75	50 - 130	77	50 - 130	<0.2	ug/L				
3019486	D10-Anthracene	2012/10/30	79	50 - 130	96	50 - 130	113	%				
3019486	D14-Terphenyl (FS)	2012/10/30	87	50 - 130	84	50 - 130	94	%				
3019486	D8-Acenaphthylene	2012/10/30	81	50 - 130	80	50 - 130	76	%				
3019486	Acenaphthene	2012/10/31	78	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
3019486	Acenaphthylene	2012/10/31	82	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40		
3019486	Anthracene	2012/10/31	78	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40		
3019486	Benzo(a)anthracene	2012/10/31	94	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40		
3019486	Benzo(a)pyrene	2012/10/31	81	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40		
3019486	Benzo(b/j)fluoranthene	2012/10/31	70	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40		
3019486	Benzo(g,h,i)perylene	2012/10/31	72	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40		
3019486	Benzo(k)fluoranthene	2012/10/31	80	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40		
3019486	Chrysene	2012/10/31	84	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
3019486	Dibenz(a,h)anthracene	2012/10/31	81	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40		
3019486	Fluoranthene	2012/10/31	82	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40		
3019486	Fluorene	2012/10/31	84	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
3019486	Indeno(1,2,3-cd)pyrene	2012/10/31	75	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40		
3019486	1-Methylnaphthalene	2012/10/31	77	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40		
3019486	2-Methylnaphthalene	2012/10/31	76	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40		
3019486	Naphthalene	2012/10/31	74	50 - 130	76	50 - 130	<0.0050	ug/g	NC	40		
3019486	Phenanthrene	2012/10/31	83	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40		
3019486	Pyrene	2012/10/31	87	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40		
3019571	Moisture	2012/10/30							8.7	20		
3019804	Decachlorobiphenyl	2012/10/31	91	60 - 130	98	60 - 130	95	%				
3019804	Aroclor 1260	2012/10/31	79	60 - 130	104	60 - 130	<0.010	ug/g	16.2	50		
3019804	Total PCB	2012/10/31	79	60 - 130	104	60 - 130	<0.010	ug/g	14.9	50		
3019804	Aroclor 1016	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1221	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1232	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1242	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1248	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1254	2012/10/31					<0.010	ug/g	12.7	50		
3019804	Aroclor 1262	2012/10/31					<0.010	ug/g	NC	50		
3019804	Aroclor 1268	2012/10/31					<0.010	ug/g	NC	50		
3020076	D10-Anthracene	2012/10/31	79	50 - 130	77	50 - 130	79	%				
3020076	D14-Terphenyl (FS)	2012/10/31	88	50 - 130	89	50 - 130	88	%				
3020076	D8-Acenaphthylene	2012/10/31	80	50 - 130	83	50 - 130	82	%				

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3020076	Acenaphthene	2012/10/31	81	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40		
3020076	Acenaphthylene	2012/10/31	76	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
3020076	Anthracene	2012/10/31	73	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40		
3020076	Benzo(a)anthracene	2012/10/31	79	50 - 130	101	50 - 130	<0.0050	ug/g	53.0(1, 2)	40		
3020076	Benzo(a)pyrene	2012/10/31	67	50 - 130	94	50 - 130	<0.0050	ug/g	39.6	40		
3020076	Benzo(b/j)fluoranthene	2012/10/31	68	50 - 130	94	50 - 130	<0.0050	ug/g	31.6	40		
3020076	Benzo(g,h,i)perylene	2012/10/31	63	50 - 130	88	50 - 130	<0.0050	ug/g	23.9	40		
3020076	Benzo(k)fluoranthene	2012/10/31	82	50 - 130	104	50 - 130	<0.0050	ug/g	35.9	40		
3020076	Chrysene	2012/10/31	70	50 - 130	95	50 - 130	<0.0050	ug/g	37.8	40		
3020076	Dibenz(a,h)anthracene	2012/10/31	92	50 - 130	104	50 - 130	<0.0050	ug/g	32.4	40		
3020076	Fluoranthene	2012/10/31	NC(3)	50 - 130	83	50 - 130	<0.0050	ug/g	46.7(1)	40		
3020076	Fluorene	2012/10/31	89	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40		
3020076	Indeno(1,2,3-cd)pyrene	2012/10/31	65	50 - 130	91	50 - 130	<0.0050	ug/g	26.5	40		
3020076	1-Methylnaphthalene	2012/10/31	81	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40		
3020076	2-Methylnaphthalene	2012/10/31	81	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40		
3020076	Naphthalene	2012/10/31	72	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40		
3020076	Phenanthrene	2012/10/31	54	50 - 130	87	50 - 130	<0.0050	ug/g	74.5(1)	40		
3020076	Pyrene	2012/10/31	NC(3)	50 - 130	85	50 - 130	<0.0050	ug/g	44.5(1)	40		
3020269	Chromium (VI)	2012/11/02	103	75 - 125	102	80 - 120	<0.2	ug/g	NC	35	103	75 - 125
3020276	Chromium (VI)	2012/10/31	75	75 - 125	109	80 - 120	<0.2	ug/g	NC	35	110	75 - 125
3020379	1,4-Difluorobenzene	2012/10/31	98	60 - 140	104	60 - 140	105	%				
3020379	4-Bromofluorobenzene	2012/10/31	110	60 - 140	104	60 - 140	98	%				
3020379	D10-Ethylbenzene	2012/10/31	114	60 - 140	99	60 - 140	88	%				
3020379	D4-1,2-Dichloroethane	2012/10/31	86	60 - 140	96	60 - 140	88	%				
3020379	F1 (C6-C10)	2012/10/31	NC	60 - 140	93	60 - 140	<10	ug/g	NC	50		
3020379	F1 (C6-C10) - BTEX	2012/10/31					<10	ug/g	NC	50		
3020603	Leachable Fluoride (F-)	2012/10/31	102	80 - 120	93	80 - 120	<0.1	mg/L	NC	25		
3020606	Leachable Free Cyanide	2012/10/31	88	80 - 120	97	80 - 120	<0.002	mg/L	NC	20		
3020607	Leachable Nitrite (N)	2012/10/31	99	80 - 120	95	85 - 115	<0.1	mg/L	NC	25		
3020607	Leachable Nitrate (N)	2012/10/31	93	80 - 120	101	85 - 115	<1	mg/L	NC	25		
3020607	Leachable Nitrate + Nitrite	2012/10/31	94	80 - 120	100	85 - 115	<1	mg/L	NC	25		
3021148	Hot Water Ext. Boron (B)	2012/11/01			101	75 - 125	<0.050	ug/g				
3021149	o-Terphenyl	2012/11/01	100	50 - 130	86	50 - 130	93	%				
3021149	F2 (C10-C16 Hydrocarbons)	2012/11/01	NC	50 - 130	91	70 - 130	<10	ug/g	68.9(1)	30		
3021149	F3 (C16-C34 Hydrocarbons)	2012/11/01	84	50 - 130	91	70 - 130	<10	ug/g	69.1(1)	30		
3021149	F4 (C34-C50 Hydrocarbons)	2012/11/01	103	50 - 130	90	70 - 130	<10	ug/g	NC	30		
3021180	Acid Extractable Antimony (Sb)	2012/10/31	91	75 - 125	94	80 - 120	<0.20	ug/g	NC	30		
3021180	Acid Extractable Arsenic (As)	2012/10/31	94	75 - 125	100	80 - 120	<1.0	ug/g	NC	30		
3021180	Acid Extractable Barium (Ba)	2012/10/31	NC	75 - 125	102	80 - 120	<0.50	ug/g	7.2	30		
3021180	Acid Extractable Beryllium (Be)	2012/10/31	92	75 - 125	97	80 - 120	<0.20	ug/g	NC	30		

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3021180	Acid Extractable Boron (B)	2012/10/31	88	75 - 125	95	80 - 120	<5.0	ug/g	NC	30		
3021180	Acid Extractable Cadmium (Cd)	2012/10/31	94	75 - 125	97	80 - 120	<0.10	ug/g	NC	30		
3021180	Acid Extractable Chromium (Cr)	2012/10/31	89	75 - 125	93	80 - 120	<1.0	ug/g	3.2	30		
3021180	Acid Extractable Cobalt (Co)	2012/10/31	88	75 - 125	94	80 - 120	<0.10	ug/g	4.3	30		
3021180	Acid Extractable Copper (Cu)	2012/10/31	87	75 - 125	95	80 - 120	<0.50	ug/g	4.7	30		
3021180	Acid Extractable Lead (Pb)	2012/10/31	88	75 - 125	95	80 - 120	<1.0	ug/g	2.5	30		
3021180	Acid Extractable Molybdenum (Mo)	2012/10/31	89	75 - 125	91	80 - 120	0.72, RDL=0.50	ug/g	NC	30		
3021180	Acid Extractable Nickel (Ni)	2012/10/31	92	75 - 125	96	80 - 120	<0.50	ug/g	6.7	30		
3021180	Acid Extractable Selenium (Se)	2012/10/31	93	75 - 125	97	80 - 120	<0.50	ug/g	NC	30		
3021180	Acid Extractable Silver (Ag)	2012/10/31	93	75 - 125	95	80 - 120	<0.20	ug/g	NC	30		
3021180	Acid Extractable Thallium (Tl)	2012/10/31	89	75 - 125	94	80 - 120	<0.050	ug/g	NC	30		
3021180	Acid Extractable Uranium (U)	2012/10/31	96	75 - 125	100	80 - 120	<0.050	ug/g	2.5	30		
3021180	Acid Extractable Vanadium (V)	2012/10/31	94	75 - 125	96	80 - 120	<5.0	ug/g	NC	30		
3021180	Acid Extractable Zinc (Zn)	2012/10/31	NC	75 - 125	98	80 - 120	<5.0	ug/g	6.4	30		
3021180	Acid Extractable Mercury (Hg)	2012/10/31	94	75 - 125	94	80 - 120	<0.050	ug/g	NC	30		
3021190	Decachlorobiphenyl	2012/11/01	89	60 - 130	110	60 - 130	103	%				
3021190	Aroclor 1260	2012/11/01	91	60 - 130	116	60 - 130	<0.010	ug/g	NC	50		
3021190	Total PCB	2012/11/01	91	60 - 130	116	60 - 130	<0.010	ug/g	2.0	50		
3021190	Aroclor 1016	2012/11/01					<0.010	ug/g				
3021190	Aroclor 1221	2012/11/01					<0.010	ug/g				
3021190	Aroclor 1232	2012/11/01					<0.010	ug/g				
3021190	Aroclor 1242	2012/11/01					<0.010	ug/g	NC	50		
3021190	Aroclor 1248	2012/11/01					<0.010	ug/g	NC	50		
3021190	Aroclor 1254	2012/11/01					<0.010	ug/g	0.4	50		
3021190	Aroclor 1262	2012/11/01					<0.010	ug/g				
3021190	Aroclor 1268	2012/11/01					<0.010	ug/g				
3021440	1,4-Difluorobenzene	2012/10/31	99	60 - 140	100	60 - 140	99	%				
3021440	4-Bromofluorobenzene	2012/10/31	99	60 - 140	99	60 - 140	95	%				
3021440	D10-Ethylbenzene	2012/10/31	97	60 - 140	91	60 - 140	92	%				
3021440	D4-1,2-Dichloroethane	2012/10/31	102	60 - 140	101	60 - 140	103	%				
3021440	Benzene	2012/11/01	90	60 - 140	96	60 - 140	<0.020	ug/g	NC	50		
3021440	Toluene	2012/11/01	82	60 - 140	85	60 - 140	<0.020	ug/g	NC	50		
3021440	Ethylbenzene	2012/11/01	93	60 - 140	98	60 - 140	<0.020	ug/g	NC	50		
3021440	o-Xylene	2012/11/01	90	60 - 140	95	60 - 140	<0.020	ug/g	NC	50		
3021440	p+m-Xylene	2012/11/01	86	60 - 140	88	60 - 140	<0.040	ug/g	NC	50		
3021440	F1 (C6-C10)	2012/11/01	70	60 - 140	82	60 - 140	<10	ug/g	NC	50		
3021440	Total Xylenes	2012/11/01					<0.040	ug/g	NC	50		
3021440	F1 (C6-C10) - BTEX	2012/11/01					<10	ug/g	NC	50		
3021640	o-Terphenyl	2012/11/01	73	50 - 130	73	50 - 130	77	%				
3021640	F2 (C10-C16 Hydrocarbons)	2012/11/01	90	50 - 130	87	70 - 130	<10	ug/g	NC	30		

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3021640	F3 (C16-C34 Hydrocarbons)	2012/11/01	NC	50 - 130	99	70 - 130	<10	ug/g	13.8	30		
3021640	F4 (C34-C50 Hydrocarbons)	2012/11/01	93	50 - 130	85	70 - 130	<10	ug/g	28.7	30		
3021905	Acid Extractable Antimony (Sb)	2012/11/01	88	75 - 125	95	80 - 120	<0.20	ug/g	NC	30		
3021905	Acid Extractable Arsenic (As)	2012/11/01	94	75 - 125	99	80 - 120	<1.0	ug/g	NC	30		
3021905	Acid Extractable Barium (Ba)	2012/11/01	NC	75 - 125	101	80 - 120	<0.50	ug/g	0.2	30		
3021905	Acid Extractable Beryllium (Be)	2012/11/01	93	75 - 125	96	80 - 120	<0.20	ug/g	NC	30		
3021905	Acid Extractable Boron (B)	2012/11/01	87	75 - 125	91	80 - 120	<5.0	ug/g	NC	30		
3021905	Acid Extractable Cadmium (Cd)	2012/11/01	95	75 - 125	99	80 - 120	<0.10	ug/g	NC	30		
3021905	Acid Extractable Chromium (Cr)	2012/11/01	NC	75 - 125	95	80 - 120	<1.0	ug/g	1.4	30		
3021905	Acid Extractable Cobalt (Co)	2012/11/01	89	75 - 125	95	80 - 120	<0.10	ug/g	1.0	30		
3021905	Acid Extractable Copper (Cu)	2012/11/01	NC	75 - 125	94	80 - 120	<0.50	ug/g	0.6	30		
3021905	Acid Extractable Lead (Pb)	2012/11/01	89	75 - 125	94	80 - 120	<1.0	ug/g	2.0	30		
3021905	Acid Extractable Molybdenum (Mo)	2012/11/01	90	75 - 125	95	80 - 120	<0.50	ug/g	NC	30		
3021905	Acid Extractable Nickel (Ni)	2012/11/01	NC	75 - 125	98	80 - 120	<0.50	ug/g	1.2	30		
3021905	Acid Extractable Selenium (Se)	2012/11/01	92	75 - 125	98	80 - 120	<0.50	ug/g	NC	30		
3021905	Acid Extractable Silver (Ag)	2012/11/01	92	75 - 125	97	80 - 120	<0.20	ug/g	NC	30		
3021905	Acid Extractable Thallium (Tl)	2012/11/01	88	75 - 125	91	80 - 120	<0.050	ug/g	NC	30		
3021905	Acid Extractable Uranium (U)	2012/11/01	98	75 - 125	101	80 - 120	<0.050	ug/g	3.3	30		
3021905	Acid Extractable Vanadium (V)	2012/11/01	NC	75 - 125	96	80 - 120	<5.0	ug/g	2.0	30		
3021905	Acid Extractable Zinc (Zn)	2012/11/01	NC	75 - 125	98	80 - 120	<5.0	ug/g	2.3	30		
3021909	Leachable 4-Bromofluorobenzene	2012/11/01	98	70 - 130	97	70 - 130	94	%				
3021909	Leachable D4-1,2-Dichloroethane	2012/11/01	103	70 - 130	99	70 - 130	106	%				
3021909	Leachable D8-Toluene	2012/11/01	105	70 - 130	107	70 - 130	105	%				
3021909	Leachable Benzene	2012/11/02	97	70 - 130	98	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Carbon Tetrachloride	2012/11/02	90	70 - 130	93	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Chlorobenzene	2012/11/02	93	70 - 130	95	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Chloroform	2012/11/02	101	70 - 130	104	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable 1,2-Dichlorobenzene	2012/11/02	97	70 - 130	100	70 - 130	<0.050	mg/L	NC	30		
3021909	Leachable 1,4-Dichlorobenzene	2012/11/02	99	70 - 130	102	70 - 130	<0.050	mg/L	NC	30		
3021909	Leachable 1,2-Dichloroethane	2012/11/02	96	70 - 130	95	70 - 130	<0.050	mg/L	NC	30		
3021909	Leachable 1,1-Dichloroethylene	2012/11/02	94	70 - 130	100	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Methylene Chloride(Dichloromethane)	2012/11/02	92	70 - 130	93	70 - 130	<0.20	mg/L	NC	30		
3021909	Leachable Methyl Ethyl Ketone (2-Butanone)	2012/11/02	104	60 - 140	103	60 - 140	<1.0	mg/L	NC	30		
3021909	Leachable Tetrachloroethylene	2012/11/02	88	70 - 130	91	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Trichloroethylene	2012/11/02	87	70 - 130	89	70 - 130	<0.020	mg/L	NC	30		
3021909	Leachable Vinyl Chloride	2012/11/02	94	70 - 130	98	70 - 130	<0.020	mg/L	NC	30		
3021917	Acid Extractable Antimony (Sb)	2012/11/01	95	75 - 125	97	80 - 120	<0.20	ug/g	NC	30		
3021917	Acid Extractable Arsenic (As)	2012/11/01	96	75 - 125	103	80 - 120	<1.0	ug/g	NC	30		
3021917	Acid Extractable Barium (Ba)	2012/11/01	NC	75 - 125	103	80 - 120	<0.50	ug/g	0.4	30		
3021917	Acid Extractable Beryllium (Be)	2012/11/01	98	75 - 125	101	80 - 120	<0.20	ug/g	NC	30		

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Golder Associates Ltd
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Sampler Initials: KL

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3021917	Acid Extractable Boron (B)	2012/11/01	92	75 - 125	99	80 - 120	<5.0	ug/g	NC	30		
3021917	Acid Extractable Cadmium (Cd)	2012/11/01	98	75 - 125	102	80 - 120	<0.10	ug/g	NC	30		
3021917	Acid Extractable Chromium (Cr)	2012/11/01	93	75 - 125	97	80 - 120	<1.0	ug/g	8.2	30		
3021917	Acid Extractable Cobalt (Co)	2012/11/01	94	75 - 125	97	80 - 120	<0.10	ug/g	7.1	30		
3021917	Acid Extractable Copper (Cu)	2012/11/01	NC	75 - 125	97	80 - 120	<0.50	ug/g	5.8	30		
3021917	Acid Extractable Lead (Pb)	2012/11/01	93	75 - 125	99	80 - 120	<1.0	ug/g	6.4	30		
3021917	Acid Extractable Molybdenum (Mo)	2012/11/01	96	75 - 125	96	80 - 120	<0.50	ug/g	NC	30		
3021917	Acid Extractable Nickel (Ni)	2012/11/01	94	75 - 125	102	80 - 120	<0.50	ug/g	10	30		
3021917	Acid Extractable Selenium (Se)	2012/11/01	96	75 - 125	101	80 - 120	<0.50	ug/g	NC	30		
3021917	Acid Extractable Silver (Ag)	2012/11/01	97	75 - 125	100	80 - 120	<0.20	ug/g	NC	30		
3021917	Acid Extractable Thallium (Tl)	2012/11/01	90	75 - 125	95	80 - 120	<0.050	ug/g	NC	30		
3021917	Acid Extractable Uranium (U)	2012/11/01	100	75 - 125	104	80 - 120	<0.050	ug/g	1.6	30		
3021917	Acid Extractable Vanadium (V)	2012/11/01	98	75 - 125	98	80 - 120	<5.0	ug/g	NC	30		
3021917	Acid Extractable Zinc (Zn)	2012/11/01	NC	75 - 125	102	80 - 120	<5.0	ug/g	1.2	30		
3021917	Acid Extractable Mercury (Hg)	2012/11/01	99	75 - 125	98	80 - 120	<0.050	ug/g	NC	30		
3021919	Hot Water Ext. Boron (B)	2012/11/02			94	75 - 125	<0.050	ug/g				
3021932	Leachable Decachlorobiphenyl	2012/11/01	108	60 - 130	95	60 - 130	98	%				
3021932	Leachable Total PCB	2012/11/01	89	60 - 130	80	60 - 130	<3	ug/L	NC	40		
3022013	Hot Water Ext. Boron (B)	2012/11/01			95	75 - 125	<0.050	ug/g	NC	35		
3022881	F4G-sg (Grav. Heavy Hydrocarbons)	2012/11/01	88	65 - 135	88	65 - 135	<100	ug/g	NC	50		
3023950	F4G-sg (Grav. Heavy Hydrocarbons)	2012/11/03	67	65 - 135	87	65 - 135	<100	ug/g	NC	50		

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QUALITY ASSURANCE REPORT

			Leachate Blank	
QC Batch	Parameter	Date	Value	Units
3019343	Leachable Arsenic (As)	2012/10/30	<0.2	mg/L
3019343	Leachable Barium (Ba)	2012/10/30	<0.2	mg/L
3019343	Leachable Boron (B)	2012/10/30	<0.1	mg/L
3019343	Leachable Cadmium (Cd)	2012/10/30	<0.05	mg/L
3019343	Leachable Chromium (Cr)	2012/10/30	<0.1	mg/L
3019343	Leachable Lead (Pb)	2012/10/30	<0.1	mg/L
3019343	Leachable Selenium (Se)	2012/10/30	<0.1	mg/L
3019343	Leachable Silver (Ag)	2012/10/30	<0.01	mg/L
3019343	Leachable Uranium (U)	2012/10/30	<0.01	mg/L
3019359	Leachable Mercury (Hg)	2012/10/30	<0.001	mg/L
3020603	Leachable Fluoride (F-)	2012/10/31	<0.1	mg/L
3020606	Leachable Free Cyanide	2012/10/31	<0.002	mg/L
3020607	Leachable Nitrite (N)	2012/10/31	<0.1	mg/L
3020607	Leachable Nitrate (N)	2012/10/31	<1	mg/L
3020607	Leachable Nitrate + Nitrite	2012/10/31	<1	mg/L

N/A = Not Applicable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference
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.
Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
(2) - Duplicate results exceeded RPD acceptance criteria due to the sample heterogeneity. The variability in the results for flagged analytes may be more pronounced.
(3) - The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

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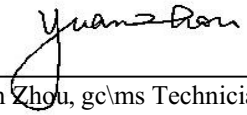
Validation Signature Page

Maxxam Job #: B2G8163

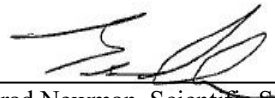
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist



Yuan Zhou, gc\ms Technician

Cuong Duc Do, Senior Analyst, Semi-Volatiles



Brad Newman, Scientific Specialist

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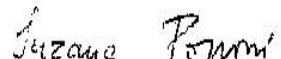
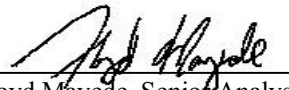
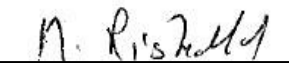


Suzana Popovic, Supervisor, Hydrocarbons

Charles Ancker, B.Sc., M.Sc., C.Chem, Senior Analyst



Floyd Mayede, Senior Analyst



Medhat Riskallah, Manager, Hydrocarbon Department

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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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